

Design a model to explain the role of good governance in facilitating the Iranian business environment with a data mining approach

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Abstract

This paper aims to design a good governance model to facilitate the country's business environment and improve Iran's ranking in the ease of business environment conducted annually by the World Bank. This paper examines developing countries among all countries of the world to improve their business environment ranking. This is a mixed-method (quantitative and qualitative) study based on data from the World Bank in 2017, 2018, and 2019. Then, the model of improving Iran's business environment was evaluated through in-depth interviews with 15 industry and university experts. This paper evaluates indices proposed by experts' opinions, including the right to comment, political stability and non-violence, government effectiveness, quality of laws, the rule of law, and control of corruption. The results show that in the first model, the right to comment and the rule of law are the most and the least significant factors in facilitating the business environment, respectively. In addition, in the second model, the quality of laws and government effectiveness are the most significant factors, with the rule of law, control of corruption and political stability, and non-violence as the least significant ones.

Keywords: Good Governance, Business Environment, Improving Business Environment
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1 Introduction

Good governance has been an important new topic in the development literature since the 1980s. This topic plays a significant role in establishing and institutionalizing civil society in aid policies, especially in developing countries. Hence, one of the main concerns of developing countries is to be on the path of development [28].

Governance is a set of individual and institutional, public and private methods to manage the everyday affairs of a society. Governance is a continuous process through which harmonizes conflicting or diverse interests and cooperative

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action is taken. Governance includes formal institutions and systems that are empowered to ensure the rule of law and informal arrangements agreed upon by the people and institutions that are in their best interest. Some underlying factors and contextual variables must be addressed and identified to implement good governance in organizations. Many factors are relevant to and affect good governance implementation [21].

The good governance topics are broad, including the inseparable connection of the term with sustainable development to the effectiveness of public management, and so on. Good governance is a new interpretation of concepts such as democracy, human rights, accountability, participation, and the rule of law, which seeks to bring these values together by presenting a new format. Good governance represents the development of fundamental and human rights [19]. Good governance narrates the country's political development. Any weakening of institutions and civil society groups results in non-efficient government and an underdeveloped and corrupt society [11].

Good governance is a new model for sustainable development. This model emphasizes cooperation based on partnership and interaction between the three public, private, and civil sectors so that countries can use all their capabilities in comprehensive development. This partnership leads to better and more efficient management of public affairs (UNDP, 2000). The correct and interactive relationship of the three mentioned sections provides the ground for realizing good governance in different dimensions. Governance has three dimensions: economic, political, and administrative. The economic dimension includes the processes that affect one country's activities and are related to the economies of other countries. The political dimension is the same decision-making process for policy-making, and the administrative dimension is the same as the executive system. As a reputable international institution, World Bank published a report in 1989 and, for the first time, defined good governance as efficient public services, a reliable judiciary, and an accountable administrative system [7].

The six primary components of good governance are the right to comment and be accountable, the effectiveness or efficiency of government in performing its duties, the financial burden of the regulation (additional regulation and its costs), the rule of law, the fight against corruption and political stability, and non-violence [13]. Good governance is a new narrative of accountability, participation, and the rule of law. In the meantime, it offers a framework for all values and goals to come together to pursue development goals with maximum convergence and people-centeredness. Good governance narrates the country's development.

The business environment is an index determining the economic situation of a country, which can be used to study and analyze the economic conditions of that country. The more transparent and competitive the business environment in countries will lead to the increased economic health of countries, the adoption of favorable policies, and improving economic indices. In this regard, examining the status of business indices, both in terms of micro and macro, and explaining the existing challenges can effectively create and develop the country's business environment. In recent years, Iran's poor rankings have made it undeniable a need to improve the business environment given the challenges facing the country's economy. However, there are still not enough conditions to create a safe environment for investment and business in Iran, and providing some infrastructure is inevitable to achieve the actual position of the Iranian economy. Accordingly, this paper aims to use the annually World Bank data ranking more than 190 countries in terms of the business environment and governance indices to present a model according to which the rulers of the country (decision-makers) make changes in their attitudes about the indices of good governance with attention to the study variables, leading to improvements in the country to current unfavorable ranking. This, in turn, improves the country's economic indices resulting in the creation of welfare for the people and justice.

