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The Impact of green Fiscal Policies on Economic Growth in Pakistan

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Abstract

The trend of green fiscal policies is increasing in many developing countries in the contemporary world. This paper tends to investigate the impact of green fiscal policies on economic growth in Pakistan. In this accordance, this study investigates the impact of two significant aspects of green fiscal policies known as investment in renewable energy resources (IRE) and green innovation (GI) on economic performance (EP). In addition to it, the mediating impact of environmental attitude (EA) has also been examined on the association of IRE and EP and GI and EP. To efficiently reach a reliable conclusion, quantitative methodology (mention method which you have used in it) has been utilized in this paper on the basis of which survey has been taken from economic experts in Pakistan. The analysis has been done by using SPSS (no need to include about software) and the findings of the study indicate that IRE and GI significantly impact economic performance in Pakistan. EA significantly mediates the association between IRE and EP however the mediating impact of EA on GI and EP is not significant. The respective findings imply that in terms of green fiscal policies IRE and GI can be promoted with positive EA as these determinants have extensive potential to improve economic growth in Pakistan. The results of this study offer significant implications for practitioners of economic institutes, policy-makers, and research scholars.

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Keywords: Green fiscal policies, investment in renewable resources, green innovation, environmental attitude, economic growth, Pakistan.

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INTRODUCTION

A key component of efforts to address global concerns and move towards an inclusive green economy is the implementation of green fiscal policies. The stated goals of these rules are to promote economic expansion while resolving environmental sustainability issues. As nations move towards low-carbon and resource-efficient economies, fiscal policies are crucial for promoting the adoption of environmentally friendly behaviors and supporting investment in renewable energy and other green businesses. (Kai Cui, Xinxue Li, Gang Li, 2023). Economic expansion and ecological sustainability constitute serious issues for emerging countries. Major problems include environmental degradation, deforestation, air and water pollution, and high carbon emissions, which have an adverse impact on the well-being of individuals, ecosystems, and economic growth. (Muhafidin, 2020). Like other emerging nations, Pakistan is also experiencing financial and ecological problems. High rates of population expansion, urbanisation, and reliance on fossil fuels have resulted in deforestation, contamination of the environment, and an increase in greenhouse gas emissions. Fiscal policy measures have a substantial and increasing influence on carbon emissions while having a decreasing impact on environmental pollution. Therefore, authorities take into account the tools of fiscal policy to tackle these challenges in order to preserve economic growth and reduce environmental

pollution. (Ullah, Ozturk & Sohail, 2020). The effects of green fiscal policies in Pakistan have been the subject of numerous studies. Despite the significance of this topic, only a small number of studies have looked at how fiscal policy has affected Pakistan's economic growth. Furthermore, there is no study in the literature now in publication that analyses the implications of these policies that are directly influencing Pakistan's financial fluctuations and climatic changes. In this accordance, the current research intends to investigate how these policies impact economic development and environmental sustainability in Pakistan while also figuring out their mechanisms for stimulating economic growth, addressing fiscal deficits, and contributing to environmental protection. Economic growth in this context, is influenced by the implementation of green fiscal policies, which aim to promote sustainable practices, investments in renewable energy, eco-innovation, and job creation while addressing environmental challenges. By providing incentives, regulations, and financial support, these policies create an enabling environment for sustainable development, balancing economic objectives with environmental concerns. The effectiveness of these policies should be further analyzed to understand their impact on economic growth and environmental sustainability in Pakistan.

This research aims to examine the effects of green fiscal policies on economic growth in Pakistan. Through this study, we seek to understand the relationship between fiscal policy and economic development in the country, specifically in the context of promoting sustainability and reducing environmental damage. The main purpose of this research lies in its potential to inform policy decisions in Pakistan, particularly those related to achieving economic growth while safeguarding the environment through the implementation of fiscal policies. By investigating the effectiveness of green fiscal policies in promoting economic growth while reducing environmental harm, this research can provide valuable insights. The findings of this study can help policymakers understand the specific mechanisms through which green fiscal policies impact economic growth in Pakistan. Moreover, it can contribute to the growing body of literature on the effects of environmental regulations on economic expansion, with a particular focus on emerging nations. This research can advance our understanding of the interplay between economic growth and ecological sustainability, as well as the potential trade-offs and synergies between these two goals.

There are some theoretical and practical implications of this study. On a theoretical level, this research not only fills the gaps but also offers a valuable complement to the existing literature on green fiscal policies and their impact on economic growth. By analyzing the relationship between Pakistan's green fiscal policy and economic growth, the study will help advance our understanding of how such policies can be effectively implemented in developing countries. On a practical level, this study is crucial for policymakers and stakeholders in the country as it aims to contribute both theoretically and practically.

