

FJWU (Economics) Working Papers
WP2023:1/2



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CHANGE IN PAKISTAN**

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CHANGE IN PAKISTAN**

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2023**

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Recommended Citation:

Waheed, S., & Waheed, H. (2023). The Impact of Post-Covid-19 Economic Recession on Public Perception of Climate Change in Pakistan. *FJWU Economics Working Paper Series (WP2023:1/2)*. Fatima Jinnah Women University. Rawalpindi.

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The Impact of Post-Covid19 Economic Recession on Public Perception of Climate Change in Pakistan

ABSTRACT

The interconnection between economic development, fervid crossovers in the frame of contagious diseases, and environmental problems, in particular, have, until now, seen less scrutiny from environmental economists. Empirical evidence suggests that great economic recessions have proven to affect the prioritization of environmental and climate protection. The current study surveys the perception of the residents of Lahore, Pakistan regarding their environmental concerns, attitudes, and awareness of climate change issues at the time of post-COVID-19 economic crises. Furthermore, the present study investigates several factors impacting the environmental behavior of mainstream society. A cross-sectional quantitative research design was utilized to gather data from respondents belonging to a public university in Pakistan. The findings reveal that climate change is viewed as one of the main ecological problems in Lahore, Pakistan. In any case, the ongoing post-COVID-19 economic recession in Pakistan has switched the advancement done regarding the awareness and attention of mainstream society relating to Climate change. The present research has several implications as identifying rising challenges of economic and climate-related threats can aid in adopting a more dynamic approach to strategic and structural investments. The current paper suggests immediate action against the present extensive financial challenges to turn away the drawn-out impacts of climate change. Moreover, the study also suggests robust policy interventions against financial instability to ensure collective as well as individual effort against climate change for a stable and sustainable future.

Keywords: *Economic Recession, climate change, Covid-19,*

1. Introduction

Climate change is one of the formidable obstacles faced by humanity in present times. However, its direct consequences on wellbeing of humans are not generally coherent making it difficult for individuals to envisage the sources of climate change and its potential impact on their lives (Mochizuki & Bryan, 2015). However, it does not suggest that the reverberations of climate change do not bother human beings. (Carolyn, 2010). Numerous researches have endeavored to measure the public discernments and perspectives regarding the dilemma of climate change on both national and international level. Most of residents in developed nations appear to be sensitized with the outcomes of climate change. (Skoufias, 2011; Lorenzoni & Pidgeon, 2006), despite the fact that they don't clearly know the contrivance through which anthropocentrism has an impact on it (Pihkala, 2018).

The era of Covid-19 was followed by a period of economic turmoil. Empirical evidence suggests that during Covid-19, a decline of 26.4% in GDP of Pakistan was reported from March to June as compared to pre-Covid-19 setting. Industry took a loss of 6.7%, services took a loss of 17.6%, agriculture on the other hand remained relatively unhurt and only declined by 2.1% (Moeen et al., 2021). All households saw a decrease in income, yet high-income groups seemed to bear loss more as compared to low-income ones. It has been seen that the expansion in unemployment in Pakistan converted into 3 times increase in poverty. (Moeen et al., 2020). In an economic crisis scenario, individuals with low income tend to be more perturbed regarding climate change as they do not have the necessities to overcome the adverse effect of climate change or other ecological catastrophes. Contrary to that, low income individuals are relatively less concerned about climate change, firstly because they have the resources to overcome the effect of climate and secondly they may perceive that they will have to pay higher taxes to fight climate change. (Lo, 2014)

Economic Recession is one of the main factors, which drives popular opinion on climate change. The Covid-19 pandemic led to labor shortage, supply chain disruptions, and chaos in the energy market, which will eventually lead to recession. During recession the focus of general public may shift from the greater good to personal benefit. (Shum, 2012). This model portrays the European Union where a single among two residents perceive climate change to be a serious issue during 2013, positioning it as the third most serious issue (European Commission, 2008). This trend is altered compared with 2008 which was marked by economic crisis, where 62% of European citizens considered climate threat as the second most difficult issue faced by the planet (European Commission, 2013). A European country like Greece, which was hit by an economic crisis between 2009 and 2015, affected how citizens of Greece perceived the solemnity of climate change. In 2008, 90% of the Greek citizens contemplated climate change to be absolute global issue and recession to be 4th most serious issue. A trend reversal was seen in 2013 when recession was segregated as 2nd most serious issue and climate change was segregated as 3rd most serious issue. (Papoulis et al., 2015).