1.1 Good governance

The new intellectual and technical developments have changed the management of economic affairs, emphasizing the simultaneous role of government and society in economic development. Thus, the model of good governance is proposed by international institutions that this model's structure, indices, and institutional and social arrangements affect economic development [18].

Good governance is formed in partnership with the government, civil society, and the private sector and provides equal opportunities for people to participate in decision-making, transparency, and accountability. In addition to the active role of all social forces in this horizontal structure, the government has a unique structural and substantive capacity to play an influential role in development. Hence, good governance has three main dimensions: economic, political, and administrative. Economic governance includes the decision-making process and the role of various social forces in economic activities, the supportive and regulatory dimensions of governance, and its relation to other economies [10].

The government's legitimacy and the bilateral relationship between the government and the people have an undeniable role in economic growth based on good governance. In the meantime, the strategic and functional ability

of the government, in other words, it's quality economic development, is a priority. A fair judiciary, the facilitator legislature, and government a rational and dynamic structure occur in a model of good governance with an efficient nature [15].

The concept of good governance has been interpreted differently due to its novelty. Some individuals or institutions define it by its characteristics (World Bank experts) and believe that components such as participation, rule of law, transparency, accountability, consideration of public opinion and collective and equal agreement to the effectiveness and efficiency of the governance perspective shape the good [10].

Table 1: Summary of experts' opinion on good governance, its components and indices

| No. | Expert | Components and indices |
|-----|--------|---|
| 1 | [25] | Structural Balance among Sections of Society |
| 2 | [8] | Macroeconomic policies - Efficient Allocation of Resources - Quality of Government Administration and Bureaucracy |
| 3 | [26] | Good Legislation and Quality of Laws |
| 4 | [16] | Rule of law-Empowerment-Cooperation-Participation-Promoting a Sense of Belonging-Increasing Satisfaction |
| 5 | [1] | Harmonization among Social Forces-Learning of Political and Social Institutions-Establishing Justice |
| 6 | [12] | Empowerer Private Sector-Efficient Civil society-Efficient and Optomal Public Services-Reliable Judicial System |
| 7 | [4] | Political Development (Elections - Representation System - Pluralism - Participation) Economic Development (Transparency - Accountability - Rule of Law - Legitimacy - Competence - Accountability) |
| 8 | [30] | Expansionism and sustainable Excellence, Justicism Participation seeking and partnershipism, Responsiveness, Rule of law, Valuism |
| 9 | [29] | structures in society, participation; Paying attention and Recting to citizen's requests; developing proper economic policies for facilitation of respecting law. |
| 10 | [23] | Three Political, Economic and Administrative Dimensions |
| 11 | [17] | Index of having a say; index of political stability; index of state effectiveness; index of rules and law quality; index of rule of law; index of corruption control |
| 12 | [15] | Fair Judicial System - Facilitatng Legislative System - Government with a Logical, Dynamic and Efficient Structure |
| 13 | [10] | Equal Opportunity for Public Participation - Transparency and Accountability- Three Political, Economic and Administrative Dimensions |
| 14 | [6] | Correct productivity, political stability, proper economic environment |
| 15 | [27] | Socialization - Balancing among Diverse Values |
| 16 | [24] | Legalism-Citizen-Centered-Rational size of Government-Government Effectiveness-Transparency of Strategic Actions |
| 17 | [5] | Organizing the civil service, dynamic structures, determination of exact strategies in different areas |
| 18 | [9] | Balanced and synchronized structure, interaction and balance between social forces, removing bias and injustice |

1.2 Business

Authors give different definitions of business. Oxford Dictionary defines business as buying and selling and trading. Also, Long Man Glossary, refers to business as the activity of making money and the business from which money is made.

Simply put, business is a state of business and generally involves activities that involve the production and purchase of goods and services to sell them for profit. According to the above definitions, it can be seen that business deals with buying and selling goods, producing goods, or providing services, in order to make a profit. The general belief is that the sole purpose of business is to make an economic profit, which is not the case. Arvik believes that just as man does not live only for eating, so the sole purpose of business is not to make a profit. Thus, businesses have economic and social goals.

