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Examining the Effects of Governance on Health in Iran Using Bounds Testing Approach

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Abstract

Based on the World Health Organization (WHO), the efficiency of the government health system plays a vital role in improving the citizens' quality of life. The purpose of this study is to investigate the association between political stability and corruption within the health system. The (ARDL) bounds testing approach was used in this study. The data of this study was collected from the second season of 1997 to the fourth season of 2018 once in every season and were analyzed into two groups. In the first group, infant mortality, mortality of children aged under 5, and life expectancy are dependent variables, and gross domestic product (GDP), immorality, and health care expenses are independent variables, and in the second group, the explanatory variable, namely political stability, were added as independent variables. According to the long-term results, in the first group, GDP and government health expending have a negative impact on children and infant mortality; moreover, GDP, government health expenditures, and political stability have a negative impact and corruption has a positive impact on children and infants' mortality in the second group respectively. The effects of all four variables on life expectancy were negative, which can be justified by the indicators of sustainable development and the environment. Therefore, more attention is needed by planners to allocate resources along with the leverage of corruption control and strive for political-economic stability that undermines long-term growth and prosperity.

Keywords: Immorality, Infants' Mortality, Political Stability, Health Care.

JEL Classification: G34; H51; D73.

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1. Introduction

According to the World Health Organization (2000), the health care system is defined as comprising all the organizations, institutions and resources which provide services in order to protect and improve the health of individuals, which can be referred to as health actions. These services can be defined as efforts in personal health care, public health services, or interdisciplinary programs which their primary purpose are to maintain or improve health. The WHO definition indicates that governments play a critical role in the health of countries (Ahmad & Hassan, 2016). It has also been proven throughout the world that government attention is needed to strengthen the countries health system (Brinkerhoff et al., 2009). Therefore, reducing corruption and also political stability are interdependent with the development of health, so that reinforcing one will enhance the other (World Health Organization, 1997). One of the main lessons of the international community, extracted from its vast and varied experiences around the world, is that without the rule of law and respect for human rights, transparency and accountability, democracy and the legitimacy of governments, it will be more difficult to achieve welfare and healthy life (Lewis, 2006). In the past two decades, the health care system has faced many challenges, which using the new and more efficient methods seems to be more responsive to these challenges (Wilopo, 2016). In this context, the term governance in the health sector has been recently taken into consideration, providing a broader perspective for health care system development (Taylor et al., 2000).

Health promotion can be considered as an indicator of welfare increase in the society; in this respect, Kuznets introduces health as a human capital (Emadzadeh, 2002) which economic growth and development are essential in order to examine the factors affecting this sector (Nedpra & Samanta, 2015).

Corruption in the health sector of countries is often overlooked, while it has a significant impact on the health system, it is obvious the forms of corruption are different and its effects are pervasive. Studies that are being done in the field of governance and health have underestimated the role of corruption and political stability. Accordingly, in the present study, the researchers intended to study governance through indicators of corruption and political stability in the health sector in Iran. In the following, we examine the theoretical foundations of corruption and health, then review the research background. Finally, the research paradigm and the results of the model estimation are analyzed.

2. Corruption and health

According to the UN definition (2008), corruption is the abuse of power for personal benefits. It is said that corruption occurs when government officials use their position and power for their personal benefits and their allies. Nye (1967) defines corruption as a behavior that deviates from the formal duties of a public role (elective or appointive) because of private-regarding (personal, close family, etc.) wealth or status gains; or violates rules against the exercise of certain types

of private-regarding influence. Corruption is a major challenge to achieve an efficient health system. When government officials fail to act in the public interest and use their position to enhance their own or, their family, friends, or co-workers interests not considering the citizens in national decisions, not only leads to losing funds in the country but also reduces the hope and confidence of the public. This problem threatens the level of international development of countries. As it was mentioned, corruption can be considered a crime. Non-participation of citizens in national decisions, excessive authority to government officials, the destruction of public values and ethical standards, personal and social pressures, poverty and inequality are all factors that can augment the growth of corruption. Moreover, these factors indicate that preventing corruption can increase transparency and accountability in government performance, empower citizens and change economic incentives, promote ethical standards, and change attitudes to increase confidence and hope in the people (Vian, 2008).

Corruption incurs countries to social, economic, and financial costs and has a greater impact on the development of low-income countries. Large-scale corruption can reduce economic growth via increasing risk and reducing investment (Mauro, 1995), which reduces investment in all sectors, including the health sector.

