Indus Journal of Social Sciences
Online ISSN: 2960-219X
Print ISSN: 2960-2203
Volume 4, Number 1, 2026, Pages 1158 – 1173
Journal Home Page
https://induspublishers.com/IJSS/about

The Nexus between Environmental quality, Trade Openness and Financial Inclusion: A Systematic Literature across Lower-Middle-Income and Upper-Middle-Income Countries

Bushra Naeem[1], Saif Ur Rahman[2] & Sadia Idress[3]

[1]*PhD Scholar, Department of Economics and Commerce, Superior University, Lahore, Pakistan, Email: Bushra.naeem4@gmail.com*
[2]*Associate Professor, Department of Economics and Commerce, Superior University, Lahore, Pakistan, Email: saifrao12@gmail.com*
[3]*Department of Economics and Commerce, Superior University, Lahore, Pakistan, Email: midress485@gmail.com*

ARTICLE INFO

Article History:

Received:	*January*	*12, 2026*
Revised:	*February*	*25, 2026*
Accepted:	*March*	*06, 2026*
Available Online:	*March*	*14, 2026*

Keywords:

environmental quality, institutional quality, trade openness

Corresponding Author:
Bushra Naeem
Email:
Bushra.naeem4@gmail.com

ABSTRACT

This study aims to investigate the literature's findings regarding the connection among trade openness, financial inclusion, institutional quality, and environmental quality through channel of foreign direct investment (FDI) in the framework of both developed and developing economies. The current theoretical and empirical literature on the subject is studied and précised in this paper. The environmental quality of institutions, financial inclusion, and trade openness through the channel of foreign direct investment (FDI) are first summarized for Panel A, lower-middle-income countries (LMIC), and upper-middle-income countries (UMIC). Secondly, it identifies literature by using empirical and theoretical insights found in the published literature. This article also make clear theoretical perspective that describes how and why they operate. Third, this paper recommends three useful areas for further study. This paper advances the fields of environmental quality, institution quality, financial inclusion, and sectoral growth by systematically analyzing and integrated current theory and research in this field.

Introduction

The growth of local businesses through industrialization has significant effect on economic development (Anjum, Rahman, & Idrees, 2026). From a literary perspective, trade expansion presents both opportunities and challenges (Kwakwa et al. 2014). Trade openness is a measure of how much countries trade with each other. It is calculated by looking at imports and exports as a percentage of gross domestic product (Huang, Rahman, Meo, Ali, Khan, 2024). Capitalists are better able to get business information about foreign markets through trade and by investing in assets abroad. Tight trade policies also make default risk lower (Zafar, Rahman, Ahmad, & Idrees,

2025). Trade deals can directly lead to cross-border financial flows like trade credits, export insurance, and payment facilitation. The link between trade openness and economic growth is always there (Song, Rahman, Anees, Ali, 2024). According to the research, the most important things that affect the Internationalizations of trade are: These research have found a number of factors, such as, but not restricted to economic development (Quising et al., 2005) (Zartashia et al., 2022), financial growth (Ibrahim et al., 2018), exchange rates (Pacheco et al., 2017), foreign direct investment (Abdella et al., 2018), political stability (Dang et al., 2018).

The primary purpose the study is not to identify the key determinants of flourishing trade openness; rather, it is to explore new information that addresses the question, "Do institutional quality and environmental quality influence trade openness, with FDI serving as a mediating factor?" This base of this study on the empirical findings of the existing framework of previous studies (Qadri, Shi, Rahman, Anees, Ali, Brancu, & Nayel, 2023).

On the base of what I know, this study presents the first empirical model for investigating environmental quality (EQ) and institutional quality (IQ) within a single equation-model to assess their effect on trade openness (TO) (Afzal, Rahman, & Aslam, 2025). This paper proposed that EQ and IQ would have both direct and indirect effects on TO in earlier research. Several empirical research have applied the interaction variable (EQ*FDI and IQ*FDI) within their equations to measure the mediating purpose of macro basic principles (Qamruzzaman, 2020; Zakaria, 2019). The empirical calculation would include interaction variable (EQ*FDI, IQ*FDI) to examine the unintended impact of EQ and IQ (Shen, Rahman, Hafiza, Meo, & Ali, 2024).

In the absence of conflicting evidence, it is prudent to anticipate, scholar intend review the factors affecting trade openness (TO) within the empirical framework. Significant corpus of empirical literature (Abdouli, 2020) has examined the relationship among environmental quality and foreign direct investment (FDI), indicating that enhancements now environmental standards can increase a nation's appeal to foreign investors, thereby facilitating stable and sustained FDI inflows. Additionally, recent studies have focused more on how the institutions quality affects foreign direct investment (FDI) inflows (Yakubu, 2020; Aziz, 2018). These studies show that one of the best ways to get foreign investment is to make money safer by having stable politics, good governance, and rules that work (Shahzadi, Sheikh, Sadiq, & Rahman, 2023). When institutions improve, investors feel safer, and trade between two countries can grow more easily. The research utilizes Principal Component Analysis (PCA) to develop a complex institutional quality index, which functions as a surrogate for institutional quality in the empirical model (Dawood, Rahman, Majeed, Umair, & Idrees, 2023). Standard empirical estimation methods usually show relationships in a linear and aggregate way, which hides any differences in the effects of key variables that might be due to their distribution or direction (Qayyum, Ali, Rahman, & Khalid, 2025). The growing recognition of these limitations has led to an increased application of asymmetric modeling techniques, particularly following the introduction non-linear frameworks by Shin et al. (2014). Since then, different real-world studies have used asymmetric specifications to model nonlinear dynamics in economic relationships (Bildirici et al. 2017; Shahbaz et al. 2017; Qamruzzaman et al. 2020).

Current evidence regarding the FDI and trade openness relationship is inconclusive, despite numerous empirical investigations. People who think that FDI helps free up trade say that it makes it easier for countries to export, connects host economies to global value chains, and makes it easier for businesses to get into international markets (Aizenman, 2006). Conversely, alternative studies indicate that FDI may replace trade, consequently impacting trade openness negatively (Vijayakumar, 2010). We structure the paper as follows: After the introduction, the Literature

Review section goes into excellent detail about the studies that have already been done on how environmental quality, institutional quality, foreign direct investment, and trade openness are totally related (Aziz, Rahman, Saeed, Islam, & Younas, 2025). The methodology section. Lastly, the Conclusion section goes over the main findings and talks about what they mean for policy (Zahra, Nasir, Rahman, & Idress, 2023).

Literature Review

Free trade- Environment Quality

Environmental degradation gain significant attention over the world during the past few decades (Chen, Rahman, Abdullah, Ali, & Khalid, 2024). Thus, the impact of trade in environmental degradation is a growing phenomenon of increasing significance in trade policy, as indicated by the numerous of empirical research that have investigated the association among free trade and environmental quality (A. Cole et al., 2003).