LITERATURE REVIEW

The existing literature on green economic growth, sustainable development and on impact of green fiscal policies has provided significant insights into the ways to mitigate environmental challenges to achieve sustainable development goals. The reason behind implementation of green fiscal policies is very significant as Gramkow (2020) brings forth that environmental liabilities in present age are a grave reason of environmental disasters and damages. In the present state of scientific knowledge the destruction of the climatic system became notably possible due to the emission

of greenhouse gases (GHG) that are more dominant since the beginning of 20th century. Moreover, climate change has already impacted the physical, biological and human systems. Semmler et al. (2021) indicate that to avoid environmental disruptions, fiscal and monetary policies enhance a smooth transition to low-carbon economies. The positive externalities associated with green fiscal policies are associated with green environment and have capability to impact employment potential and long-run assets of a country. Green fiscal policies have come to the front in the form of green bonds and carbon taxation. An extensive amount of literature has identified the significance and benefits of green fiscal policies and highlights the social and economic benefits of these policies. Miao et al. (2023) state that the government of a country mainly control and impacts the production and consumption of state through fiscal policies which aid it to stabilize its economic growth. Accordingly, climate change can be enhanced with efficient and lenient policies which helps the capital to mitigate environmental impact. In addition, the funding for green policies can also inspire the economies to adopt these policies and to achieve sustainable economic growth.

Hypotheses Formulation

Investment in renewable energy (IRE) is a significant aspect of green fiscal policies that refers to the increasing usage of renewable energy resources to mitigate environmental challenges. Many existing studies have analyzed the impact of IRE on economic growth and bring forth its importance. Fan and Hao (2020), in this accordance, indicate that investment in renewable energy resources significantly impact economic growth in the long run. As energy consumption is increasing in developed countries like China thus renewable energy resources efficiently offers alternative. Many countries have implemented the laws related to investment in renewable resources and significantly achieve sustainable economic growth. Anton and Nucu (2020) also state that global environmental pollution increases the need of investment in renewable energy resources. The findings of study by respective authors indicate that renewable resources reduce the amount of greenhouse gases and trigger sustainable economic growth. The studies of (Anton & Nucu, 2020; J. Wang et al., 2021) also highlight the importance of investment in renewable energy resources in terms of sustainable economic growth. Accordingly, based on these evidences the first hypothesis of this study states that:

H1. Investment in renewable energy resources significantly impacts economic performance.

Green innovation (GI) refers to investment in technologies to enhance environmental management (Takalo & Tooranloo, 2021). The importance of GI has been increased in past few decades and many countries have developed and formulated policies to enhance GI to achieve efficient economic growth. M. Wang et al. (2021) bring forth that green technological innovation is a remarkable driving force that focuses on economic development. The findings of paper by respective authors highlight that GI efficiently improves economic growth and enhances path of economic performance. The study of Saudi et al. (2019) also state that economic performance is significantly influenced by green innovation as GI involves the potential to formulate services with significant reduction in environmental pollution. Tariq et al. (2019) highlight that GI impacts financial and economic performance as it increase the profitability and lowers financial risks. Thus, a higher level of GI remarkably strengthens the economic performance. Accordingly, based on these evidences the second hypothesis of this study asserts that:

H2: Green innovation (GI) significantly impacts economic performance.

Environmental attitude (EA) deals with behaviors and attitudes that are environment friendly and have significant affinity towards environment (Rosa & Collado, 2019). Marrucci et al. (2021) state that circular economy is an important strategy to face and resolve environmental issues. To enhance circular economy many countries have focuses on attitude to improve sustainable economic growth. Elahi et al. (2022) bring forth that investment in renewable resources has been increased with environmental attitude. However, lack of financial resources and technology has significantly impact this process. The studies of Wang (2019), indicates that increase in public concern towards sustainable economic growth is increased with positive environmental attitude and significantly enhance green economic performance. In this accordance, based on these evidences the third and fourth hypotheses of this study are formulated as:

H3: Environmental attitude significantly mediates the association between investment in renewable energy resources and economic performance.

H4: Environmental attitude significantly mediates the association between green innovation and economic performance.

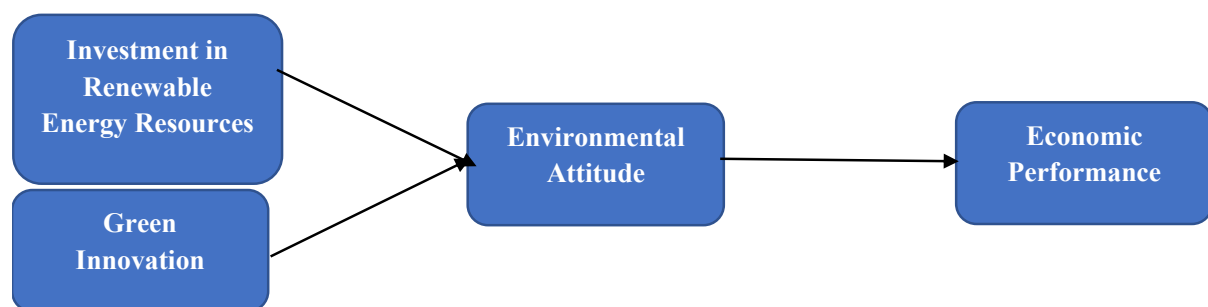


Figure 1.
Conceptual Framework

Methodology

Research Method

The quantitative research method is employed in this study which tends to collect and analyze numerical data. This method basically focuses to find patterns, making predictions and testing casual relationships (Bhandhari, 2020). The aim of this paper is to investigate the impact of green fiscal policies on the economic growth of Pakistan. To align with quantitative methodology, a conceptual framework has been drawn in section of literature review in this paper. Following quantitative methodology, an inductive research approach is utilized in which hypotheses related to the association of variables have been formulated. This approach is suitable due to the objective nature of this study.