Moreover, corruption can affect the allocation of intersectional resources. Most corrupt governments tend to invest in infrastructure sectors such as military and transportation sectors because they have more profitable contracts than social sectors such as health and education. (Vian, 2008)

Numerous studies suggest that corruption can negatively affect education, child mortality, income, and health costs. On the other hand, reducing corruption through rising the effectiveness of health sector costs can improve the health system in countries (Gupta et al., 2002). Vian (2008) suggested some of the problems or corruption that may occur by different stakeholders in the health sector, which are mentioned in Table (1).

In other words, the corruption that may arise from the first step of health sector rehabilitation in order to the provide services by the stockholders are shown in this table, including rehabilitation and construction in the health sector, purchase of equipments, medical supplies, drug distribution and health services, product and service quality regulations, human resource management, medical researches, financial management, and providing services. Besides the corruption that can occur, the consequences are also stated. For example, in the area of health infrastructure rehabilitation, the presence of bribes and political considerations can decease investment and increase costs. Also, in the area of drug distribution and health services, patients do not receive proper medical care or they are forced to provide medication at the black market in case of drug larceny and selling underweight. In addition, reducing services and increase of the access to health services fee in service providing sector, due to insufficient income for health care can increase morbidity and mortality.

Table 1: Possible corruption and its consequences in the health sector

Range	Types of corruption or problems	conclusion
Rehabilitation in health sector	Bribery and its impact on the contracting and tenders	Possibility of low-quality construction. Improper allocation that can result in inequality in accessibility
Purchase of medical supplies	Bribery may change the tenders winning Collusion or cheating when buying Lack of incentives for optimized choices Promoting immoral drugs	Expensive and unsuitable medicine and equipment Incorrect prescription Purchase of unnecessary or sub-standard equipment Inadequate budget
Drug distribution and providing service	Drug hoarding	Inadequate consumption. Patients do not receive appropriate treatment.
Product and service quality	bribes for drug registration approval, drug quality inspection and inspection	The prevalence of psychotropic drugs and contagious diseases Increasing food poisoning. Employing underqualified specialists.
Human resources management	Operating political influence for educational opportunities. bribes for concessions, a position in educational places like universities institutions and to maintain a position in health sector	Poor allocation to health sector Poor trainings of specialists Unfair and immoral system
Medical researches	Lack of transparency in health sector satisfaction in developing countries Trader of pharmaceutical companies	Violation of individual rights. Injustice in research. Patients may receive harmful treatments
Financial Management	Misrepresentation of the budget. Incorrect registration. Fraud in bills.	Reducing public health and government health services. Decreasing quality of care. Bankruptcy and loss of resources.
Providing services	Using public facilities for the private sector Informal payment by patients for free treatments Reducing services and increasing the cost of access to health services	Diminishing citizens' trust in the government Reducing the use of healthcare by patients who cannot afford it. Increasing mortality and problems due to poor health care

Source: Vian (2008)

3. Research background

In the field of health literature, a few studies have been performed on the indicators of health and governance, which we state them as follows:

Khani Jahani (2020), in this study, the negative consequences of smoking as a global and US public health concern and the governance tools used in the United States are examined. In addition, it highlights emerging challenges in the United States and its various aspects in developing countries. The findings indicates, although there are some success in controlling mortality and smoking-related complications in the United States and most countries, long-term, sustained progress requires active monitoring and ongoing implementation of evidence-based policies and programs.

Kim and Wang (2019), in their study, the extent of direct or indirect impact of government quality and quantity on public health are examined. They used five indicators to examine the quality of government: corruption control, government effectiveness, regulatory quality, rule of law, and accountability. They also examined how the quality and quantity of government affect public health, infant mortality under the age of 5, maternal mortality, and life expectancy, based on data from the panel and 194 countries. The results show that the quality and quantity of government has a significant effect on public health. In the quality of government, the effectiveness of government has a positive effect on life expectancy and a negative impact on infant mortality. In addition, the quality of government has a greater impact on public health than the quantity of government. Finally, the quality of government plays a role in adjusting the association between the quantity of government and the predicted variables.

Saye Miri (2018), the purpose of this study was to investigate the association between good governance and public healthcare spending for the period of 2005-2014 using the ordinary least square method. According to the findings, lack of corruption control has a negative effect on mortality of children under 5 year's old and gross domestic product (GDP) per capita.