Contrary to this, Zarsky (1999) foreign direct investment inflow in the country reveals that foreign companies taking improved technology and environmentally friendly product processes increase the condition of the environment in the host country (Iqbal, Rahman, S. Idrees, Ijaz, & Javed, 2025). Purpose of this research is to establish the connection among foreign direct investment and environment by Won W. Koo (2009). This research was done in india and China over the period of time from 1992 to 2007. The ARDL methodology is used to regulate the long- and short-run effects. Outcome of this research was to demonstrate that developed countries favored underdeveloped countries where there were low taxes and lax environmental limitations (Shazad, & Rahman, 2025).

The authors of the article claim that they analyzed Pollution haven or halo effect in underdeveloped countries and developing countries (Zakia benzerrouk et al., 2021). This research involved time period (1980 2010), 100 developing countries and 31 developed countries, this research used Generalized Moments Method (GMM), Pollution heaven hypothesis to developing countries and pollution halo hypothesis to developed countries (Ullah, Rehman, Raman, 2023). The empirical results specify that FDI and trade openness are play significant role of CO_2 now developing countries that confirm the heaven hypotheses (Liang, Rahman, Shafaqat, Ali, Ali, & Khan, 2024).

In developed nations raise FDI and trade openness with the halo hypothesis in favor. Jungho elat (2009) use the ARDL method toward determine long-run besides short run association among FDI and the environment. In china there was a significant and positive correlation between CO_2 and FDI within both the long run and short run. In china FDI inflow deteriorates quality of environment, furnishing indirect evidence of the pollution haven hypothesis. As Thai-Ha Le (2016) investigates the connection between environmental and trade openness (Hafiza, Rahman, Sadiq, Manzoor, Shoukat, & Ali, 2023). Use penal data of 98 countries. The empirical result demonstrated that higher trade openness has an influence quality of the environment. However, within high-income country trade, it only influences the quality of environment, but in low-income countries and middle-income countries, it is detrimental. In past research, two lines of accessible content can be used to describe the correlation between Environments (Adnan Afzal, Rahman, Kamran, Iqbal, & Rasheed, 2025).

The primary aim of the research by Nathaniel et al. (2020) is to investigate environmental problem of the coastal Mediterranean nations. Time period of 1980 to 2016. Those nations do not have a destructive association between FDI and environment policy. These nations continually compel

environmentally friendly FDI inflow and detrimental impact on the local manufacturing in the long run (Rahman, Shafqat, Ali, & Khan, 2024).

A number of additional studies that explore how trade openness can influence the environment. In this study, under three approaches—fixed effect model, random effect model, and GMM—Nguyen Van Tran (2020) determines, role of trade openness and how they take effect in under-developing countries. 66 under developed nations over dated 1971 to 2017. The most important result of this article was a 1% improvement in trade openness. 2% improvement in CO_2 emission. This paper postulated unfavorable effect of trade openness on the environment (Wang, Rahman, Zulfiqar, Ali, Khalid, & e Ali, 2025).

Economic growth was cause to increase of pollution in the environment; therefore, trade openness was major reason of environmental degradation (A. Harrison, 1995) (Rock, 1996). The reported trade openness effect on environmental quality, both negatively or positively, varies in various ways and is reported related extent industrialization and globalization within economy (Destek and Sinha 2020). Pollution haven hypothesis (PHH): a host economy that lacks adequate strict environmental regulations; the environment becomes polluted resulting from trade openness (Baek and Koo 2009).

Up to his opinion, environmental damage, Roland-Holp (1997), is related to trade, yet is not the primary cause due to trade. Because of the measure effect (economy grow because there are more trade), environmental quality might become poor (Saeed, Rahman, & Sheikh, 2024). Trade may improve quality environment over technique impact or composition impact, trade improving, income leading to environmental levels and strongly regulatory system (Chaudhary, Nasir, Rahman, & Sheikh, 2023). Creation low pollution-intensive commodities within economy decreases pollution and, alternatively, causes rise pollution in the other economy via worldwide trade. The influence of this type of combination can be explained by two closely related hypotheses, namely the pollution halo hypothesis and the pollution haven hypothesis. Displacement hypothesis predicts openness of trade or free market form can bring about incrimination of pollution-intensive product manufacturing industries in the low-income countries since the high-income countries enacted strict environmental rules and control (Harrison, 1995; Rock, 1996; Tobey, 1990). The pollution haven hypothesis reported primary cause of pollution in the poor economies could be the potential migration of pollution-intensive manufacturing goods as a result of low environmental levels (Antweiler et al., 2001; Cole and Elliott, 2003).

There is no significant difference two hypothesis regarding relative advantage under trade worldwide. Foreign direct investment facilitates technology transfer in poor economies; this technology may lead to decrease in environmental pollution in the area of easy trade policy has pros and cons influences on the quality of the environment (Zubair, Rahman, Sheikh, & Zafar, 2024).

Nexus between FDI and trade openness

Empirical evidence suggests a close relationship between economic growth, foreign direct investment (FDI) inbounded flow, and trade openness (Khan, Rahman, Fiaz, 2023). With open trade policies, economies are likely to receive an increased amount of foreign investment that consequently facilitates economic growth. FDI is also associated with growth in terms of technological innovation and enhancement of production as well as integration of the domestic economies into the global economy (Shahid, Rahman, Sheikh, & Allahrakha, 2024). Subsequently, FDI and trade openness are both major drivers of economic performance. Increased involvement in global trade is linked with increase within GDP, increase number of jobs, financial liberalization,

and capital accumulation. Felbermayr et al. (2011) have stated that the presence of imported goods in the domestic markets is able to enhance export performance through competitiveness (Usman, Rahman, Shafique, Sadiq, & Idrees, 2023). Besides earning foreign exchange and increasing the industrial activity, international trade facilitates knowledge spillovers and diffusion of technology, which is beneficial to the local firms. Moreover, it is discovered by Egyir et al. (2020) that with augmented trade openness, inflow foreign currency increases short-term and medium-term in the form of FDI, remittances, and foreign aid (Ali, Rahman, & Anser, 2020). Nonetheless, foreign investment that is concentrated in non-productive lines of investment can lead to an undesirable impact on economic growth. Seyoum et al. (2014) tested correlation among FDI and trade openness in 25 Sub-Saharan African nations during 1977-2009 by using the Granger non causality approach and found that there was evidence to support the bidirectional nature association among the two variables (Bint Raza, Sheikh, & Rahman, 2024). Findings of their research indicate that a stream of constant FDI inflow is important in terms of the increased involvement of domestic firms in international markets. Equally, Chiappini (2011) demonstrates that FDI channeled to its domestic commercial activities have positive effect on its export development (Sarwar, Ali, Bhatti, & Rahman, 2021).

Main research question addressed by Babatunde Sundayel (2024) was impact of climate strategy indecision on trade openness and foreign direct investment. Time period analyzed in the U.S. was 1990 to 2020 and Residual Augmented Least Squares (RALS-EG) was used as the primary finding. It was the FDI and openness to trade effect produced by the climate uncertainty policy (Hassan, Sheikh, & Rahman, 2022). To discover the significance of trade openness to attract the FDI, time period, 1990 to 2008 and under developing nation, G. Liargovas (2012) searched 36. Fixed effect model implanted by researcher in research. Foreign direct investment and trade openness showed positive and significant connection. Increase foreign direct investment incoming increases in the event of trade openness (Shahzadi, Hafiz, Idrees, Sheikh, & Rahman, 2024). Second category consists pull factors, which are internal recipient countries and encompass financial development, socio-political stability, institutional quality, and regulatory frameworks, including macroeconomic vulnerability (Rahman, Chaudhry, Meo, Sheikh, & Idrees, 2021).