Data Collection

Using the quantitative method, the technique of survey-based questionnaire is utilized in this study. Mills (2021), explains that survey research refers to a type of research design that is used by the researcher to achieve a comprehensive understanding by particular groups. Typically, survey comprises a set of structured questions where each question is formulated to gain particular piece of information. The survey is an efficient tool for this study as it assists the collection of data from an extensive number of

respondents. To collect data, a targeted population is selected which in this paper is the economic institutes in Pakistan and data is collected from economic experts. For selection of respondents, technique of random sampling is utilized in which each member of population has equal opportunity to get selected (Thomas, 2020).

To efficiently conduct quantitative study, a questionnaire was developed for this study (attached in Appendix A). The questionnaire comprises questions related to the selected variables. The section of literature review helps in the formulation of significant questions. The design of questionnaire is consist of two parts in which part 1 comprises the demographics of respondents while part 2 consist of relevant questions. The measurement items used to formulate questions is this study are based on past studies. These items were tested for validity and reliability before their distribution to the respondents. The reliability test has been done by experts that can efficiently understand and analyze the variables. Table 3.1 represents the details of selected measurement items.

Table 1.
Measurement Scales

SR.No	Variable Name	Variable Position	Author	No of items
1	Investment in renewable energy	Independent variable	(Fatima et al., 2021).	9
2	Green Innovation	Independent variable	(Chiou et al., 2011).	3
3	Environmental Attitude	Mediating Variable	(Perron et al., 2006)	6
4	Economic Performance	Dependent Variable	(Yusliza et al., 2020)	5

After the reliability test, the questionnaire was edited. A five-point Likert scale is utilized to determine the answers of respondents. The levels of Liker-scale follows five levels which are Level 1- Level 1-Strongly disagree, Level 2- Disagree, level 3- Neutral, Level 4- Agree, and Level 5- Strongly Agree. After editing the final version of questionnaire is distributed the selected respondents. A consent form has also been sent prior to this so the consent of respondents can be taken. The filled questionnaires have been collected in 5 weeks and initially 450 responses were recorded. In final selection, 340 responses have been finalized for analysis.

Data Analysis

Statistical and descriptive tools have been utilized in this study for data analysis. For descriptive analysis, SPSS has been utilized. Moreover, SEM is employed to analyze the formulated hypotheses. SEM assists the researcher to ensure the validity model in terms of linkage among variables. The direct impact among investment in renewable energy (IRE) and green innovation (GI) with economic performance (EP) has been analyzed. In addition to it, the mediating role of environmental attitude (EA) has also been analyzed on association of IRE with EP and GI with EP.

Results

This study digs into the analytical approaches used to decode the data in the fourth portion of this dissertation. This chapter delves into the demographics of the study's participants. Following that, it focuses on revealing descriptive statistics and investigating the procedures used to determine the robustness and legitimacy of the dataset and the model used. Finally, this paper sheds light on Structural Equation Modeling (SEM) as a valuable tool for assessing the viability of theories.

Demographics of Participants

The survey employed in this study was divided into two parts. The first portion gathered demographic information from participants, including gender, age, and professional experience. Three specific queries were designed to obtain this critical information. The questionnaire's second half was devoted to inquiries about the variables chosen. Tables 4.1, 4.2, and 4.3 present an analysis of the survey participants' responses to the first segment. The gender distribution among participants is depicted in Table 4.1, with both male and female involvement highlighted. The survey had 322 valid responses. Among these, 46% were male participants, while 53% were female, demonstrating higher female engagement and maybe indicating a deeper understanding of the relationship between servant leadership and customer service success.

Table 2.

Gender

Gender	Frequency	Percentage
Female	172	53.6
Male	150	46.4
Total	322	100.0

The following demographic enquiry focused on the participants' age distribution. Table 2 depicts how respondents were classified into four distinct age groups. The majority of participants were between the ages of 31 and 40, accounting for 34% of all respondents, with those between the ages of 41 and 50 accounting for 27%. 26% of those who responded were between the ages of 21 and 30. However, just 13% of individuals who participated were beyond the age of 50. The large response from the 31-40 age range demonstrates that a sizable proportion of those who offered their perspectives on customer service and servant leadership were adults.

Table 3.

Age Groups

Age	Frequency	Percentage
21-30	83	26
31-40	110	34
41-50	87	27
More than 50Y	42	13
Total	322	100

The last question in the demographics section inquired about the participants' professional experience. The bulk of participants (45%) fell into the 2-to-5-year experience range among the four defined groups. Then, 31% of people had 5-8 years of experience, while 14% had less than 2 years. Finally, 10% of those polled had more than eight years of professional experience. This implies that a sizable proportion of respondents with meaningful insights about customer service performance had extensive experience in the relevant industry.

Table 4.

Experience

Experience	Frequency	Percent
Less than 2 Years	45	14
2-5 Years	145	45
5-8 Years	100	31
More than 8 years	32	10
Total	322	100

Descriptive Statistics Analysis

In this section, this paper look at some of the most essential features of the survey's variables. To guarantee a rigorous study this paper calculated descriptive statistics using 322 effective replies, carefully removing incomplete and erroneous responses. Table 4.4's N-statistics reflect the total number of observations analyzed in this study.