Several evidences have indicated the impact of income background and Economic Recession on the Prioritization of climate change in general public. However, these studies were framed in western setups which resulted in a scarcity of economic-disaggregated data related to environmental concerns from Asian countries especially from Pakistan.

Moreover, the interconnection between economic development, fervid crossovers in the frame of contagious diseases, and environmental problems, in particular, have, until now, seen less scrutiny from environmental economists. In this context, the current study surveys the perception of the residents of Lahore, Pakistan regarding their environmental perception and attitude related to climate change issues during post-COVID-19 economic crises. Furthermore, the present study investigates several monetary related factors impacting the environmental behaviour of mainstream society.

1.1.Hypotheses

The current study intends to explore the perception of university students regarding climate change. The study also seeks to decipher the association between variables including climate change perception, socio economic background, climate action prioritization and post-Covid-19 economic recession. The study aims to test the following hypothesis:

H1: Socioeconomic background would be significantly associated with subjective perception of climate change.

H2: Socioeconomic background would be significantly associated with the prioritization of climate action.

H3: Impact of post-Covid-19 economic recession would be significantly associated with prioritization of climate action.

2. Methodology

The purpose of the research was to investigate the perception of mainstream society about climate change during period of post-Covid-19 economic recession along with exploring the association between variables that affect environmental behaviour through a self-reflective quantitative survey.

2.1.Study Design, Population and Procedure:

The research team initiated the recruitment of participants on 15th April 2022 through a cross sectional quantitative research design. The participants were contacted directly and data

collection was done face to face via a pencil, paper-type test where survey questionnaire were dispersed among respondents and were collected back on spot.

The study population comprised of 343 university students (both males and females) aged 17 to 30 years enrolled in undergraduate and postgraduate programs. Respondents were allocated in current study from University of the Punjab, Lahore, Pakistan using non-probability convenience sampling method. Study utilized non-probability convenience sampling because of on hand and easy access to large population (Lehdonvirta et al., 2021; Stratton, 2021). The participation in this study was voluntary. Simple and inclusive language was used in the survey questionnaire for easy understanding of participants.

In the current study, SPSS (version 20) was employed with the statistical significance set as 0.05. Total 356 questionnaires were received after survey completion, of which 13 incomplete responses were excluded. Finally, 343 responses were eligible for analysis. Of the respondents 178 were male and 165 were female. The descriptive statistics of the participants are given in Table 1.

Table 1

Descriptive Statistics of Participants (n=388)

Demographic Information	Frequency	Percentage
Gender		
Male	178	52
Female	165	48
Education level		
Undergraduate Students	187	54.5
Postgraduate Students	156	45.5
Marital Status		
Single	271	79
Married	71	21

2.2.Measures

The survey questionnaire used for collecting data in this study were segmented into 4 categories: respondent's sociodemographic, socio economic status, climate change perception, prioritization of climate change and economic recession.

The sociodemographic segment of the questionnaire included characteristic information including gender, age, education, income and marital status.

Revised New Ecological Paradigm Scale (NEP) developed by Dunlap et al., 2000 was employed to measure respondent's perception of climate change by measuring agreement with different statements regarding the relationship between the climate and human beings (sample item: If things continue on their present course, we will soon experience a major ecological catastrophe.) For present study, NEP scale was modified to focus on the main subject of the research i.e. climate change. Consisting of 15 items, responses were rated on a 5-point Likert type scale (1= strongly disagree to 5= strongly agree). The even items were scored reversed; the positive, high perception was indicated by the agreement with odd numbers while agreement with even number indicated low climate perception. The revised new ecological paradigm scale has repeatedly showed high internal consistency (Claudio et al., 2022; Derdowski, 2020; Barradas & Ghilardi 2020).