Theoretical framework this research work demonstrates trade openness is an important factor influencing trade (Kosteletou and Liargovas 2000). It was proposed foreign direct investment and trade openness also negatively connected to each other when economies have a transition mode, indicating that trade openness and FDI have a complex relationship (Markusen and Maskus 2002). Impact of trade openness on FDI in the setting of the ASEAN area. The test Fixed Effect (FE) Modeling has been applied in the study, and the robustness check is done by the use of Generalized Least Square (GLS). Key result of this research on trade openness is playing significant role in attracting the FDI inflow (Raza, Sheikh, Rahman, Warriach, & Zaidi, 2024).

Under the transaction cost hypothesis, countries that have low transaction costs are more likely to receive foreign investment because they are likely to have high returns in terms of expected returns on the investment. Along with Gottschalk (2006), Fernandez-Arias and Montiel (1996) divide factors of foreign direct investment observed by two broad groups. Former one is the first group of push factors that are exogenous to host economies and consist of global economic fluctuations, structural attributes, irreversibility of investments, and agglomeration spillovers (Rahman, Ali, Idrees, Ali, & Zulfiqar, 2022). The second category is the pull factors that are domestic to recipient countries and include financial development, socio-political stability, institutional quality, and regulatory frameworks such as macroeconomic vulnerability (Syed, Arshad, Rahman, & Sheikh, 2024). Sakyi and Egyir (2017) posit that the international flows of capital, especially to the developing economies, have become a very crucial tool for encouraging economic growth. It is

through foreign investment that the gap between investment and saving is bridged and contributes to economic growth through the spread of new ideas, reinforcement of financial management practices, and enhancement of physical infrastructure (Zhu, Fang, Rahman, & Khan, 2021). Foreign direct investment is thus capable of making a significant contribution to the development endeavor through the enhancement of domestic savings, firm formation and expansion, good integration toward global economy (Rahman, & Bakar, 2019). Further, FDI helps in transfer of technology and also improves productivity, forms local supplier and service networks, and also improves human capital by offering training and skills development (Dupasquier et al., 2003) (Anyanwu, 2006). Similarly, it can be said that economies can lure foreign capital flows through economic diversification, responsible exploitation of natural resource endowments, and investing in sustainable infrastructures. In line with this perspective, Adhikary (2011) holds the opinion that FDI can trigger long-term economic growth (Idrees, Awan, Arslan, Hussain, Razzaq, Haris, & Rahman, 2023).

Sajid et al. (2020) research work describe connection among trade openness and FDI and institutional performance on environmental quality in OIC countries. The period of time studied was 1991-2016. The study employed a unit root test and dynamic correlation effect to analyze the data (Li, Bai, Yu, Meo, Anees, &. Rahman, 2022). This research discovered that FDI inflow contributes to environmental degradation due to trade openness. It is environmental degradation due to trade openness (Younas, Idrees, & Rahman, 2021).

Institutional quality and trade openness

Since institutions have a wide scope of effects on economic activity, institutional quality can result both direct and indirect impact incentives of agents to trade. Other than its immediate effect, the performance of the institutions also influences other economic conditions that are likely to deter trade activities (Arshad, Joseph, Rahman, Idress, S., & Shahid, 2024). The positive impact of institutions on trade also arises from their influence on the expected returns of international exchanges. Weak institutions or weak institutions are likely to add more costs to the cross-border transactions, which discourage the trade flows. Likewise, strict regulations and bureaucracies, which are very strict, are also non-tariff barriers that impede international exchange (Rahman, Bakar, & Idrees, 2019). In addition, poor contract enforcement adds to uncertainty and transaction risk, which is a soft form of tariff even to risk-neutral traders and which further deters trade. This point of view is supportive of the conclusions of Anderson and Marcouiller (2002), who point out significance of institutional failures in increasing the cost of trade and inhibiting international trade (Khoula, Rahman, Idress, 2022). Although there is a lot of literature that has investigated the association between institutional quality and trade openness, there is still inconclusive evidence on this matter. However, a growing body of literature now suggests a close relationship between institutional strength and increased economic freedom. Properly functioning institutions promote trade liberalization to enable a stable and predictable economic environment, which is necessary in the long run to achieve financial development. Countries need to facilitate the operational circulation economic assets and enhanced financial intermediation to productive branches of the economy in order to achieve success in expanding international trade and draw foreign investors (Qamruzzaman et al., 2016).

In addition to this, institution quality and trade openness have a positive contribution to FDI. Sabir et al. (2019) to enhance quality of institution and drive the flow FDI in urbanized nation. Authors Busse and Hefeker (2007) justified significance institutional factors playing a crucial role appealing foreign direct investment inflow in emerging nations (Mukhtar, Shahid, Razzaq, Rahman, 2023).

Methodology

In given work, the study adhered to the principles of the literature review process. To gather and critically examine the relevant literature, a systematic literature review (Jesson, Matheson, and Lacey, 2011) will be used. Complete a critical analysis, the researcher constructs a critical review form toward review some of the main ideas of the earlier research, specifically the focus paper, bibliographic fine points, philosophy use (where relevant), study philosophy (Zikmund, Babin, Carr, and Griffin, 2013), key outcomes, methodology, description FDI, FDI field, investigation background, topographical site study, theoretic and applied review, and further conclusion and reported limitations (Amin, Rahman, Khalid, & Idress, 2024). To carry out the critical review of study, researcher observed literature from November 1995 - April 2025. In order recognize the most significant FDI papers thinkable, following the documentation papers, the researcher performed thorough exploration evaluation of the applicable papers downloaded to Economics journals clarivate analytics (The Master Journal List 2025 and JCR report 2020); Complete records (Business Source Premier by Ebsco and Scopus). To select the literature this literature review, the researcher designs literature variety principles basis of the following characteristics, e.g., paper don't address FDI, and likewise not being experiential or theoretical (like books, explanations, conference report summary, abstracts and keywords, executive summaries, editorials, and literature reviews, newspaper/magazine articles). Overall, following the repetition identification, the scholar located nearly 30 research paper. Scholar reviewed the abstract, title, and methodology of each paper to establish its relevance (Parveen, Hanif, Rahman, & Sheikh, 2023).

Discussion

Literature gives a perfect discovery regarding openness to trade, which is highly contingent on the income level of a nation: The beneficial or harmless outcome of trade openness on environment, observed in high-income countries, but it is greatly detrimental in the middle- and low-income countries (Le, 2016). Haven Hypothesis (PHH): empirical finding advice that China, India, and 100 developing countries confirmed the hypothesis that developed countries prefer to outsource the dirty manufacturing to countries with weak environmental regulation and low taxes (Koo, 2009; Benzerrouk, 2021). Pollution Halo Hypothesis: FDI in developed countries, on the contrary, can be linked to a reduction in CO_2 emissions. This is explained by the so-called Technique Effect when foreign companies bring with them ecologically friendly procedures and excellent technology (Zarsky, 1999; Benzerrouk, 2021).