1.3 Business environment

The business environment, by definition, is a set of factors influencing the fate of the business that are beyond the control of the business owner. In other words, the practical components of a business can not be managed by business owners and entrepreneurs, and government institutions must improve the business environment by creating the necessary conditions, facilitating laws and regulations, and providing systematic support.

The business environment includes a set of factors beyond the control of enterprises that affect the management of enterprises. In another definition, the business environment is a set of policies, legal, institutional, and regulatory conditions governing business activities. Many factors affect the performance of economic units, including macroeconomic stability, country's infrastructure quality, executive quality, law and order system, cost and access to information and statistics, culture and work, and other such factors laying beyond the scope of managers of economic unit's influence.

Table 2: Business environment definitions by experts

| Definition | Ref. |
|--|------|
| Business environment is like a political, institutional and behavioral environment which affect the efficiency and risks related to economic activities and investments. | [20] |
| Components that are not manageable. | [22] |
| Activity with risk and uncertainty | [2] |
| Factors affecting the performance of enterprises that managers can not directly change or improve. | |
| Business environment refers to all factors affecting the activities of businesses which are out of their dominance and control. | [14] |

2 Theoretical framework and conceptual model

The proposed model, which is based on the indices and components of the World Bank, follows the idea that considering the business environment is one of the necessities of management in the current era and one of the necessary conditions for growth, development, economic development and ultimately the welfare and prosperity of countries. Furthermore, one of the prominent roles of top managers is to plan and shape to improve the business environment. The set of studies conducted led to the use of the initial research model (diagram 1) as a conceptual research framework.

3 Research method

This is descriptive modeling. This research was done using standard data from the World Bank and interviews with experts to explain the conceptual model. First, the mathematical model was based on ANFIS and FUZZY SWARA, and at the end, the theme analysis method was used to explain the native model. Therefore, this is an applied and developmental type of research. Applied research is to develop applied knowledge in a specific field. In other words, applied research is directed toward the scientific application of knowledge. To explain the research model, first, the ANFIS mathematical model and FUZZY SWARA using good governance data and the business environment of the World Bank was categorized into two categories all countries and developing countries. The average data of the World Bank in 2017, 2018 and 2019 is used and tested in the two sections of good governance and business environment. Also, the refining phase of the conceptual model conducts the face-to-face interviews with experts to collect data, using the theme analysis method.

3.1 Population and statistical sample

Statistical population in quantitative part, includes World Bank data in two parts of good governance and business environment including all countries in the World Bank report and in the qualitative part of at least 15 external experts, heads and managers of the Trade Development Organization with expertise and experience in good governance and business environment. External experts were classified based on the level of education, specialization, and work experience. The inclusion criteria were holding at least a master's degree and specialization in business, and at least 8 years of experience.