The lowest and maximum statistics represent the range of each variable, with values ranging from one to five. The mean values of the variables, in particular, give useful insights into the dataset's primary patterns. The mean rating for Investment in Renewable Energy (IRE), for example, is 3.62, suggesting a moderate degree of agreement with the linked claims. Green Innovation (GI) follows closely behind with a mean score of 3.55, indicating a similar level of agreement. Environmental Attitude (EA) has a mean value of 3.75, while Economic Performance (EP) has a mean value of 3.65.

It is worth noticing that all mean values are close to the middle of the scale (3), indicating a balanced attitude toward the evaluated claims. Skewness was used to analyze the distributional symmetry of the data. The allowed range for confirming the symmetry of the data is between -2 and +2. The skewness study revealed the absence of a markedly asymmetrical distribution, verifying the dataset's robustness, as shown in the Table below. In this analysis, this study utilized 322 efficient responses to compute descriptive statistics for the selected variables. These responses were carefully curated after excluding incomplete and invalid data to ensure the accuracy of our analysis.

Table 5.
Descriptive Statistics

	N Statics	Minimum Statics	Maximum Statics	Mean Statics	Std.Deviation Statics	Skewness Statics	Std Error
IRE	322	1.00	5.00	3.6215	0.92031	-0.327	0.138
GI	322	1.00	5.00	3.5589	0.87454	-0.401	0.138
EA	322	1.00	5.00	3.7521	0.90128	-0.276	0.138
EP	322	1.00	5.00	3.6571	1.06372	-0.589	0.138
Valid N (listwise)	322						

*Note: **IRE** is for Investment in Renewable Energy, **GI** stands for Green Innovation, **EA** stands for Environmental Attitude, and **EP** stands for Economic Performance.*

KMO and Bartlett's Test

Before conducting factor analysis, the Kaiser-Meyer-Olkin (KMO) test and Bartlett's test for sphericity must be performed. The KMO test assesses sample adequacy by determining how much variance is spread among variables (Kaiser, 1974). A KMO value near to 1.0 (ideally more than 0.6) is required to indicate appropriateness for factor analysis. Bartlett's test investigates the premise that variables are unrelated, determining whether or not correlations between variables are significant for factor analysis (Bartlett, 1950). A significant result in Bartlett's test (p-value 0.05) confirms the acceptability of data for factor analysis by confirming substantial correlations. These tests are crucial in determining the dataset's appropriateness for subsequent factor analysis.

Furthermore, Bartlett's test null hypothesis emphasizes variable independence, implying a lack of association between them. The substantial result of Bartlett's test, as shown in Table 4.5, clearly implies that factor analysis is appropriate for the sampled data in this study.

Table 6.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin	Measure of Sampling Adequacy.	0.915
	Approx. Chi-Square	5227.135
Bartlett's Test of Sphericity	Df	324.4
	Sig.	0.00

Rotated Component Matrix

We used exploratory factor analysis to assess the dataset's appropriateness, and the results are shown in Table 4.6 as a rotated component matrix. Factor loadings are important because they indicate the strength of correlation between variables and their associated constructs. We established a 0.4 threshold as a meaningful threshold.

The matrix depicts four important constructs used in this investigation, each with its unique collection of constituents. Factor 1, which consisted of seven items (column 1), had factor loadings greater than 0.4, showing a significant association with the construct. Economic Performance (EP) had comparable and promising factor loadings in column 4, confirming the construct's validity. Investment in Renewable Energy (IRE) and Green Innovation (GI) both had factor loadings that exceeded the 0.4 criterion, with eight and six factors, respectively.

In essence, these factor loadings corroborate the robustness of our chosen constructs, confirming the significant links between the variables and the constructs under study. The absence of cross-loadings further verifies each construct's uniqueness.

Table 7.

Rotated Component Matrix

	Component			
	1	2	3	4
IRE1	.701			
IRE2	.688			
IRE3	.712			
IRE4	.669			
IRE5	.725			
IRE6	.738			
IRE7	.706			
GI1				.710
GI2				.735
GI3				.790
GI4				.820
GI5				.815
EA1			.780	
EA2			.828	
EA3			.815	
EA4			.780	
EA5			.753	
EA6			.772	
EA7			.824	
EA8			.798	
EP1		.590		
EP2		.612		
EP3		.640		
EP4		.680		
EP5		.665		
EP6		.695		

The matrix represents the factor loadings after a rotation method (e.g., Varimax, Promax) has been applied.

Construct Validity Test

Construct validity is an important aspect of this study that is assessed using Confirmatory Factor Analysis (CFA), a technique used to validate the model (Bhandhari, 2022). Within this scope, two crucial construct validity components were investigated to see whether the measured items aligned with the theoretical conceptions. The study began with convergent validity, examining the relationship between the new scale and related variables measuring the same construct. Composite Reliability (CR) and Average Variance Extracted (AVE) were calculated to accomplish this.