Imam Gholipour and Asmaneh (2017), relying on good governance indicators in Islam and using the FMOLS method, have examined the effects of good governance index on health indicators (life expectancy at birth) in Iran from 1996 to 2014. The results of their research show that, governance as well as other socio-economic factors is an effective factor in improving health indicators, and because of poor governance in Iran, it has a negative impact on life expectancy.

Malek Mohammadi and Vahdani Nia (2017), in their study *"The evolution of health policy making: transition to the governance paradigm for health"*, have introduced and analyzed the evolution of conceptual developments in health policy making to illustrate how it will appear and identify the reassuring foundations and boundaries. This study shows that the intersectional measures of health, healthy public policy making, and more recently health are all three major policy waves that, along with the changing political paradigm, have provided a new perspective on the health governance. This study also indicates that the transition to a highly networked, multilevel, and multi-stakeholder model of governance based on the mobilization of the entire state and the whole community

for health is an important part of the political and social commitment to justice and sustainable development.

Kia Hong (2017) examined the role of good governance in health sector financing. Based on the findings, governance is critical to the health sector financing, in addition accurate financial information is needed to influence policy at all levels. In their opinion, good governance and determination of the right roles and tasks in health systems will form a unified balance in the public, private, and voluntary sectors of global health development. Eventually, they argued that financing and payment mechanisms should be regulated via supervision, control, and more efficient balance, moreover, effective, efficient, and fair policies could not be achieved without considering administrative and transaction costs.

Adeloye et al. (2017) examined the role of governance in the health sector of Nigeria from 2016 to 2010. Based on their results, in recent years, due to delays in staff salaries payment, deficiency in society welfare, lack of proper health facilities as well as the emergence of various parties and factions that prevent people from accessing health facilities, many problems have arose in the Nigeria's health sector.

Ahmad and Hassan (2016) have conducted a study to examine the impact of public health expenditure and governance on health in Malaysia. They used Autoregressive Distributed Lag (ARDL) to analyze the data from 1984 to 2009. The results suggest that there is a consistent and long-term association between health and its determinants, including income, public health expenditure, corruption, and government stability. The results also show that public health care expenses and corruption affect health in Malaysia in the short –term.

Wilupo (2016) conducted a research to answer two questions: First, what is the pattern of good governance? Second, how should the health sector be developed in the health system to be compatible with good governance? This research was conducted in Indonesia and suggests if the public sector accountability system is more efficient, if there is a greater incentive to improve public sector performance, and in areas where public services are free or subsidized, it can be said that the compatibility of health system and governance is increasing.

Giovanna Vicarelli and Emmanuele Pavolini (2015), have examined governance and health in Italy and have discussed two questions, first, why is the number of doctors in Italy declining? And second, how satisfying is the Italian health care system for planning the needs of the workforce? They pointed out that the problems in the draft of health care reform, political instability, and austerity measures explain why the workforce forecasting and planning in Italian health is not still satisfactory, although recent developments indicate that there are ongoing changes. Moreover, in order to address these problems, it is necessary to foster closer co-operation among a wide range of stakeholders to move from professional health planning the human resource to multi-professional planning.

Nedpara and Samanta (2015) examined the impact of corruption on health quality in 30 countries for the period of 1996–2011 using the panel data method.

According to their results, corruption reduces the quality of health and increases the infant mortality rate and reduces life expectancy at birth. In addition, corruption in developing and underdeveloped countries has a greater influence on the quality of health. Finally, good governance and urban populations have been identified as influencing variables on the quality of health.

Batniji et al. (2014), have argued the role of governance in health from 1980 to 2010 in Saudi Arabia. Based on their results, political stability has reduced the death rate, but democracy did not have any effect on the death rate. Also, increasing government efficiency and reducing corruption have improved the health of the community.

Farag et al, (2013) have examined the association among health expenditure, mortality rates of children under 5 years old, mortality rates, governance, and investment in the health sector. The period under study was 1995, 2000, 2005, and 2006. According to the results, health expenditure has a significant effect on reducing child mortality and mortality rates, and this is largely dependent on the governance of countries. In fact, the improvement of good governance indicators, not only will increase the effectiveness of health expenditure but also improves the health status of the population by investing in the health sector.