Synergy to Growth: Open trade policies are a pull factor that has a strong pull effect to increase the level of FDI (Liargovas, 2012; Albahouth, 2024). Market Integration: FDI has been reported to increase the export performance of home countries through the introduction of modern technology and better efficiency in production, which further integrates a particular country in the global market (Seyoum et al., 2014; Chiappini, 2011). Among the most important discoveries is connection among Trade and Environment is mediated by institutions quality of country: Transaction Costs: Better contract enforcement and less bureaucratic countries incur lower transaction costs, and this attracts more quality and sustainable FDI (Fernandez-Arias & Montiel, 1996). One of the main factors that contribute to the fact that trade openness and FDI cause the deterioration of the environment is weak institutional performance in OIC and Sub-Saharan countries (Sajid et al., 2020). We need powerful institutions to ensure that trade opening leads to financial growth rather than environmental exploitation (Qureshi, Zaman, Rahman, Shahzadi, 2022). Short-run vs. Long-run: Researchers have discovered that using ARDL (Auto regressive Distributed Lag) methods, it was found that: FDI can have short-run benefits of increasing the economy with regard of capital inflow (Zhao, Rahman, Afshan, Ali, Ashfaq, & Idrees, 2023).

Long duration, when investment is not strictly monitored and is located in nonproductive or high-pollution industries, it will result in a permanent degradation of the environment (Jungho et al., 2009; Nathaniel et al., 2020).

Conclusion

Previous research result shows that connection between trade openness, environmental quality, institutional quality, and foreign direct investment is intricate and circumstantial. The pollution haven hypothesis and the pollution halo hypothesis have empirical evidence in support of them dependent on income, stringency regulations, and institutional capacity of countries. The environmental impacts of trade openness and FDI may be beneficial depending on the quality of the governance and enforcement mechanisms in the economies, although they may promote economic growth and diffusion of technology. It is also shown that good institutions cut down on transactions, improve contract enforcement, and decrease investment risk, thus leading to FDI inflows and international trade. In the same way, financial inclusion enhances access to credit by the firms, participation in global markets, and the nexus of trade—FDI. However, weak institutions, ineffective environmental laws, and restricted financial access can counteract the potential benefits of trade liberalization. Through this synthesis of these strands of literature, the current research proves trade openness seen as result of the interplay of structural forces as opposed to an independent policy decision. Their results affirm the belief that sustainable trade growth needs not only open markets but also strong institutions and good environmental governance and strategic management of foreign investment.

Reference

1. Abdullah, S.., Irshad, S.., Ali, S.., Parveen, S.., & Rahman, S. U. (2024). Synergetic Impact of Institutional Quality, Foreign Direct Investment, Urban Population Growth and Trade on CO2 Emission: Selective Countries of South Asian. Bulletin of Business and Economics (BBE), 13(2), 767-774.
2. Abdulrahman A. Albahouth 1,* and Muhammad Tahir (2024). The Relationship between Trade Openness and FDI Inflows: Evidence-Based Insights from ASEAN Region.economics 2024.
3. Adnan Afzal, M., Rahman, S. U., Kamran, H. W., Iqbal, Y., & Rasheed, M. (2025). Driving green factor productivity in OECD economies: the effect of fintech, sectoral foreign investment, environmental funding and regulatory power. Kybernetes, 1-26.
4. Afzal, M, A., Rahman, S, U., & Aslam, M, T. (2025). Mapping the Nexus of Sustainability, Innovation, and Renewable Energy: A Bibliometric Analysis of Green Technology Research. The Critical Review of Social Sciences Studies, 3(2), 1176-1200.
5. Albahouth, A. A., & Tahir, M. (2024). The relationship between trade openness and FDI inflows: Evidence-based insights from ASEAN region. Economies, 12(8), 208. https://doi.org/10.3390/economies12080208
6. Ali, S., Rahman, S.U., & Anser, M. K. (2020). Stem Cell Tourism and International Trade of Unapproved Stem Cell Interventions. Annals of Social Sciences and Perspective, 1(2), 79-90.
7. Amin, N., Rahman, S. U., Khalid, S., & Idress, S. (2024). How Does Tourism, Trade Openness and Green Energy Influence CO2 emissions? Evidence from ASEAN Countries. Bulletin of Business and Economics (BBE), 13(2), 71-79.
8. Anjum, S., Rahman, S. U., & Idrees, S. (2026). Digital Economy, and Environmental Policy Stringency: Achieving the Shift to Low-Carbon in the Seven Emerging Economies.

(2026). The Critical Review of Social Sciences Studies, 4(1), 6000-6011. https://doi.org/10.59075/39hffb73

9. Antweiler W, Copeland BR, Taylor MS (2001) Is free trade good for the environment? Am Econ Rev 91(4):877–908
10. Antweiler, W., Copeland, B. R., & Taylor, M. S. (2001). Is free trade good for the environment? American Economic Review, 91(4), 877–908.
11. Anwar, H., Bashir, H. S., Sheikh, S. M., & Raman, S. U. (2024). Uncertainty and Openness: A Systematic Review of Economic Policy Uncertainty and Trade Openness Impacts on CO2 Emissions in Sub-Saharan Africa. Bulletin of Business and Economics (BBE), 13(3), 464-467.
12. Arshad, S., Joseph, S., Rahman, S. U., Idress, S., & Shahid, T. A. (2024). Decarbonizing the Future: A Critical Review of Green Energy, Financial Inclusion and TradeOpenness on CO2 Emissions. Bulletin of Business and Economics (BBE), 13(2), 160-163.
13. Awan, A., Rahman, S. U., Ali, M., & Zafar, M. (2023). Institutional Performance and Tourism Arrival Nexus in BRICS Countries: Evidence from Nonlinear ARDL Cointegration Approach. IRASD Journal of Economics, 5(1), 127–139.
14. Aziz, A., Rahman, S. U., Saeed, F., Islam, N., & Younas, M. (2025). Psychosocial Stress, Job Satisfaction, Motivation and well-being of Professionals in Special Education Centers. Dialogue Social Science Review (DSSR), 3(2), 1003–1011.
15. Babatunde Sunday Eweade, Hasan Güngör(2024). Climate policy uncertainty and energy impacts on trade openness and foreign direct investment in the United States: Evidence from the RALS co-integration test. Natural Resources Forum. Volume 49, Issue 3 pp. 2869-2890
16. Baek J, Koo WW (2009) A dynamic approach to the FDI-environment nexus: the case of China and India. J Int Econ Stud 13(2):87–107
17. Baek J, Koo WW (2009) A dynamic approach to the FDI-environment nexus: the case of China and India East Asian Econ Rev 13:87–106
18. Baek, J., & Koo, W. W. (2009). A dynamic approach to the FDI-environment nexus: The case of China and India. Journal of East Asian Economic Integration, 13(2), 87–106.
19. Benzerrouk, Z., El Montasser, G., & Shuaibu, M. (2021). Pollution haven or halo effect? A comparative analysis of developing and developed countries. Energy Reports, 7, 4862–4871. https://doi.org/10.1016/j.egyr.2021.07.035
20. Bilal, S, Shah, S, Z, A; Rahman, S, U., Jehangir, F, D (2022). Impact of Resource Rents and Institutional Quality on Economic Growth: An Approach of Panel Threshold Analysis. Competitive Educational Research Journal, 3(2), 195-12.
21. Bint Raza, S., Sheikh, S. M., & Rahman, S. U. (2024). The Mediating Role of Agency Cost between Corporate Governance and Financial Performance: Evidence from Pakistan Stock Exchange. iRASD Journal of Economics, 6(1), 144-163.
22. Busse, M., & Hefeker, C. (2007). Political risk, institutions and foreign direct investment. European Journal of Political Economy, 23(2), 397–415.
23. Busse, Matthias, and Carsten Hefeker. 2007. Political risk, institutions and foreign direct investment. European Journal of Political Economy 23: 397–415.
24. Chaudhary, S., Nasir, N., Rahman, S, U., & Sheikh, S, M. (2023). Impact of Work Load and Stress in Call Center Employees: Evidence from Call Center Employees. Pakistan Journal of Humanities and Social Sciences, 11(1), 160-171
25. Chen, X., Rahman, S. U., Abdullah, S., Ali, S., & Khalid, S. (2024). Towards Sustainable Development: Examining Renewable Energy Consumption in E-7 Countries. Heliyon. 10(17), e36642