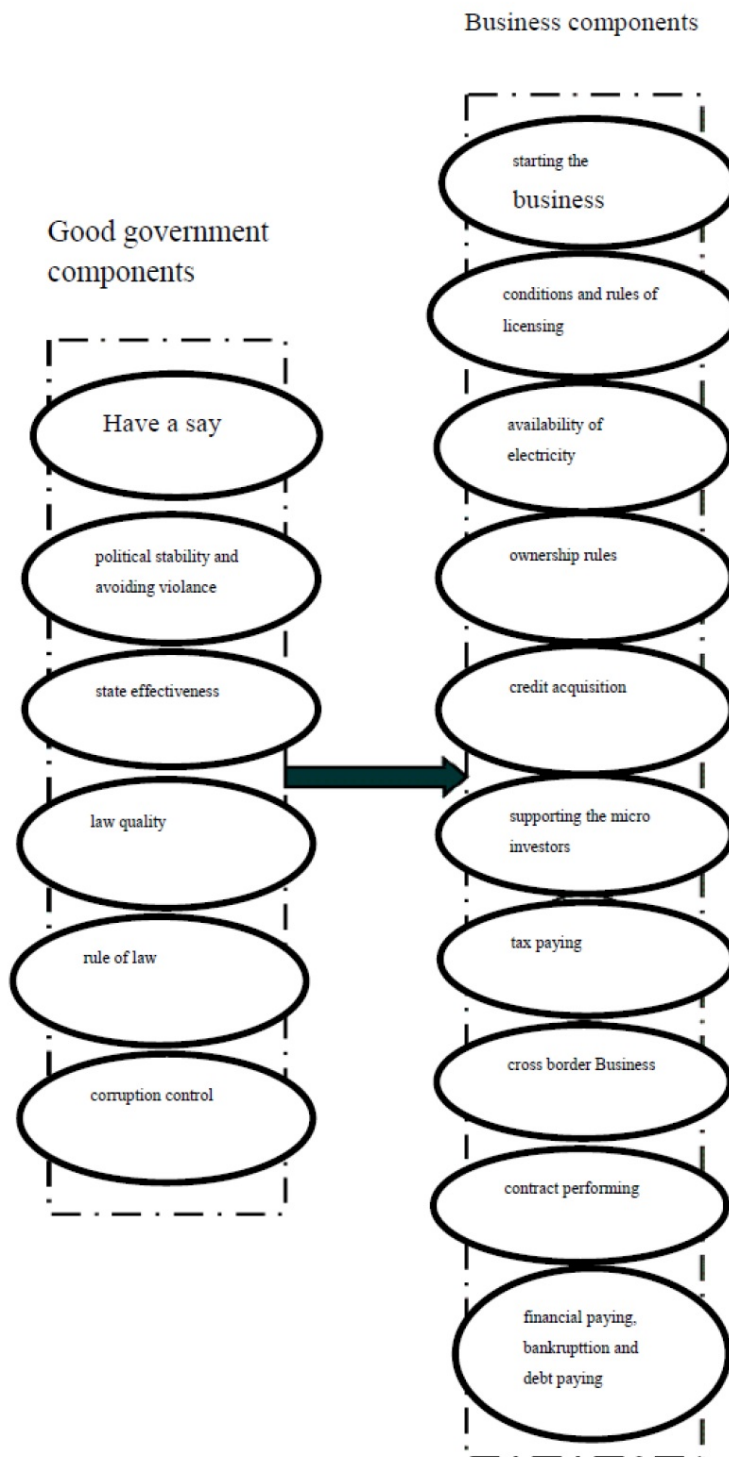


Figure 1: Research model

4 Design of ANFIS model for the proposed conceptual model

After constructing a conceptual model that includes two main dimensions (good governance and business environment) and 16 components, in this section we will design the ANFIS model. The fuzzy inference system is a knowledge-based system in which the experience and knowledge of experts can be applied. When complete and accurate information of the study topic is not available, the behavioral pattern of the topic can be analyzed and predicted based on fuzzy logic and fuzzy inference system design. According to fuzzy logic, based on the limited and inaccu-

rate information that exists from a topic, we will be able to identify and predict the relationships between variables. Therefore, this paper used fuzzy inference systems and FUZZY SWARA due to the lack of accurate information in the field of expert opinion. In fuzzy inference systems, the proposed model variables are obtained by examining the data available in the World Bank in the form of a set of if-then rules. This set of answers acts as an inference engine and the inputs of this system are combined based on this inference engine and lead to output mapping. Before explaining the ANFIS model, it is necessary to review the dimensions and components of the proposed conceptual model once again.

Table 3 is an overview of the conceptual model. According to table, the two components of good governance and business environment are considered as the main indices. Good governance has six sub-indices labeled GG1 to GG6 and the business environment has 10 sub-indices labeled BE1 to BE10. Each dimension of good governance indices is evaluated based on a business environment index in the proposed fuzzy system. With these explanations, in designing the general ANFIS model, we first design sub-FIS and FIS. Then by training them, we will reach the sub-ANFIS and the general ANFIS model. In the following, we will have an overview.

Table 3: Dimensions and components of the conceptual model

| | | |
|------|--|----------------------------------|
| G1 | The right to comment | Good Governance (GG) |
| GG2 | Political stability and non-violence | |
| GG3 | Government effectiveness | |
| GG4 | Quality rules | |
| GG5 | Rule of Law | |
| GG6 | Corruption control | |
| BE1 | Starting a business | Business Environment (BE) |
| BE2 | Terms and conditions of obtaining a construction license | |
| BE3 | Access to electricity | |
| BE4 | Property regulations | |
| BE5 | Obtaining credits | |
| BE6 | Support for micro-investors | |
| BE7 | Pay taxes | |
| BE8 | Cross-border trade | |
| BE9 | Execution of contracts | |
| BE10 | Bankruptcy and debt settlement | |

4.1 First model: All countries

This dimension can be seen in Table 4 and the following figures, sub-FIS and sub-ANFIS. Good governance sub-indices are evaluated based on their impact on the business environment sub-index. Bankruptcy and debt settlement are the sub-business environment index categories.

