The Relationship between Economic Sanctions, Corruption and Environmental Quality

Maddah, M.[1]

Abstract

Environmental quality plays an important role in human health and the social and economic status of society. One of the challenges facing the government in achieving sustainable development goals is increasing pollution and climate changes. This paper examines the effects of sanctions and corruption on the quality of the environment in Iran. Following the sanctions, the government is forced to change the resource allocation pattern and essential spending replace those related to the development of economic infrastructure and the protection of natural resources, whereby the quality of the environment is influenced. Sanctions also provide rent-seeking opportunities for interest groups due to trade restrictions, and ultimately lead to the spread of illegal activities and economic corruption. The results from partial least squares structural equation model from the period 1996 to 2021 show that first, economic sanctions have had a negative and significant effect on environmental quality by limiting economic capacities and changing the economic priorities of the government. Second, the spread of economic corruption has damaged environmental quality and has had a significant effect on increasing environmental pollutions. Third, sanctions through the channel of corruption have led to environmental destruction, so that environmental quality in Iran has been directly and indirectly affected by economic sanctions. The findings of the paper indicate that environmental degradation is a multidimensional phenomenon that is simultaneously affected by political and institutional factors, and accordingly, its solution is related to improving institutional quality and removing political obstacles. The results of the paper point to the multidimensional nature of the environmental quality issue, based on which various economic and political factors such as political corruption, government quality, and sanctions influence it.

Keywords: Environmental quality, Economic sanctions, Corruption, Partial Least Squares Structural Equation Modeling, Iran.

JEL Classification: F51, Q56, D73, C39, O53.

1. Professor in Economics, Faculty of Economics, Management and Administrative Science, Semnan University, Semnan, Iran.
   Email: majid.maddah@semnan.ac.ir

Public Sector Economics Studies 12 PSE
Qurterly
Department of Economic, Faculty of Economic and Accounting, Razi University
Vol. 4, Issue 12, Summer 2025 | Online ISSN: 2821-2681
348

Volume 4, Issue 12, Summer 2025

1. Introduction

Iran is one of the countries under economic sanctions, facing serious restrictions on the sale of oil and gas. The negative shocks to oil revenues caused by the imposition of international sanctions has changed the government's priorities in allocating resources. Sanctions, by reducing economic capacities, have limited the country's resources for protecting the environment and natural resources, thus negatively impacting environmental quality. On the other hand, sanctions, by harming national income, have restricted the import of technologies related to clean energy, rendering the government unable to improve environmental quality. Sanctions increase trade restrictions, which in turn restrict formal activities and expand illegal activities. Accordingly, sanctions exacerbate domestic shortages and lead to inflation, which in turn benefits certain groups and spreads corruption. Corruption, in turn, is recognized as one of the important institutional obstacles to achieving sustainable development goals and effective implementation of environmental policies to reduce pollution and environmental degradation. In this framework, the growth of corruption affects the performance of environmental protection policies. According to these arguments, sanctions directly and indirectly affect environmental quality through the corruption channel.

The aim of this paper is to examine and analyze the direct and indirect effects of economic sanctions, through the channel of economic corruption, on the environmental situation in Iran. For this purpose, structural equation modeling based on the Partial Least Squares (PLS-SEM) method is used to analyze the simultaneous relationships between the three constructs: sanctions, environmental quality, and corruption.

2. Theoretical framework

Economic sanctions reduce revenues by targeting the country's capacities, which forces governments to reduce the political costs of sanctions by shifting budgets from low-priority groups such as environmental protection, education, research funding, and disaster preparedness to other groups. This action ultimately leads to citizens experiencing a shortage of public goods.

Sanctions affect the target's economic situation in such a way that due to trade restrictions caused by sanctions, domestic prices of goods and services are increased, which in turn provides a platform for the expansion of illegal activities and economic corruption. The revenue barriers caused by sanctions contribute to the expansion of corruption in two ways. First, illegal activities increase following sanctions. Second, the weakening of government authority and reduced revenues weaken the rule of law and provide a platform for corruption and illegal transactions.

3. Methodology

In this study, the SEM modeling method based on partial least squares (PLS-SEM)

is used to discover multiple relationships between constructs. The PLS approach consists of two structural (or inner) and measurement (or outer) models. The first one specifies the relationship between latent variables, both endogenous and exogenous. In the second one, the relationship between latent and manifest variables is specified, which is defined within the framework of two models: reflective measurement and constitutive measurement. Based on the PLS-SEM method, three constructs of sanctions, environmental quality, and corruption are considered in order to examine the causal relationships from sanctions to the environment and from sanctions to corruption.

4. Discussion

The results obtained from the relationship between the three environmental quality constructs, corruption and sanctions show that first, economic sanctions have increased environmental pollution in Iran, on the grounds that sanctions have limited the country's resources for environmental protection and have subsequently degraded environmental quality. Second: There is a direct and significant relationship between corruption and environmental degradation. More corruption increases the violation of environmental laws and regulations through lobbying and bribery, and ultimately leads to weakening of environmental performance and the growth of unauthorized pollution emissions. Third: According to the results of the PLS-SEM model estimation, the effect of sanctions on economic corruption is positive and significant, mainly due to the growth of illegal exchanges and rent-seeking opportunities arising from the restriction of economic competition, as well as violations of customs laws and regulations by business actors in the sanctioned country.

5. Conclusion and Suggestion

The results of the paper point to the multidimensional nature of the environmental quality issue, as various political factors such as political corruption, government quality, and sanctions affect it. In this regard, only part of the problems of low environmental quality are justified by the pressure of economic sanctions against Iran. Sanctions have exacerbated environmental problems in Iran, but it seems that a major part of it is due to the government's poor performance in allocating the necessary resources to protect the environment, political interference in economic decisions related to environmental issues, which has caused the loss of natural resources and the reduction of groundwater reserves in the country, and the effectiveness of power institutions or political elites affiliated with the government in the proper implementation of environmental laws and regulations. The correction of this process will primarily depend on the effectiveness of government policies on issues related to sustainable economic growth, including environmental issues.

6. Ethical Considerations
6.1. Compliance with ethical guidelines
The authors of the article declare that research ethics have been followed in this s study.

6.2. Funding
No funding received from public, commercial or not-for-profit agencies.

6.3. Authors' contribution
The authors of the article declare that he has conducted all aspect of this s tudy.

6.4. Conflict of interest
The author declares any conflicts of interest.

6.3. Acknowledgments
I greatly appreciate the valuable comments and suggestions from the respective reviewers, as they have significantly improved the quality of the paper.