By reviewing previous studies and researches, a research gap in the field of health and governance is clearly identified. As it was mentioned before, there are a few studies in the field of corruption and health in Iran, in contrast, most of the studies are in the area of administrative corruption, which are not the main purpose of this study. Also, most of the studies have turned the governance into an index by mathematical methods such as averaging, and although they have examined this subject but they have nod focused on its components. In the meantime, Wian (2008), Nedpara & Samanta (2015), Ahmad & Hassan (2016), like the present study, have examined the political stability and corruption of health. Therefore, due to the research gap in this field, it has been attempted to investigate the influence of governance on health in Iran.

5. Research Methodology

5-1- Statistics and Data

Regarding to statistics and information on governance and health, the present study uses the data extracted from the second season of 1997 to the fourth season of 2018 to estimate the model. The two main variables are health and governance indices, and three criteria including life expectancy, infant mortality rate, and mortality rate of children aged under 5 years old are used to assess health status and their data have been extracted from the World Bank Database. Two criteria of corruption and political stability are also used for governance which are extracted from the International Country Risk Guide. Other variables in this study are GDP and health expenditures which their statistics and information are also achieved from the World Bank Database.

5-2- Bounds Testing and ARDL

Bounds Testing and ARDL can be used to empirically analyze the long-term association s between a dependent variable and a number of estimators. This test was proposed by Pesaran, Shin and Smith (2001) to determine the convergence association among variables. This approach has advantages over other convergence testing methods such as Engel-Granger and Johansen-Joselius. First, this test - regardless of whether the model variables are completely I (0) or I (1) or a combination of both- can be applied. Second, this approach, unlike the Engel-Granger method, does not involve short-term dynamics in the error correction section (Banerjee et al., 1993). Third, it can be applied with a small number of observations. This method can also be used in small samples in contrast to the Engel-Granger and Johansen-Jusilius convergence methods (Narayan, P.K & S. Narayan, 2005) and finally it can be used even when explanatory variables are endogenous. (Ahmadi Hajiabadi, 1398)

6. Research model

The present study uses an autoregressive distributed lag model to investigate the association between governance and health in Iran. As mentioned above, in the first step to evaluate the model, the bandwidth test is used to investigate the long-term association between the variables. Then, in the next step, a dynamic error correction model (ECM) can be derived from the ARDL model. According to the study of Raj Kumar & Swaroop (2008) and Ahmad & Hassan (2016), the Autoregressive Distributed Lag model (ARDL) is as follows:

$$\Delta HO_t=\alpha_0+\beta_1 HO_{t-1}+\beta_2 GDP_{t-1}+\beta_3 PHE_{t-1}+\beta_4 CRP_{t-1}+\beta_5 GST_{t-1}+\sum_{i=1}^{\rho}\delta_1\Delta HO_{t-i} \quad (1)$$
$$+\sum_{i=0}^{q}\delta_2\Delta GDP_{t-i}+\sum_{i=0}^{r}\delta_3\Delta PHE_{t-i}+\sum_{i=0}^{s}\delta_4\Delta CRP_{t-i}+\sum_{i=1}^{t}\delta_5\Delta GST_{t-i}+\varepsilon_t$$

Which HO is the health sector indices including life expectancy (LFE), mortality rate of children under 5 years old (UFM) and infant mortality rate (IM). GDP is the gross domestic production, and PHE is the public health expenditures. Also, CRP points to the corruption index and the GST is the political stability. The natural logarithm of all variables is used to estimate the model. In this study, two models are evaluated. In the first model, the index of political stability is not considered, but in the second model, this index was applied.

6-1- Study of the variable's stationary

In this study, in order to check the stationarity of the research variables, an Augmented Dickey- Fuller test was used, which the results are shown in Table 2. Accordingly, the variables of government stability, corruption and infant mortality rates are stationary and other variables are non- stationary. Therefore, we investigated the stationarity of variables in their first order difference. Table (3) shows that the variables of life expectancy, infant mortality, GDP and health expenditures in the first-order differential are stationary. Therefore, since some

variables are I (0) and others are I (1), the ARDL method was used to examine the association s between variables.