The socio economic background of the respondents was measured by averaging the responses about monthly income and education level. Respondent's prioritization of climate change was measured by the question: 'Here are some issues now being discussed in The Parliament. Do you think each of these issues should be a low, medium or high priority for the current government? (Mildenberger & Leiserowitz, 2017)' Respondents indicated their priority for the 'climate change' item using a three-point scale ranging from 'Low' to 'High'.

Finally, participant self-reports were utilized to establish measures of economic recession impact. The economic recession variable was measured by question: 'How much has the economic downturn in this country since Covid-19 personally hurt you and your family? (Mildenberger & Leiserowitz, 2017)'. Participants indicated the extent of being impacted by the economic recession using two options either 'Some' or 'A lot'.

2.3.Ethical Considerations

APA 7th version ethical guidelines were adhered to in the design and execution of this research. Before the initiation of the study, formal approval and ethical clearance was taken from respondents to carry out the research. Moreover, participants’ identities were promised to be kept confidential and anonymous. Furthermore, the study was formally approved by Internal Review Board of University of the Punjab, Lahore, Pakistan.

2.4.Data Analysis

The analysis of data was carried out employing descriptive and inferential statistics. The testing of proposed hypothesis was carried out utilizing inferential statistics. The comparison and association between variables was tested using Chi-square test.

3. Results

The present study investigated the perception of respondents related to climate change during post Covid-19 economic recession along with surveying the association between several factors influencing the environmental behaviour including socio economic background, perception of climate change, prioritization of climate action and economic recession.

In current study the age of respondents ranged from 17 to 30 years. The current study constituted 178 (52%) male and 165 (48%) female respondents. There were 72 (21%) married participants and 271 (79%) single participants. A majority of respondents 187 (54.5%) were enrolled in an undergraduate program while 156 (45.5%) were enrolled in a post graduate program.

The association between different variable including climate change perception, socio economic background, climate change prioritization and post-Covid-19 economic perception were measured using Chi-square statistics.

Table 2

Frequencies and Chi-Square Results for Climate Change Perception and Socio Economic Background (N=343)

Source	Low		Moderate		High		$X^2(1)$	P
	n	%	n	%	n	%		
<hr/>								

Low	31	27	34	25.5	27	28.4		
Moderate	75	65.2	94	70.8	57	60	5.85	.210
High	9	7.8	5	3.7	11	11.6		

Table 2 reveals that chi-square test of independence showed no significant association between socioeconomic background and climate change perception with $X(1,N=343)= 5.85$, $p=.210$, $\phi=.13$. Hence hypothesis 1 was rejected.

Table 3

Frequencies and Chi-Square Results for Climate Action Prioritization and Socio Economic Background (N=343)

Source	Low		Moderate		High		$X^2(1)$	p
	n	%	n	%	n	%		
Low	8	7	16	12	36	37.8		
Moderate	27	23.4	87	65.5	38	40	101.7	0.000
High	80	69.6	30	22.5	21	22.2		

Table 3 reveals that chi-square test of independence showed significant association between socioeconomic background and climate action prioritization with $X(1,N=343)= 101.7$, $p=.000$, $\phi=.54$. Hence hypothesis 2 was accepted. Results revealed climate action prioritization to be high in respondents with medium (40%) and low (37.8%) socio economic backgrounds.