Table 4: The first model parameters concepts

| Component/ dimension | Title |
|--|--------------|
| 1-1 The right to comment | 1-1 GG1 |
| 1-2 Political stability and non-violence | 1-2 GG2 |
| 1-3 Government effectiveness | 1-3 GG3 |
| 1-4 Quality of rules | 1-4 GG4 |
| 1-5 Rule of law | 1-5 GG5 |
| 1-6 Corruption control | 1-6 GG6 |
| 10: Bankruptcy and debts settlement | 10- BE10 |

The ANFIS model has 6 layers, including the right to comment, political stability and non-violence, the effectiveness of state-building, the quality of laws, the rule of law, and the control of corruption. The last layer is the output, which is the first model or bankruptcy and debt settlement. Also, this model has $2^6 = 64$ rules (2 to the power of 6 is the number of inputs).

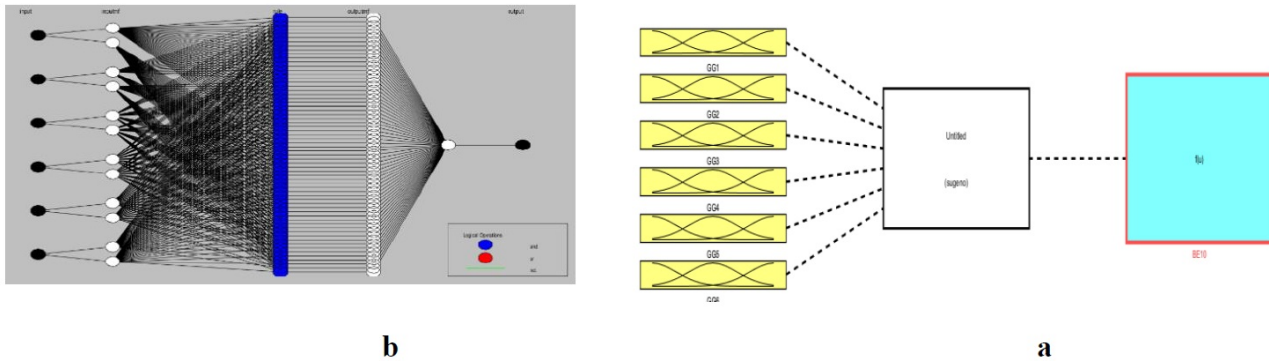


Figure 2: a) sub-FIS first model (all countries), b) sub-ANFIS first dimension (all countries)

4.2 Second model: Developing countries

Table 5 and the following figures depict sub-FIS and sub-ANFIS. The impact of good governance sub-indices on the business environment in developing countries has been evaluated. Here, Sugeno fuzzy function is proposed.

Table 5: The second model parameters concepts

| Component/ dimension | Title |
|--|---------|
| 1-1 The right to comment | 1-1 GG1 |
| 1-2 Political stability and non-violence | 1-2 GG2 |
| 1-3 Government effectiveness | 1-3 GG3 |
| 1-4 Quality of rules | 1-4 GG4 |
| 1-5 Rule of law | 1-5 GG5 |
| 1-6 Corruption control | 1-6 GG6 |
| 2: Business Environment | 2- BE |