Table 2: Stationarity test results of research variables (On the surface and in width mode of origin)

The name of variable	abbreviation	Test statistics	Critical value	Conclusion
Life expectancy	LFE	-2.391374	-3.473447	non-stationary
Infant mortality	IM	-2.880254	-2.902358	stationary
Mortality of children under 5 years old	UFM	-2.968686	-3.473447	non-stationary
Political stability	GST	-2.980077	-3.527045	stationary
Corruption	CRP	-4.158098	-2.904848	stationary
Gross domestic production	GDP	-1.080480	-1.945389	non-stationary
Health expenditures	PHE	0.129172	-2.904848	non-stationary

Table 3: Stationarity test results of research variables (In the first-order difference, the mode of the width of the origin)

The name of variable	abbreviation	Test statistics	Critical value	Conclusion
Life expectancy	LFE	-3.248304	-2.902358	stationary
Mortality of children under 5 years old	UFM	-2.305506	-1.945525	stationary
Gross domestic production	GDP	-5.524952	-2.902358	stationary
Health expenditures	PHE	-2.769628	-2.590262	stationary

6-2- Model results

After checking the stationarity of the variables, we used the bound test to examine the long-term association among the variables. For the first model we considered three variables of GDP, corruption, and government health expenditure, and in the second model we added the political stability as an explanatory variable. Three indicators have also been used for health indicator including infant mortality, mortality of children under 5 years, and life expectancy. Based on the results showed in Table 5, the null hypothesis that there is no long-term association among variables in the first model was rejected when the confidence level of the dependent variable on infant mortality and mortality of children under 5 years was 1%. The statistical F test for the first model was -7.31, -4.47, -2.82, respectively, which was higher than the critical value of one percent (4.37) when the dependent variable was infant mortality or the mortality of children under 5 years old,

however, these association s were not established when the dependent variable was life expectancy.

In the second model, which incorporates the political stability variable in addition to the first-model variables, null hypothesis was rejected in three status, namely, at the 1% confidence level, there was a long-term association among all three dependent variables and explanatory variables. Moreover, the statistical F test for all three models was -6.38, -9.09, and 5.41, respectively, which was higher than its critical value of one percent (4.37) which indicates a good fit.

Table 4: Bound test results

dependent variable	explanatory variables	gap	Statistic F
First group models			
mortality of children under 5 years	GDP-PHE-CRP		7.31*
infant mortality			4.47*
life expectancy			2.82
Second group models			
mortality of children under 5 years	GDP-PHE-CRP-GST		6.38*
infant mortality			9.09*
life expectancy			5.41*

* Shows 1% level

Critical values of bound test:

10%	5%	1%
(3.2 3.09)	(3.67 3.49)	(4.66 4.37)

Therefore, to examine the impact of governance on health, five models that have been approved in Table 4 were used in the following. Table (5) shows the evaluation results of the long-term and short-term models of the first group. According to the results in the short-term models, the association between economic growth and infant mortality rate was significantly negative. Also, health expenditures has a negative association and corruption index had a positive association with the dependent variables, but these association s were not significant. In the long -term models, all coefficients are statistically significant and the type of association is similar to the short- term models. In the model where the infant mortality rate is a dependent variable, GDP in the short- term has a negative and significant association and corruption has a positive and significant association with the dependent variable, while in the long- term economic growth

and health expenditures both have negative association and corruption has a positive and significant association with infant mortality rates. Corruption index has more influence on health indices than other variables in both short and long term.

Moreover, the ECM coefficient was negative and significant in both models, which indicates the dynamics of the model from short term to long term, which is, the error correction process from short to long term in both models was 0.36 and 0.35.

Finally, in order to trust the results of long-term association between variables, the classical assumptions was investigated. The results of the classical test indicate that there is no consistent correlation between disruption components, stipulated correct equation, disruption components with normal distribution and disruption components with identical variance.

Table 5: Short-term and long-term model results of the first group

Variable	Dependent Variable Mortality rate of children under 5 years (1) (1.1.0.1)		Infant Dependent Variable Mortality (2) (1.0.1.0)	
Long-term model				
LGDP	-0.002035 (0.0007)*		-0.001560 (0.0062)	
LCRP	10.091798 (0.0104)		16.032042 (0.0000)	
LPHE	-12.776029 (0.0020)		-7.448549 (0.0313)	
C	-55.881596 (0.0017)		-37.809609 (0.0192)	
Short-term model				
D(LGDP)	-0.000080 (0.0000)		-0.000046 (0.0084)	
D(LCRP)	0.108496 (0.4570)		0.294348 (0.0406)	
D(LPHE)	-0.027910 (0.6594)		0.090694 (0.1454)	
ECM(-1)	-0.356136 (0.0000)		-0.368424 (0.0000)	
Classical Assumptions				
Tests	**F statistical**	**Possibility**	**F statistical**	**Possibility**
Breusch–Pagan heteroskedasticity test	3.114414	(0.9058)	2.697792	(0.2701)
self-correlation LM test	144.4991	(0.4132)	408.2797	(0.1446)
Ramsey model test	17.61645	(0.2626)	165.5409	(0.3226)
Normality test	1.361961	(0.5061)	2.913029	(0.2318)