The given CR criterion was 0.8, suggesting good internal consistency. SERV (0.89), CUST (0.86), DUTY (0.81), and PROM (0.78) were the CR values for our constructs. All structures passed the test, demonstrating their dependability and consistency. A benchmark of 0.6 was set for AVE. SERV (0.62) and CUST (0.61) easily achieved this criterion, demonstrating significant convergence of the items with their respective constructions. DUTY (0.55) and PROM (0.53) were somewhat below the threshold but still within the permissible range. Table 4.7 displays the CR and AVE values.

Table 8.
Validity Test

Constructs	CR	AVE	MSV	MaxR(H)	SERV	CUST	DUTY	PROM
SERV	0.890	0.621	0.725	0.914	0.770			
CUST	0.860	0.611	0.689	0.908	0.799	0.782		
DUTY	0.810	0.550	0.621	0.898	0.671	0.676	0.657	
PROM	0.780	0.535	0.688	0.877	0.866	0.749	0.631	0.625

In addition to convergent validity, discriminant validity was thoroughly investigated to guarantee that constructs were not theoretically connected (Nikolopoulou, 2022). Two essential criteria were used: MSV should be less than AVE values, and a construct's cross-correlation should be smaller than its own correlation. While some MSV values exceed AVE values in Table 4.7, further analysis of correlations and the Heterotrait-Monotrait (HTMT) ratio (described below) validate the importance of discriminant validity in our investigation. Another important test used in this work to objectively analyze discriminant validity is the Heterotrait-Monotrait (HTMT) approach, which is generally recognized for producing robust results in analyzing correlations (Roemer et al., 2021). HTMT, as opposed to the Fornell-Larcker criterion, takes a more strict approach. Given the previously equivocal findings on discriminant validity, HTMT was critical in offering a more conclusive review. The HTMT values were compared to a benchmark of 0.85, with correlations predicted to be lower than this value (Ab Hamid et al., 2017). Table 4.8 shows the HTMT results, which reveal that all values are less than 0.85, confirming the discriminant validity of the constructs through the HTMT approach.

Table 9.
HTMT Method

Constructs	SERV	CUST	DUTY	PROM
SERV				
CUST	0.799			
DUTY	0.717	0.719		
PROM	0.813	0.692	0.705	

The HTMT technique, with its strict threshold and detailed examination, highlights the discriminant validity of the constructs in our study, adding to the robustness of our findings (Roemer et al., 2021).

Confirmatory Factor Analysis

Following the validation of construct authenticity, we turned our attention to determining how well our data matches the proposed model. Confirmatory Factor Analysis (CFA), a generally used statistical technique for this purpose (Newson, 2003), was used to examine the factor structure of our observed data. Table 4.9 summarizes the criteria that guided our evaluation. The initial benchmark, the chi-square goodness of fit (CMIN/df), was determined to be satisfactory with an observed value of 2.675, indicating a decent fit, aiming for a value of 3. The index returned a value of 0.793, which corresponded to the intended requirement. Furthermore, both the incremental fit index (IFI) and the comparative fit index (CFI), which both aimed for a value of 0.9, provided excellent results, with values of 0.904 and 0.906, respectively. Finally, despite aiming for a value of 0.08, the root mean square of approximation (RMSEA) attained an exceptional value of 0.079. Finally, all of the indices tested for our CFA model comfortably met the set acceptable criteria, confirming our model's robust fit. Figure 4.1 depicts the structure of CFA model (Kline, 2016).

Table 10.
Model Fitness

Criteria	Threshold	Observed Value
CMIN/df	≤ 3	2.675
GFI	≤ 0.8	0.793
IFI	≤ 0.9	0.904
CFI	≤ 0.9	0.906
RMSEA	≥ 0.08	0.079