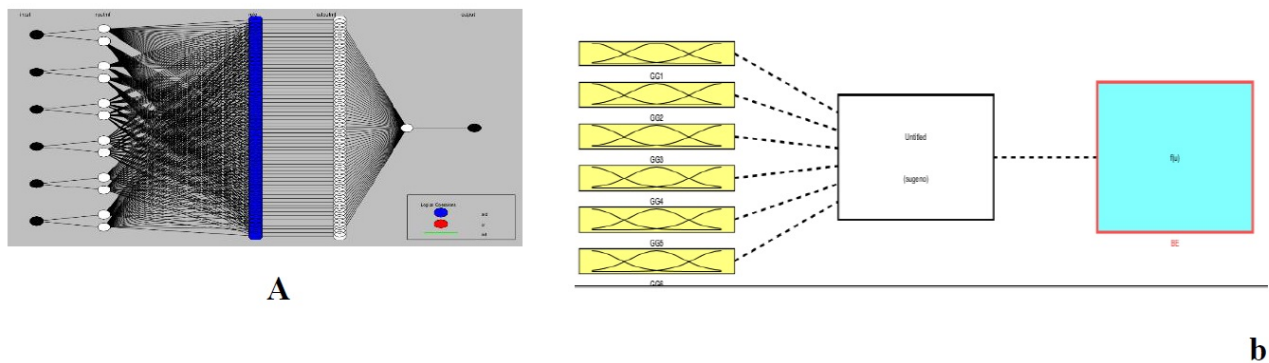


Figure 3: a) sub-FIS model two (developing countries) b) sub-ANFIS model two (developing countries)

The ANFIS model has 6 layers, including the right to comment, political stability and non-violence, the effectiveness of state-building, the quality of laws, the rule of law, and the control of corruption. The last layer is the output, which is the first model or bankruptcy and debt settlement. Also, this model has $2^6 = 64$ rules (2 to the power of 6 is the number of inputs).

5 Pattern number two: SWARA method

This part has used the SWARA method. The reason for using this model is its high accuracy in analyzing the relationships between variables and extracting weight coefficients with respect to the impact of components on each other. In this method, the experts rank the criteria according to the importance. For example, the lowest value is in the last rank and other values are in the middle ranges, based on their importance. The value W_j indicates the

relative weight of the criteria. In this table, S_j indicates how much more important this criterion is than $S_j + 1$. In this regard, supporting micro investors with a weight of 0.08 compared to the main criterion has the highest weighting.

Table 6: Ranking and weighting of business environment facilitation components

| $Q_i * 100$ | $q_i = W_j / \text{sum}(w_j)$ | $W_j = (X_j - 1) / K_j$ | $K_j = S_j + 1$ | S_j | Index |
|-------------|-------------------------------|-------------------------|-----------------|-------|--|
| 16 | 0.16 | 1 | 1.00 | 0 | Terms and conditions of obtaining a construction license |
| 15 | 0.15 | 0.91 | 1.10 | 0.10 | Obtaining credits |
| 10 | 0.10 | 0.61 | 1.50 | 0.50 | Starting a business |
| 9 | 0.09 | 0.56 | 1.08 | 0.08 | Support for micro-investors |
| 9 | 0.09 | 0.54 | 1.03 | 0.03 | Property regulations |
| 9 | 0.09 | 0.53 | 1.03 | 0.03 | Pay taxes |
| 8 | 0.08 | 0.51 | 1.03 | 0.03 | Access to electricity |
| 8 | 0.08 | 0.50 | 1.03 | 0.03 | Execution of contracts |
| 8 | 0.08 | 0.49 | 1.01 | 0.01 | Bankruptcy and debt settlement |
| 8 | 0.08 | 0.49 | 1.01 | 0.01 | Cross-border trade |

6 Conceptual model dimensions Fuzzy Inference System (FIS)

There are two methods for designing FIS in MATLAB software: 1) Network separation, 2) Reduction clustering. we used the first method, in which it is possible to produce a Sugeno FIS with the possibility of selecting the number of membership functions and its type. To reduce the complexity of the model, we consider two membership functions for each component and select the Gaussian type of membership function for model inputs. In this case, the number of model rules depends on the number of components and the number of functions that we specify. For example, for the first model, which has six components, the number of rules is $2^6 = 64$. In the second method, which uses redundant clustering, the number of rules is less and we have less control over them.

Accordingly, number of dimensions of the concept model is sub-FIS and finally sub-ANFIS. In this section, we refer to each of them.

6.1 First Model: All countries

We present only a summary table of results of the first model due to the large size (all countries). The table below shows the effects of good governance parameters on facilitating the business environment in the first model (all countries). According to Table 7, the greatest influence on the parameters of good governance to facilitate the changing business environment is the right to comment. On the other hand, the rule of law has the greatest negative impact on facilitating the business environment. In other words, leaving the business environment open to innovation and the right to comment.