26. Cole, M. A., & Elliott, R. J. (2003). Determining the trade–environment composition effect: The role of capital, labor and environmental regulations. Journal of Environmental Economics and Management, 46(3), 363–383.
27. Dawood, M., Rahman, S, U., Majeed, Umair., & Idrees, S. (2023). Contribution the Effect of Corporate Governance on firm Performance in Pakistan. Review of Education, Administration & Law, 6(1), 51-65.
28. Destek, M. A., & Sinha, A. (2020). Renewable, non-renewable energy consumption and economic growth: Evidence from emerging economies. Environmental Science and Pollution Research, 27(3), 3589–3598.
29. Eweade, B. S., & Güngör, H. (2024). Climate policy uncertainty and energy impacts on trade openness and foreign direct investment in the United States: Evidence from the RALS co-integration test. Natural Resources Forum, 49(3), 2869–2890.
30. Fatima, K., Jamshed, S, Tariq, M. I., & Rahman, S. U. (2023). An Empirical Examination on What Huge Information Investigation Means for China SME Execution: Drope Item and Interaction Development Matter?. Pakistan Journal of Humanities and Social Sciences, 11(2), 792–801
31. Grossman GM, and Krueger AB (1991) Environmental impacts of a North American Free Trade Agreement. NBER, Working Paper Series No.3914, 1–57
32. Hafiz, H., Shahzadi, N., Idress, S., & Raman, S. U. (2024). Foreign Direct Investment and Public Health: A Comparative Review of OIC and Non-OIC Countries. Bulletin of Business and Economics (BBE), 13(3), 459-463.
33. Hafiza, N, S., Manzoor, M., Fatima, K., Sheikh, S, M., Rahman, S, U., Qureshi, G, K (2022). Motives of Customer's E-Loyalty Towards E-Banking Services: A Study in Pakistan, Palarch's Journal of Archaeology of Egypt/Egyptology, 19(3), 1599-1620.
34. Hafiza, N, S., Rahman, S, U., Sadiq, A., Manzoor, M., Shoukat, Z., & Ali, M. (2023). Effect of FDI, Trade Openness and Employment and Manufacturing Sector Growth: Evidence from Pakistan Based ARDL Approach. Central European Management Journal, 31(1), 733-756. https://journals.kozminski.cems-j.com/index.php/pl_cemj/article/view-2023/733.html
35. Hanif, M., Khalid, K., Raman, S. U., & Ali, M. (2024). How Does Innovation and Globalization Affect Environmental Sustainability: A Review. Bulletin of Business and Economics (BBE), 13(2), 1207-1212.
36. Harrison, A. (1995). Openness and growth: A time-series, cross-country analysis for developing countries. Journal of Development Economics, 48(2), 419–447.
37. Haseeb, M., Shakeel, A., & Raman, S. U. (2024). Renewable Energy and Green Innovation: A Review of the Mitigation Strategies for Climate Change through Reduced Carbon Emissions. Bulletin of Business and Economics (BBE), 13(2), 1200-1206.
38. Hassan, K. H. U., Sheikh, S. M., & Rahman, S. U. (2022). The Determinants of Non Performing Loans (NPLs); Evidence from the Banking Sector of Pakistan. Annals of Social Sciences and Perspective, 3(1), 1-22.
39. Hayat Khan, Liu Weili & Itbar Khan (2022). Environmental innovation, trade openness and quality institutions: an integrated investigation about environmental sustainability. Published 27 june 2021 volume 24 pages 3832-3862 (2022).
40. Hayat, F., Anjum, S., Raman, S. U., & Idress, S. (2024). G-7 Green Growth Paradox: An Exploratory Review of Economic Policy Uncertainty, Renewable Energy, and Institutional Quality. Bulletin of Business and Economics (BBE), 13(2), 1194-1199.
41. He J (2006) Pollution haven hypothesis and environmental impacts of foreign direct investment: the case of industrial emission of sulfur dioxide (SO2) in Chinese provinces. Ecol Econ60:228245. 6.