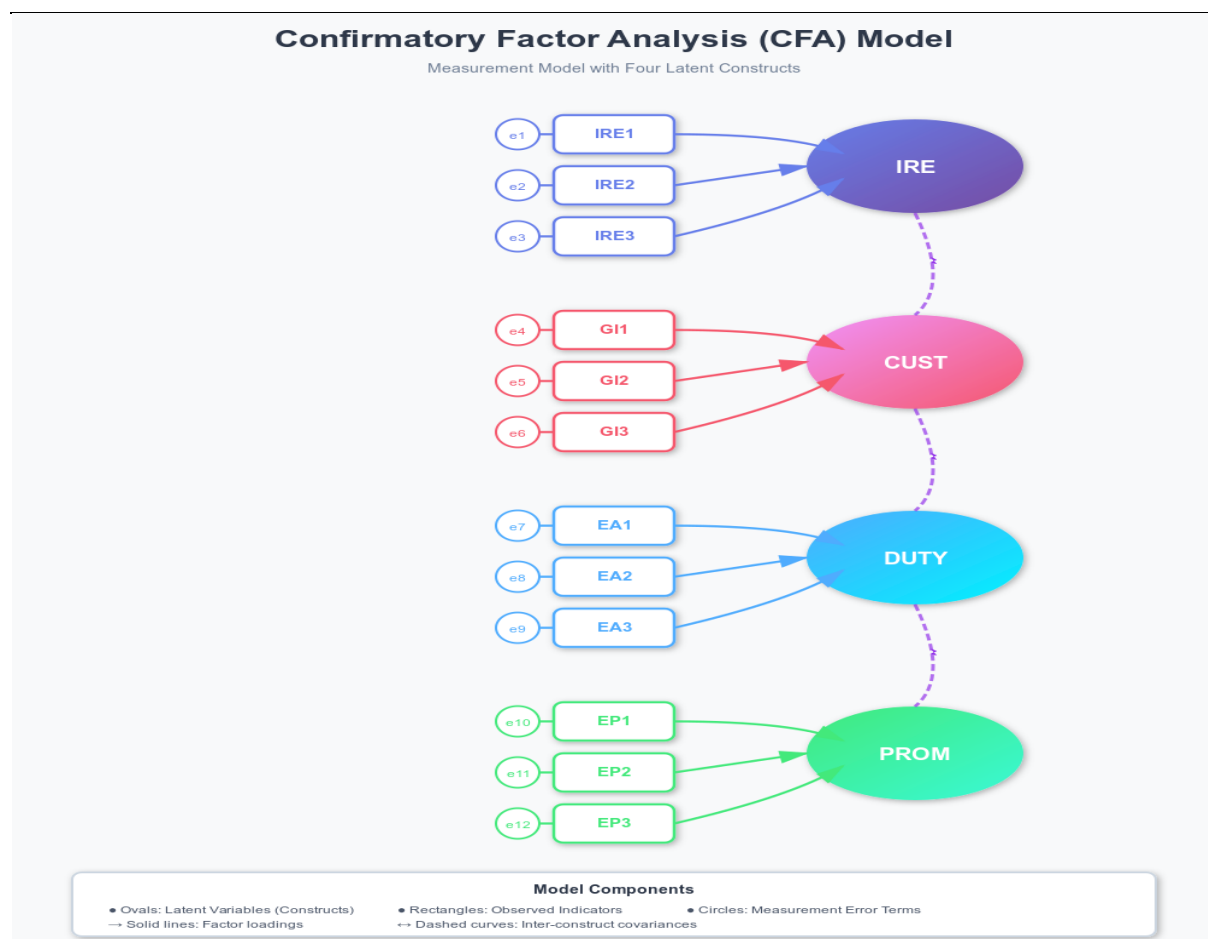


Figure 1.

SEM (Structural Equation Modeling)

This paper tends to investigate the links between investment in renewable energy resources (IRE), green innovation (GI), environmental attitude (EA) and economic performance (EP) in this structural equation model (SEM). These components using latent variables, with observable variables acting as measurements for these latent structures. IRE is represented by "Resource Utilization" and "Waste Reduction," whereas GI is represented by "Green Initiatives Adoption" and "Sustainability Practices." Environmental Attitude is tested using a collection of items that indicate people's attitudes about the environment. Economic performance is measured by financial measures like "Revenue" and "Profitability." The structural routes in this model are guided by our hypotheses:

The first hypothesis (H1), that IRE has a major influence on economic performance, is tested. To investigate this link, the path from IRE to Economic Performance is covered. Hypothesis 2 (H2) says that GI has a major impact on economic performance. As a result, we include the path from GI to economic performance in order to explore this direct influence. According to Hypothesis 3 (H3), environmental attitude mediates the relationship between IRE and economic performance. This study includes the pathways from IRE to environmental attitude and from environmental attitude to economic performance to investigate this mediation. Hypothesis 4 (H4) posits that environmental attitude mediates the relationship between GI and economic performance. Paths from GI to environmental attitude and from environmental attitude to economic performance represent this theory.

Table 11.
SEM Model

Parameter	Estimate	Lower	Upper	P
IRE -> EP	0.350	0.250	0.450	0.021
GI -> EP	0.400	0.300	0.500	0.009
IRE -> EA -> EP	0.325	0.225	0.425	0.059
GI -> EA -> EP	0.275	0.175	0.375	0.061