Table 7: The extent of the effects of good governance parameters on the business environment

| | | Facilitate the business environment (EBD) |
|---------------------------------------|--|--|
| Good governance parameters(GG) | Right of Comment (GG1) | +20 |
| | Political stability and non-violence (GG2) | +13 |
| | Government Effectiveness (GG3) | +5 |
| | Quality Rules (GG4) | +12 |
| | Rule of Law (GG5) | -16 |
| | Corruption Control (GG6) | +9 |

6.2 Second Model: Developing countries

In the previous chapter, we observed that the first model has six components, including the right to comment, political stability and non-violence, the effectiveness of state-building, the quality of laws, the rule of law, and the control of corruption. Therefore, the structure of the sub-FIS model of this dimension is as shown in Figure 4.

Table 8: The second model parameters concepts

| Component/ dimension | Title |
|--|---------|
| 1-1 The right to comment | 1-1 GG1 |
| 1-2 Political stability and non-violence | 1-2 GG2 |
| 1-3 Government effectiveness | 1-3 GG3 |
| 1-4 Quality of rules | 1-4 GG4 |
| 1-5 Rule of law | 1-5 GG5 |
| 1-6 Corruption control | 1-6 GG6 |
| 1: Balanced average facilitates business environment | 1- EDB |

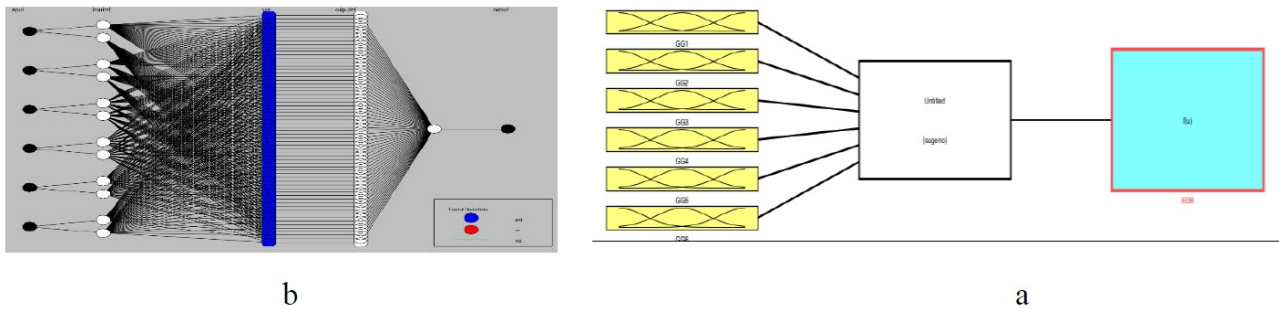


Figure 4: a) sub-FIS model two (developing countries), b) sub-ANFIS model two (developing countries)

The number of rules is equal to $2^6 = 64$ inferential rules obtained, leading to the mapping of different values of 6 inputs to one output of the system, ie the weighted average of facilitating the business environment for developing countries. Different combinations of component states can have different outputs. If in modeling, in the section for determining the number of membership functions, instead of considering two cases, we considered three membership functions for each component, the number of rules would be $3^6 = 729$, which would be very complicated.

6.3 Interpretation of the fuzzy inference model of the first dimension

The following figure shows the effect of the first two components (GG1) and the second (GG2) on the output of the model. The combination of these two components increases the output of this model from 4.2 to 50.3.