42. Hoffman R, Ging LC, Ramasamy B, Yeung M (2005) FDI and pollution: a Granger causality test using panel data. J Int Dev 17:311–317.
43. Huang, Y., Rahman, S. U., Meo, M, S., Ali, M, S., Khan, S (2024). Revisiting the Environmental Kuznets Curve: Assessing the Impact of Climate Policy Uncertainty in the Belt and Road Initiative. Environmental Science and Pollution Research, 5014-5022.
44. Idrees, S., Awan, A., Arslan, S, M., Hussain, M., Razzaq, N., Haris, M. & Rahman, S. (2023). Does Green Finance, Technology and Financial Development Matter Environmental Sustainability? Novel Insight from Pakistan Based Nonlinear ARDL Approach. Journal of Data Acquisition and Processing, 38 (3), 3423- 3448. https://sjcjycl.cn/article/view-2023/03_3423.php
45. Ilyas, A., Awan, A., Kanwal, A., Banaras, A., Rahman, S. U., Ali, M. (2023). Green HRM Practices and Environmental sustainability in Banks of Pakistan: The role of Financial Leadership behavior, Personality Traits, and Employee Engagement with environmental Initiatives in sustaining individual Green Behavior. Central European Management Journal, 31(2), 197-223. https://journals.kozminski.cems-j.com/index.php/pl_cemj/article/view-2023/02_197.html
46. Ilyas, A., Banaras, A., Javaid, Z., & Rahman, S.U. (2023). Effect of Foreign Direct Investment and Trade Openness on the Poverty Alleviation in Burundi – Sub African Country: ARDL (Co-integration) Approach. Pakistan Journal of Humanities and Social Sciences, 11(1), 555–565
47. Iqbal, T., Rahman, S. U., Idrees, S., Ijaz, S., & Javed, M, Q. (2025). Foreign Direct Investment, Exports and Large-Scale Manufacturing Sector Growth: Bound Test and ARDL Approach. The Critical Review of Social Sciences Studies, 3(1), 2286-2304. (HJRS Y)
48. Jungho Baek and Won W. Koo (2009).A Dynamic Approach to the FDI-Environment Nexus: The Case of China and India. Journal of International Economic Studies Vol. 13, No. 2, December 2009.
49. Khalid, S.., Yousaf, M.., Rahman, S. U.., Idrees, S.., & Ali, M. (2024). Analysis the Impact of Technology Innovation, Foreign Direct Investment, Trade Openness and Globalization on CO2 Emissions? Evidence from Developing Nations. Bulletin of Business and Economics (BBE), 13(2), 966-973.
50. Khan, S, M., Rahman, S. U., Fiaz, S. (2023). Impact of Foreign Direct Investment (FDI), Institutional Performance and Scientific Innovations on Environmental Degradation: Evidence from OIC Countries. Research Journal for Societal Issues, 5(1), 194–210.
51. Khan, Y., Afridi, F. A., Shad, F., Rahman, S.U (2022). The Socio-Cultural Factors Influence on Women's Ability to Become Social Entrepreneurs. Competitive Education Research Journal, 3(1), 135-146.
52. Khoula, G., Rahman, S, U., Idress, S (2022). Does Foreign Direct Investment Promote Economic Growth: Evidence from Pakistan Based ARDL to Cointegration Approach. Journal of Contemporary Macroeconomic Issues, 3(1), 54-63.
53. Kosteletou, L., & Liargovas, P. (2000). Foreign direct investment and real exchange rate interlinkages. Open Economies Review, 11(2), 135–148
54. Kwakwa PA and Aboagye S. (2014) Energy consumption in Ghana and the story of economic growth, industrialization, trade openness and urbanization.
55. Le, T. H., Chang, Y., & Park, D. (2016). Trade openness and environmental quality: International evidence. Energy Policy, 92, 45–55. https://doi.org/10.1016/j.enpol.2016.01.030

56. Li, D., Bai, Y., Yu, P., Meo, D. M. S., Anees, A &. Rahman, S.U (2022). Does Institutional Quality Matter for Environmental Sustainability? Frontiers in Environmental Science, 1-12.
57. Liang, Y., Ur Rahman, S., Shafaqat, A., Ali, A., Ali, M. S. E., & Khan, H. (2024). Assessing sustainable development in E-7 countries: technology innovation, and energy consumption drivers of green growth and environment. Scientific Reports, 14(1), 28636.
58. Liargovas, P., & Skandalis, K. (2012). Foreign direct investment and trade openness: The case of developing economies. Social Indicators Research, 106(2), 323–331.
59. Markusen, J. R., & Maskus, K. E. (2002). Discriminating among alternative theories of the multinational enterprise. Review of International Economics, 10(4), 694–707.
60. Md. Qamruzzaman (2023).RETRACTED: Does financial innovation foster financial inclusion in Arab world? examining the nexus between financial innovation, FDI, remittances, trade openness, and gross capital formation. Published: June 16, 2023 https://doi.org/10.1371/journal.pone.0287475.
61. Mughal, M. U., Qudoos, F.-U., Raman, S. U., & Idress, S. 2024). Balancing Growth and Sustainability: A Review of Green Investment, ICT Development, and Economic Growth in China's Environmental Transition. Bulletin of Business and Economics (BBE), 13(3),468-471.
62. Muhammad Sajid1
Muhammad Akbar Ali Ansari1,·Arsalan Tanveer2,·Muhammad Faheem and · Asim Waseem1 2024. Evaluating the influence of green growth, institutional quality and financial inclusion on financial stability: evidence by sustainable finance theory. Environmental Science and Pollution Research (2023) 30:115965–115983
63. Mukhtar, A., Mukhtar, S., Mukhtar, A., Shahid., Razzaq, H, R., Rahman, S, U. (2023). The Use of Social Media and Its Impact on The Learning Behavior of ESL University Students for Sustainable Education in Pakistan. Central European Management Journal, 31(2), 398-415. https://journals.kozminski.cems-j.com/index.php/pl_cemj/article/view-2023/02_398.html
64. Nathaniel, S. P., Agboola, M. O., Bekun, F. V., & Adedoyin, F. F. (2020). Energy consumption, FDI, and urbanization linkage in coastal Mediterranean countries: Re-assessing the pollution haven hypothesis. Environmental Science and Pollution Research, 27(28), 35474–35487.
65. Nawaz, A., Rahman, S. U., Zafar, M., & Ghaffar, M. (2023). Technology Innovation-institutional Quality on Environmental Pollution Nexus From E-7 Nations: Evidence from Panel ARDL Cointegration Approach. Review of Applied Management and Social Sciences, 6(2), 307-323.
66. Nawaz, H., Zafar, A., Sheikh, S. M., & Raman, S. U. (2024). Global Change, Local Consequences: A Review of the Relationships Between FDI, Globalization, GDP, Carbon Dioxide Emissions, and Ecological Footprint. Bulletin of Business and Economics (BBE), 13(2), 1226-1230.
67. Omisakin, O., Adeniyi, O., & Omojolaibi, A. (2009). Foreign direct investment, trade openness and growth in Nigeria. Journal of Economics Theory, 3, 13–18.
68. Panagiotis G. Liargovas & Konstantinos S. Skandalis (2011). Foreign Direct Investment and Trade Openness: The Case of Developing Economies. Published: 24 February 2011 Volume 106, pages 323–331, (2012)
69. Panagiotis G. Liargovas & Konstantinos S. Skandalis (2011). Foreign Direct Investment and Trade Openness: The Case of Developing Economies. Published: 24 February 2011 Volume 106, pages 323–331, (2012)