Table 4

Frequencies and Chi-Square Results for Climate Action Prioritization and Post-Covid-19 Economic Recession (N=343)

Source	Some		A lot		$X^2(1)$	P
	n	%	n	%		
Low	3	1.25	57	55.3		
Moderate	115	47.9	37	35.9	156.3	.000
High	122	50.8	9	8.8		

Table 4 reveals that chi-square test of independence showed significant association between Post-Covid-19 Economic Recession and climate action prioritization with $X(1,N=343)=156.3$, $p=.000$, $\phi=.67$. Hence, hypothesis 3 was accepted. Results revealed climate action prioritization to be low in respondents mostly affected by post-Covid-19 economic recession (55.3%) and high in respondents least affected by post-Covid-19 economic recession (50.8%).

4. Discussion

The findings of this study shows no significant difference among various income backgrounds regarding their perception about climate change and significant association among different socioeconomic background regarding climate action prioritization, and significant association between Post Covid-19 economic recession and climate action prioritization during economic recession in general public of Pakistan.

The findings report no significant differences among different socioeconomic backgrounds, where the perception of all the socioeconomic backgrounds regarding climate change is high. This suggests that most of respondents were aware of climate change and its adverse effect on the living conditions of humanity and that respondent’s level of information is good regarding climate change. (Akerlof et al., 2013). Moreover, people need to be better informed on the issue, in order to gain knowledge of every possible action they can undertake to mitigate the potential impact. (Moser, 2009)

In this study there is a significant association between socioeconomic backgrounds and prioritization of climate change. Where most of the respondents with low and moderate socioeconomic backgrounds responded with high prioritization of climate action. The outcomes suggest that the reason behind high prioritization of climate change among low and moderate socioeconomic background is their lack of resources to tackle climate change, they believe that they will be most affected by rising temperatures, extreme weather events, floods, droughts and reduction of farmland. While on the other hand respondents with low climate change prioritization belong to high socioeconomic background and the outcome suggests that the reason behind their low prioritization of climate change is firstly excess of resources to handle the effects of climate change and secondly they believe that in order to oppose climate change government would impose high taxes on respondents with high socioeconomic background.

The current study also sheds light on the significant association between Post Covid-19 Economic Recession and Prioritization of climate change. The findings of this study suggests that the respondents most affected by Post Covid-19 Economic Recession have low climate action prioritization. In the wake of rising Covid-19 cases government limited transportation and construction, weak domestic consumption lead to delay in commercial investments (Alam et al., 2021) and increase in unemployment was linked with plummeting household incomes and rising poverty during and after the lockdown (Moeen et al., 2021). The study suggests that respondents most affected by recession wanted the government institutes to focus on revival of economy instead of climate action. Respondents most affected by post covid-19 economic recession were struggling with their basic needs so ultimately their top priority was their basic needs and revival of economy instead of climate action prioritization. The findings of this study also suggests that respondent's least affected by post covid-19 economic recession had high climate action prioritization. The outcome suggests that these individuals belonged to the sectors which were least affected by post Covid-19 recession which means that they had enough resources to fulfill their basic needs and these individuals wanted government institutes to focus more on climate action.

A limitation of present study is that the population of current research were mainly university students who are not at the forefront of being severely impacted by economic recession comparatively to other working groups of mainstream society. The future study should seek to test

the hypothesis of current research in other societal groups too, in order to decipher other dimensions of economic-environmental behavior.

Furthermore, there has been no work done in similar domain, particularly in Asia or Pakistan before the Covid-19 economic recession, which delimits the present research to explore and compare trends regarding climate change perception and prioritization in phases of economic growth, and recession. In this context, present search constitutes the base for futures studies on economic situation-climate change nexus.

5. Conclusion

The findings show medium to high level of perception related to climate change during post-Covid-19 economic recession in the mainstream public. The study also reveal significant association between variables like socio economic background and prioritization of climate action, also impact of post-Covid-19 economic recession and climate change prioritization. The present research has several implications as identifying rising challenges of economic and climate-related threats can aid in adopting a more dynamic approach to strategic and structural investments. The current paper suggests immediate action against the present extensive financial challenges to turn away the drawn-out impacts of climate change. Moreover, the study also suggests robust policy interventions against financial instability to ensure collective as well as individual action against climate change for a stable and sustainable future.

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