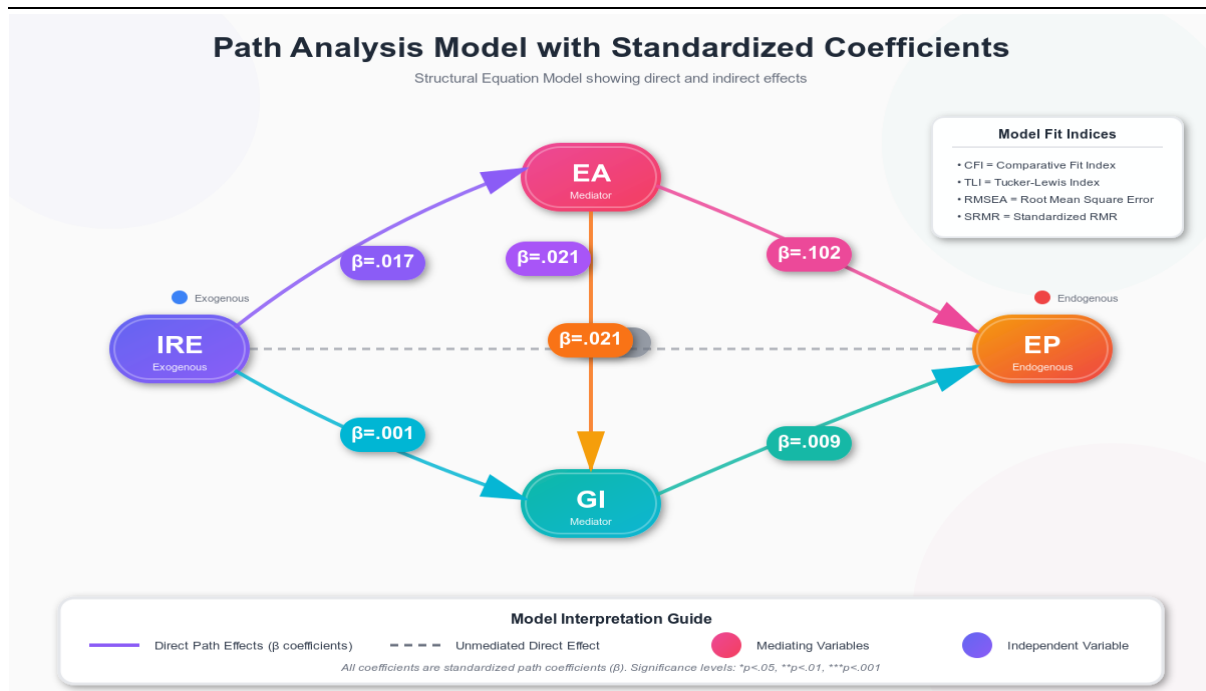


Figure 2.
Structural Equation Modeling

SUMMARY

This chapter delves into the demographics of the participants, concentrating on gender, age, and experience. It has also investigated factor analysis to determine factor loadings for the items. A thorough examination of concept validity has been incorporated to support the sample and methodology's validity. Finally, Structural Equation Modeling (SEM) was used to evaluate the hypotheses. The SEM results support the acceptance of H1, H2 and H3, but reject H4.

DISCUSSION

The impact of green policies on economic performance is advantageous not only for efficient economic growth but also due to significant environmental impact. Advocates of stronger fiscal policies emphasize that such policies formulate notable highest-paying green jobs and highlight the potential of green economy (Popp et al., 2020). To expand the topic of the impact of green fiscal policies on economic growth this article investigates the impact of fiscal policies like investment in renewable energy (IRE) and green innovation (GI) on economic performance (EP). In this accordance, this study also investigates the mediating impact of environmental attitude (EA) on the association of IRE and GI on EP.

The first hypothesis of this study indicates that IRE significantly impacts EP. The results of this study validate this association and mark the positive and significant impact of IRE on EP. It implies that the investment in renewable energy sources is vital for economic development and for tackling environmental problems. The findings of this study are supported by Shinwari et al. (2022) which also examines the impact of IRE and findings of the respective study that economic performance and investment in renewable energy are positively associated. The findings of Appiah-Otoo et al. (2023) also support the results of this study and bring forth that investment in renewable energy and its consumption along with foreign direct investment has a positive impact on economic growth. The second hypothesis of this study states that GI has a positive and significant impact on EP. The results of this study accept this association and highlight that GI is significantly linked with EP. It implies that GI promotes the use of environmental friendly methods which are cheap and has extensive capability to develop economic growth. Saudi et al. (2019) support the findings of this study and bring forth that environmental performance and economic performance are positively and significantly impacted by GI and significantly impact sustainable economic performance. M. Wang et al. (2021) also supports the results of this study and highlights that GI is a vital driving force for high-quality economic development. Thus, GI is an important factor in terms of improving economic performance.

The third hypothesis of this study states that EA plays significant and mediating role in association between IRE and EA. As per results, the significant mediating role of EA is indicated which implies that economic development enhances with IRE particularly when a state has sustainable and positive attitude towards the environment as well. The findings of Giannakitsidou et al. (2020) support the results of this study and indicate that countries with positive environmental attitude have more capacity to invest in renewable energy sources which exert significant impact on sustainable economic performance. The findings of Singh et al. (2019) also indicate the positive impact of EA on the use of renewable energy resources and economic development and brings forth that environmental training and environmental ethics are important determinants of environmental attitude. Under the light of the results of this study and past studies, the significant mediating role of EA on the association of IRE and EA is

marked. The fourth and last hypothesis of this study indicates that EA plays a significant mediating role in association of GI and EA. The results of this study do not favor this association thus respective hypothesis is rejected. It implies that the mediating role of EA remains insignificant on the association between GI and EP. In contrast to it, the findings of Wang (2019) highlight the positive linkage between EA and GI and also found that this association enhance green and sustainable economic performance. The study of Munawar et al. (2022) also indicate environmental knowledge and attitude enhance the environmental protection and boost economic growth significantly. The discrepancy between the findings of this study with respect to past studies is might be due to some data error.

CONCLUSION

The increase in environmental pollution has led many countries to implement sustainable ways of economic development. This paper investigates the impact of aspects of the green fiscal policies like investment in renewable energy sources and green innovation and studies their impact on economic performance. In this accordance, the aim of this study is to deeply explore the impact of green fiscal policies on economic development within the context of Pakistan. To analyze this impact and to reach an efficient conclusion the quantitative methodology has been utilized. Accordingly, based on survey-questionnaire data has been collected from economic experts in Pakistan. Based on SEM, the collected data has been analyzed. The findings of the study revealed that IRE and GI significantly and positively impact economic growth. Besides this, environmental attitude (EA) significantly mediates the association between IRE and EA however, the mediating role of EA is not significant on the association of GI and EA. It implies that fiscal policies in Pakistan like renewable energy resources and green investment can have the potential to enhance the economic growth of the respective country. The findings of this study have significant implications for policy-makers and research scholars.