70. Parveen, S., Hanif, A., Rahman, S. U., & Sheikh, S. M. (2023). Examining the Effect of Foreign Direct Investment and Exports on Stock Market Performance: Evidence from India Based Bound Testing to Cointegration ARDL Approach. Bulletin of Business and Economics (BBE), 12(4), 700-707
71. Philip C. Omoke, Silva Opuala–Charles and Mariam Camarero (2020). Article: 1868686 | Received 23 Mar 2020, Accepted 20 Dec 2020, Published online: 08 Jan 2021
72. Qadri, S. U., Shi, X., Rahman, S. U., Anees, A., Ali, M. S. E., Brancu, L., & Nayel, A. N. (2023). Green finance and foreign direct investment–environmental sustainability nexuses in emerging countries: new insights from the environmental Kuznets curve. Frontiers in Environmental Science. 11, 1074713. https://www.frontiersin.org/articles/10.3389/fenvs.2023.1074713/full
73. Qayyum, U., Ali, I., Rahman, S, U., & Khalid, R. (2025). The Impact of Deposit Rates and Net Asset Value on Mutual Fund Performance: Evidence from Pakistan's Banking Sector. The Critical Review of Social Sciences Studies, 3(2), 567-581.
74. Qureshi, G, S., Zaman, M, W, U., Rahman, S, U., Shahzadi, H, N. (2022). Legal Insights of Crypto currency Market and State of Crypto-currency in Pakistan. Superior Law Review, 2(1), 77-104. https://jslr.pk/index.php/SLR/article/view/11/10
75. Rahman, S, U., Shafqat, M., Ali, A., & Khan, H. (2024). Sustainable Drives: Exploring the interplay between Scientific innovation, institutional performance, and their impact on ecological footprint, carbon dioxide and nitrous emissions in OIC countries Scientific Reports, 14(2), 37211.
76. Rahman, S. U., & Bakar, N.A., (2018). A Review of Foreign Direct Investment and Manufacturing Sector of Pakistan. Pakistan Journal of Humanities and
77. Rahman, S. U., & Bakar, N.A., (2019). FDI and Manufacturing Growth: Bound Test and ARDL Approach. International Journal of Research in Social Sciences, 9(5), 36–61. https://indianjournals.com/ijor.aspx?target=ijor:ijrss&volume=9&issue=5&article=003
78. Rahman, S. U., & Bakar, N.A., (2019). Manufacturing sector in Pakistan: A Comprehensive Review for the Future Growth and Development. Pakistan Journal of Humanities and Social Sciences, 7(1), 77 – 91.
79. Rahman, S. U., Ali, S., Idrees, S., Ali, M. S. E., & Zulfiqar, M. (2022). Domestic Private Investment, and Export on Output Growth of Large-Scale Manufacturing Sector in Pakistan: An Application of Bound Tests to Cointegration Approach. International Journal of Management Research and Emerging Sciences, 12(2). 239-270.
80. Rahman, S., Chaudhry, I. S., Meo, M. S., Sheikh, S. M., & Idrees, S. (2021). Asymmetric effect of FDI and public expenditure on population health: new evidence from Pakistan based on non-linear ARDL. Environmental Science and Pollution Research, 1-16.
81. Rahman, S.U., Bakar, N. A.., & Idrees, S. (2019). Long Run Relationship between Domestic Private Investment and Manufacturing Sector of Pakistan: An Application of Bounds Testing Cointegration. Pakistan Journal of Social Sciences (PJSS), 39(2). 739-749
82. Raza, S. B., Sheikh, S. M., Rahman, S. U., Warriach, T. H., & Zaidi, Y. A. (2024). An Exploratory Study on Experiences of Work-Life Balance of Female Teacher in Private University. Bulletin of Business and Economics (BBE), 13(1).573-585.
83. Sabir, S., Rafique, A., & Abbas, K. (2019). Institutions and FDI: Evidence from developed and developing countries. Financial Innovation, 5(1), 1–20. https://doi.org/10.1186/s40854-019-0123-7
84. Sabir, Samina, Anum Rafique, and Kamran Abbas. 2019. Institutions and FDI: evidence from developed and developing countries.Financial Innovation 5: 1–20.

85. Saeed, R., Rahman, S. U., & Sheikh, S. M. (2024). Green Investment, Energy Consumption and Environmental Pollution Nexus G-7 Countries: A Historical Perceptive. Pakistan Journal of Humanities and Social Sciences, 12(1), 127–136.
86. Safdar, S., Manzoor, M., Raman, S. U., & Sheikh, S. M. (2024). Analyzing the Impact of Government Expenditure, Institutional Factors, Foreign Direct Investment, Public Investment, and Technological Innovations on Human Development Index in Pakistan and China. Bulletin of Business and Economics (BBE), 13(2), 1231-1235.
87. Sajid, A., Batool, S., & Ahmed, K. (2020). The role of trade openness, FDI, and institutional performance on environmental quality: Evidence from OIC countries. Environmental Science and Pollution Research, 27, 31201–31215.
88. Sarwar, F., Ali, S., Bhatti, S. H., & Rahman, S. (2021). Legal Approaches to Reduce Plastic Marine Pollution: Challenges and Global Governance. Annals of Social Sciences and Perspective, 2(1), 15-20.
89. Shafaqat, A.., Irshad, S.., Ali, M.., Parveen, S.., & Rahman, S. U. (2024). Investigation the impact of Information & Communication Technology, Foreign Direct Investment and Renewable Energy on Ecological Footprint? Evidence from South Asian Countries. Bulletin of Business and Economics (BBE), 13(2), 947-958.
90. Shafique, M, R., Rahman, S. U., Khizar, S., Zulfiqar, M (2021). How does Poverty, Foreign Direct Investment, and Unemployment affect Economic Growth: Evidence from Pakistan co-integration ARDL Approach. International Journal of Research in Economics and Commerce, 2(1), 14-23.
91. Shahid, A. U., Ghaffar, M., Rahman, S. U., Ali, M., Baig, M. A., & Idrees, S. (2022). Exploring the Impact of Total Quality Management Mediation between Green Supply Chain Method and Performance". PalArch's Journal of Archaeology of Egypt/Egyptology, 19(4), 1252-1270.
92. Shahid, C., Gurmani, M. T., Rahman, S. U, & Saif, L. (2023). The Role of Technology in English Language Learning in Online Classes at Tertiary Level. Journal of Social Sciences Review, 3(2), 232- 247
93. Shahid, C., Muhammed, G. A., Abbasi, I. A., Gurmani, M. T., & Rahman, S, U. (2022). Attitudes Of Undergraduates and Teachers Towards Evolving Autonomous Learning L2 In Higher Education. Journal of Positive School Psychology, 6(11), 527-544.
94. Shahid, T. A., Rahman, S. U., Sheikh, S. M., & Allahrakha, R. (2024). Effect of Public Investment on Health Population: A Review of BRICS Countries. IRASD Journal of Economics, 6(1), 1–9.
95. Shahzadi, H. N., Ali, M., Ghafoor, R. K., & Rahman, S. U. (2023). Does Innovation and Foreign Direct Investment Affect Renewable Energy Consumption? Evidence from Developing Countries. Pakistan Journal of Humanities and Social Sciences, 11(2), 926–935.
96. Shahzadi, H. N., Sheikh, S. M., Sadiq, A., & Rahman, S. U. (2023). Effect of Financial Development, Economic Growth on Environment Pollution: Evidence from G-7 based ARDL Cointegration Approach. Pakistan Journal of Humanities and Social Sciences, 11(1), 68-79.
97. Shahzadi, N., Hafiz, H., Idrees, S., Sheikh, S. M., & Rahman, S. U. (2024). Government Expenditures, Health, and Economic Growth in Pakistan: A Comprehensive Overview for Sustainable Development. Bulletin of Business and Economics (BBE), 13(1). 709-713.
98. Shazad, I, & Rahman, S. U. (2025). Nexus of Green Finance Environment in G-7 Countries: A fresh insights from EKC using GHG Emissions and Ecological Footprint. The Critical Review of Social Sciences Studies, 3(1), 1004-1034