Source: Researcher's results

The brackets represent the standard deviation values

Then, we estimated the second group models with the additional variable of political stability index. The estimation results of these models are shown in Table 6. According to the results, all variables, except health expenditures in models (3)

and (5), in the short-term and long- term, have a statistically significant effect on the health indices, and the results of the long–term model are consistent with the theoretical foundations. Also, comparing corruption index and political stability index in all three models, it was observed that the political stability has a multiplier effect than the corruption on the indicators of health sector, and its greatest effect allot to infant mortality rate in short and long term. The ECM coefficient was negative and significant in all three models. The coefficient of this statistic in the three models was -0.36, -0.31, 0.04, respectively, that is, during a period, 31-36 and 4% of the short-term shocks disappear and the model moves toward a long-term equilibrium. As in the first group models, the classical assumptions were confirmed and show that there is no consistent correlation among the disruption components, the correct equation is stated, the disruption components have normal distribution and the same variance.

Table 6: Short-term and long-term model results of the second group

Variable	Dependent Variable Mortality rate of children under 5 years (1) (1.1.0.1.1)	Infant Dependent Variable Mortality (2) (1.0.0.0.0)		Dependent Variable Life expectancy(5) (1.1.0.0.0)	
Long-term model					
LCRP	4.499784 (0.0000)*	11.455858 (0.0016)		-1.749219 (0.0055)	
LGDP	-0.003292 (0.0000)	-0.003462 (0.0005)		0.000347 (0.0000)	
LPHE	-10.725112 (0.0000)	-8.484389 (0.0161)		0.165396 (0.0000)	
LGST	-43.194153 (0.0000)	-51.743706 (0.0002)		16.612860 (0.0000)	
C	-80.237976 (0.0000)	-83.473289 (0.0011)		89.013624 (0.0000)	
Short term Model					
D(LCRP)	0.094953 (0.3909)	0.217644 (0.0759)		-0.129707 (0.0001)	
D(LGDP)	-0.000024 (0.0768)	0.000025 (0.0939)		0.000007 (0.0757)	
D(LPHE)	-0.029350 (0.5382)	0.089314 (0.0922)		-0.002041 (0.8788)	
D(LGST)	-0.180887 (0.1286)	0.371151 (0.0052)		-0.153583 (0.0000)	
ECM(-1)	-0.365184 (0.0000)	-0.318352 (0.0000)		-0.0473 (0.0000)	
Classical Assumptions					
Tests	**statistica F l**	**Possibilit y**	**statistica F l**	**Possibilit y**	**statistica F l**	**Possibilit y**
Breusch–Pagan heteroskedasticit y test	1796.247	(0.3987)	4.463475	(0.1327)	6.344786	(0.1533)

self-correlation LM test	5.575474	(0.8235)	1129.031	(0.5302)	148.2801	(0.8132)
Ramsey model test	13.42408	(0.4277)	83.22090	(0.9369)	31.16499	(0.0877)
Normality test	0.763211	(0.6827)	0.608685	(0.7376)	1.445704	(0.4853)

Source: Researcher's results
The brackets represent the standard deviation values