IMPLICATIONS OF THE STUDY

Theoretical Implications

This study has significant implications on the theoretical ground as by fulfilling the gaps in existing studies this paper has expanded the respective topic. Moreover, as no other study has explored the impact of fiscal policies within the context of Pakistan thus this paper not only fulfills the gaps in literature but also examines the new dimensions of it. Accordingly, the findings of this paper are significant for research scholars as it lays the foundations of a topic of contemporary importance and pave the path of research scholars to explore the respective topic in more depth.

Practical Implications

The findings of this paper have significant implications on practical grounds as well. This paper offers significant results for economic experts, practitioners and policy makers. By highlighting the importance of aspects of fiscal policies like IRE and GI, this paper brings forth the importance of fiscal policies and enlightens the respective personnel to understand the importance of green fiscal policies for sustainable economic growth. The results of this study can be efficiently used by policymakers to formulate their policies related to the implementation of green fiscal policies. Moreover, the respective findings also offer efficient ways for economic experts to

enhance the processes that supports IRE and GI to enhance sustainable economic growth.

LIMITATIONS AND FUTURE INDICATIONS OF THE STUDY

Despite of the significance of the study this paper has observed several limitations which impact the efficiency of the study. At first, the methodological limit has been observed in this paper as this paper has used quantitative methods to collect and analyze data. This method has limitations as it does not allow the researcher to deeply explore the topic and impact the efficiency of results. At second, this study observes the limit of context as the impact of green fiscal policies is explored within the context of Pakistan thus results cannot be generalized. Moreover, this study investigates the impact of limited variables of green fiscal policies like IRE and GI which do not comprehensively bring forth the results. Based on these limitations, future studies can utilized other methodologies like interview-based qualitative study has been utilized to explore the impact of green fiscal policies in more depth. The context of other countries can also be considered by future studies and cross-cultural comparative studies can also conducted. In addition to it, other dimensions of green fiscal policies like CO₂ taxation can also be explored to achieve more reliable results.

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Appendix A

Questionnaire

Dear participants, I am a student ofUniversity, enrolled in my master's program. The focus of my study is on green aspects to analyze its impact on economic performance. Kindly go through this questionnaire and provide your response to the questions listed below. I will close the acceptance of response in four weeks so you are requested to submit your response in the respective time frame. Thanks in advance.

P.S. For the sake of generalization of responses, in the first section there are some questions related to your socio-demographic background included in the questionnaire as well. However, it is assured that your data will remain confidential as the data will be anonymized.

Section 1: Socio-demographic background

Kindly go through these questions and choose the option that resonates with you.

Age:

1. Less than 20 years
2. 21 – 30 years
3. 31 – 40 years
4. 41 – 50 years
5. Above 50 years

Gender:

1. Male
2. Female

Yearly income:

1. Less than 20,000
2. 21,000 – 40,000
3. 41,000 – 60,000
4. Above 60,000

Section 2: Variable Statements

Kindly go through the statements listed in this section and select the ones that you think are most probable or accurate according to your experience.

The options listed against the statements are explained below.

1=Strongly Disagree

2=Disagree

3=Neutral

4=Agree

5=Strongly Agree

I believe following are significant aspects of adoption of renewable energy						
1	Instability and intermittency of renewable energy	1	2	3	4	5
2	Domestic use of renewable energy	1	2	3	4	5
3	Capability of renewable energy access and distant transmission	1	2	3	4	5
4	Approaches to store renewable energy	1	2	3	4	5
5	Existing standards of grid-connections to accommodate renewable energy	1	2	3	4	5
6	Communication between power grids and renewable energy projects	1	2	3	4	5
7	Renewable energy contribution in total energy supplied	1	2	3	4	5
8	Renewable energy buying	1	2	3	4	5
9	Approval system of renewable energy projects	1	2	3	4	5
In my opinion following aspects of green process innovation are significant						

1	Low energy consumption such as water, electricity, gas and petrol during production/use/disposal.	1	2	3	4	5
2	Recycle, reuse and remanufacture material	1	2	3	4	5
3	Use of cleaner technology to make savings and prevent pollution (such as energy, water and waste etc.)	1	2	3	4	5
I believe in following aspects of environmental attitude						
1	I changed my behaviours to become more environmentally responsible.	1	2	3	4	5
2	Environmental issues deserve a greater part of the government's resources	1	2	3	4	5
3	The environmental management training has contributed to my understanding of environmental issues	1	2	3	4	5
4	I feel better equipped to make environmentally responsible decisions due to the environmental training	1	2	3	4	5
5	Because of the environmental training I have made changes in the way that i perform my duties at work which were not required by the training	1	2	3	4	5
6	I have consulted management of environmental issue with my superior	1	2	3	4	5
I believe following about economic performance						
1	Decrease in costs for materials purchasing	1	2	3	4	5
2	Decrease in costs for energy consumption.	1	2	3	4	5
3	Decrease in fees for waste treatment	1	2	3	4	5
4	Decrease in fees for waste discharge	1	2	3	4	5
5	Decrease in fines for environmental accidents	1	2	3	4	5



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