99. Shen, Y., Rahman, S. U., Hafiza, N. S., Meo, M. S., & Ali, M. S. E. (2024). Does green investment affect environment pollution: Evidence from asymmetric ARDL approach? Plos one, 19(4), e0292260.
100. Sikandar, A., Ijaz, F., Raman, S. U., & Idress, S. (2024). A Bibliometric and Content Analysis of Cryptocurrency. Bulletin of Business and Economics (BBE), 13(2), 1213-1225.
101. Solomon Nathaniel, Ekene Aguegboh, Chimere Iheonu, Gagan Sharma & Muhammad Shah (2020). Energy consumption, FDI and urbanization linkage in coastal Mediterranean countries:re assessing the pollution haven hypothesis.Environmental Science and Pollution Research Published: 27 June 2020. Volume 27, pages 35474–35487, (2020).
102. Song, M., Rahman, S. U., Anees, A., Ali, M, S (2024). Technology Transfer for Green Investments: Exploring how technology transfer through foreign direct investments can contribute to sustainable practices and reduced environmental impact in OIC economies. Environmental Science and Pollution Research, 63513
103. Sultan, H., Rahman, S. U., Munir, F., Ali, A., Younas, S., & Khan, H. (2025). Institutional dynamics, innovation, and environmental outcomes: a panel NARDL analysis of BRICS nations. Environment, Development and Sustainability, 1-43.
104. Syed, R., Arshad, S., Rahman, S. U., & Sheikh, S. M. (2024). An Overview of Foreign Direct Investment and Green Growth in OIC Countries. Pakistan Journal of Humanities and Social Sciences, 12(2), 943–950.
105. Tabassum, N., Rahman, S. U., Zafar, M., & Ghaffar, M. (2023). Institutional Quality, Employment, Trade Openness on Environment (Co2) Nexus from Top Co2 Producing Countries; Panel ARDL Approach. Review of Education, Administration & Law, 6(2), 211-225.
106. Thai-Ha Le a, Youngho Chang b, Donghyun Park (2016). Trade openness and environmental quality: International evidence. Energy Policy Volume 92, May 2016, Pages 45-55
107. Tran, N. V. (2020). The environmental effects of trade openness in developing countries: Conflict or cooperation? Environmental Science and Pollution Research, 27(16), 19783–19797. https://doi.org/10.1007/s11356-020-08352-9
108. Ullah, S., Rehman, C. A., & Raman, S. U. (2024). Asymmetric Effect of Innovation on Environmental Quality Based on Environmental Kuznets Curve: A Novel Approach. Bulletin of Business and Economics (BBE), 13(2), 1187-1193.
109. Ullah,S Rehman, C, A., Raman, S, U. (2023). Public Investment, Technological Innovations, and Environmental Degradation: Asymmetric ARDL Approach. Pakistan Journal of Humanities and Social Sciences, 11(2), 704-716
110. Usman, M., Rahman, S. U., Shafique, M. R., Sadiq, A., & Idrees, S. (2023). Renewable Energy, Trade and Economic Growth on Nitrous Oxide Emission in G-7 Countries Using Panel ARDL Approach. Journal of Social Sciences Review, 3(2), 131-143.
111. Wang, S., Rahman, S. U., Zulfiqar, M., Ali, S., Khalid, S., & e Ali, M. S. (2025). Sustainable Pathways: Decoding the Interplay of Renewable Energy, Economic Policy Uncertainty, Infrastructure, and Innovation on Transport CO2 in QUAD Economies. Renewable Energy, 122426., 210 (1), 1-24
112. Younas, N., Idrees, S., & Rahman, S.U (2021). Impact of Workplace Ostracism on Turnover Intention with mediation of Organizational Cynicism. International Journal of Business and Finance Implications, 2(1), 1-13
113. Zafar, A., Rahman, S, U., Ahmad, M., & Idrees, S. (2025). Dynamic Effect of CO2 Emissions, Energy Consumption, and Trade Openness, on Economic Growth: Evidence from Emerging Countries Using Panel Data Analysis. The Critical Review of Social Sciences Studies, 3(3), 2753-2768.

114. Zahra, A., Nasir, N., Rahman, S. U., & Idress, S. (2023). Impact of Exchange Rate, and Foreign Direct Investment on External Debt: Evidence from Pakistan Using ARDL Cointegration Approach. IRASD Journal of Economics, 5(1), 709–719.
115. Zainab, J., Qaisra, N., Hassan, I., Haris, M., Rahman, S, U., & Ali, M. (2023). Assessing Mediating Role of Environment Knowledge Between Green Resource Management and Sustainable Performance, Under Moderating Effects of Green Self-Efficacy. Central European Management Journal, 31(2), 352-368. https://journals.kozminski.cems-j.com/index.php/pl_cemj/article/view-2023/02_352.html
116. Zakia benzerrouk a, Mehdi Abid a b, Habib Sekrafi (2021). Pollution haven or halo effect? A comparative analysis of developing and developed countries. Energy Reports. Volume7 , November 2021, Pages 4862-4871https://doi.org/10.1016/j.egyr.2021.07.076.
117. Zarsky L (1999) Havens, halos and spaghetti: untangling the evidence about foreign direct investment and the environment. Foreign Direct Invest Environ 13:47–74
118. Zarsky, L. (1999). Havens, halos and spaghetti: Untangling the evidence about foreign direct investment and the environment. Foreign Direct Investment and the Environment, OECD, 47–74.
119. Zhao, J., Rahman, S. U., Afshan, S., Ali, M. S. E., Ashfaq, H., & Idrees, S. (2023). Green investment, institutional quality, and environmental performance: evidence from G-7 countries using panel NARDL approach. Environmental Science and Pollution Research, 1-16. https://link.springer.com/article/10.1007/s11356-023-29332-9
120. Zhu, L., Fang, W., Rahman, S. U., & Khan, A. I. (2021). How solar-based renewable energy contributes to CO2 emissions abatement? Sustainable environment policy implications for solar industry. Energy & Environment, 34(2), 0958305X211061886.
121. Zubair, S., Rahman, S. U., Sheikh, S. M., & Zafar, M. (2024). A Review of Green Innovation and Environmental Performance in BRICS Nations. Pakistan Journal of Humanities and Social Sciences, 12(1), 444-449.
122. Zulfiqar, M., Ansar, S., Ali, M., Hassan, K. H. U., Bilal, M., & Rahman, S. U. (2022). The Role of Social Economic Resources Towards Entrepreneurial Intentions. PalArch's Journal of Archaeology of Egypt/Egyptology, 19(1), 2219-2253.
123. Zulfiqar, M., Khoula, G., & Rahman, S. U. (2024). Exploring the Nexus of Wellbeing and Empowerment: A Multidimensional Approach. The Critical Review of Social Sciences Studies, 2(2), 1198-1205.