7. Conclusion and Suggestions

In recent years, studies on the association between health and governance, among health indicators, have emphasized health expense more and other health indicators have received less attention. Accordingly, the present study, with emphasis on three indices of infant mortality, mortality of children under 5 years old, and life expectancy, investigate the effect of governance on health in Iran. In order to estimate the model, based on previous studies and Ahmad & Hassan research (2016), two corruption and political stability indicators were considered. Then, the models were divided into two groups, in the first group, explanatory variables were economic growth, health expenditure, and corruption index and political stability was added in the second group. Moreover, the bound test was used to investigate the long-term association among variables, and the first group models, the long-term association between life expectancy and explanatory variables was not confirmed, however, in other models this association was confirmed. Finally, long-term and short-term models were estimated and their results were investigated. In the long-term models of the first group, the association between health expenditures and infant mortality and mortality of children under 5 years was positive and significant, but this association was not confirmed in the short-term. It means that, the government's spending efforts to improve the health of the country in the short-term were not effective, but through long-term investments it can improve the health of the community. In the second group models, in addition to the previous results, the impact of political stability index on the health status indicators was more than any other factor and may be the result of effective government measures in recent years. The Health Transformation Initiative can be stated among these measures, which has been implemented with three approaches to promote financial protection of people, promote accessibility to health services, and improve quality, Remove medication shortages and cover more medicines, reduce public health spending, renovate and increase hospital beds, expand healthcare by establishing specialized clinics, free natural childbirth, renovate and expand the country's health network, pay attention to the health of deprived and marginalized areas are major achievements of the National Transformation Initiative of the Islamic Republic of Iran. Also, government health expenditures had a positive effect on life expectancy, while corruption had a negative effect on life expectancy, indicating that high rates of corruption keep the country's health from improving.

On the other hand, given the emerging challenges in the health sector such as changes in disease patterns, the increasing need for expensive technologies, the government must prepare itself for these challenges and improve the long-term quality of people life in the community through appropriate planning and policy making. This requires consulting with other ministries, institutions, and stakeholders to formulate new policies and specific projects. For example, the cooperation between the Health Ministry and centers that reflect household health challenges can inform health ministry planners about family health problems and provide accurate information to health professionals on the subject, and ultimately an appropriate plan to solve these problems. In addition, the government should provide the public more accurate and transparent health information through the media in order to raise the level of awareness of people to improve their health. However, increasing the government expenses is unlikely to improve the health of the country if countries have poor governance. To this reason, the government should stabilize the country and prevent corruption, since these two indicators have been found to play a substantial role in the health of the community.

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اثر بررسی تأثیرات حاکمیت بر سلامت در ایران با استفاده از رویکرد تست مرزها

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چکیده

براساس گزارش سازمان بهداشت جهانی، کارآمدی نظام سلامت دولت‌ها نقش حیاتی در افزایش کیفیت زندگی شهروندان هر کشور دارد. هدف از این پژوهش بررسی رابطهٔ ثبات سیاسی و فساد با سلامت است. این مطالعه ازنظر هدف، کاربردی می‌باشد و از روش آزمون کرانه‌ای باند ARDL استفاده شده است. داده‌های مورداستفاده به‌صورت فصلی از فصل دوم سال 1375 تا فصل چهارم سال 1397 می‌باشد که در قالب دو گروه مدل مجزا به‌کار گرفته شده‌اند؛ در مدل گروه اول، متغیرهای مرگ و میر نوزادان، مرگ و میر کودکان زیر 5 سال و امید به زندگی به‌عنوان متغیر وابسته می‌باشند و متغیرهای مستقل این گروه شامل سه متغیر: تولید ناخالص داخلی، فساد و مخارج بهداشتی دولت؛ و در گروه دوم، علاوه‌بر متغیرهای گروه قبل، متغیر توضیحی ثبات سیاسی نیز اضافه شد. براساس نتایج در گروه اول، رابطهٔ بلندمدت زمانی‌که امید به زندگی به‌عنوان متغیر وابسته درنظر گرفته می‌شود مورد تأیید قرار نمی‌گیرد، ولی در پنج حالت دیگر رابطهٔ بلندمدت برقرار می‌باشد؛ بنابراین در ادامه، جهت بررسی تأثیر حاکمیت بر سلامت از پنج مدلی که مورد تأیید قرار گرفتند، استفاده می‌شود. نتایج کلی حاصل شده از پنج مدل نیز نشان می‌دهد که شاخص‌های حاکمیت ازجمله شاخص‌های مهم برای بهبود وضعیت سلامت می‌باشند؛ لذا توجه هر چه بیشتر مسئولین به وضعیت حاکمیت وتلاش بر ثبات سیاسی در بلندمدت و برنامه‌ریزی مناسب‌تر در این رابطه ضرورت می‌یابد.

کلید واژه‌ها: فساد، مرگ و میر نوزادان، ثبات سیاسی، مراقبت‌های بهداشتی.

طبقه‌بندی JEL: G34; H51; D73.

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