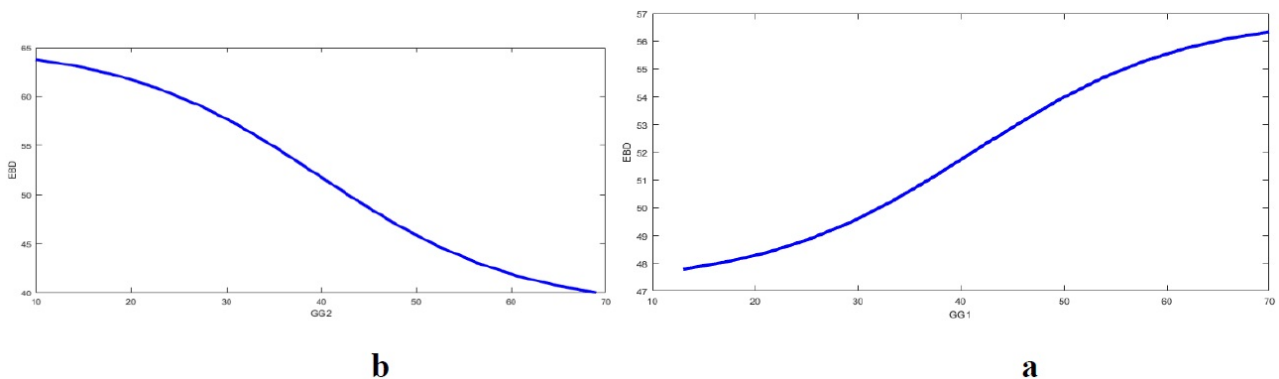


Figure 5: The effect of input changes: A: GG1 on the output of the second model (developing countries), B: GG2 on the output of the second model (developing countries)

6.4 Interpretation of the fuzzy inference model of the second dimension

The following figure shows the effect of GG1 and GG2 on the output of the model. The combination of these two components increases the output of this model from 55.4 to 66.2. In other words, the more the government is effective in the market, the lower the right to comment, and the economy can not operate freely.

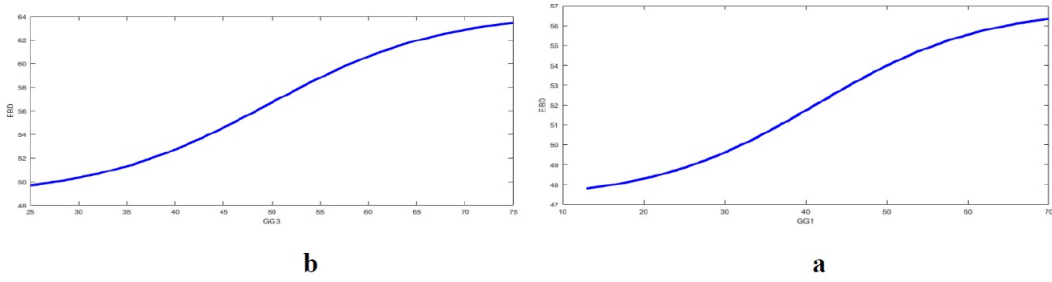


Figure 6: The effect of input changes, a: GG1 on the output of the second model (developing countries), b: GG3 on the output of the second model (developing countries)

The smaller economies in developing countries than other developed countries, the process of government effectiveness has led to an increase and consolidation of the business environment. However, the more effective the government, the lower the right to comment.

6.5 Interpretation of the fuzzy inference model of the third dimension

The following figure shows the effect of GG1 and GG4 on the output of the model. The combination of these two components increases the output of this model from 46.4 to 69.2.

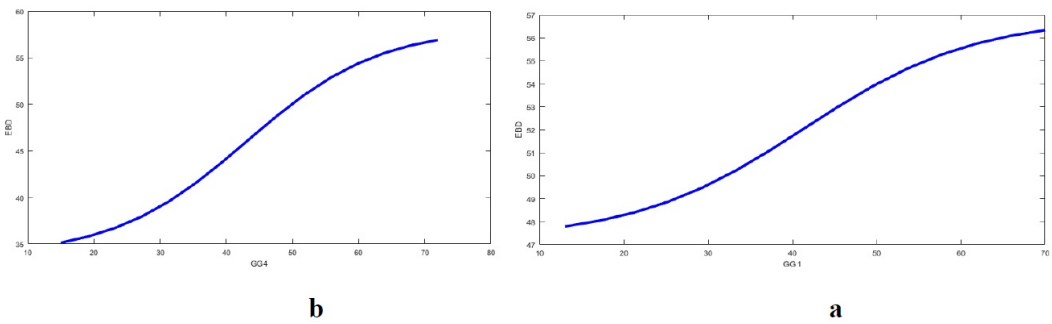


Figure 7: The effect of input changes, a: GG1 on the output of the second model (developing countries), b: GG4 on the output of the second model (developing countries)

As the quality of the rules increases, so does the weighted average ease of doing business. In other words, increasing the quality of laws has led to improved standards in the field of business.

6.6 Interpretation of the fuzzy inference model of the fourth dimension

The following figure shows the effect of GG1 and GG5 on the output of the model. The combination of these two components increases the output of this model from 53.2 to 61.5.

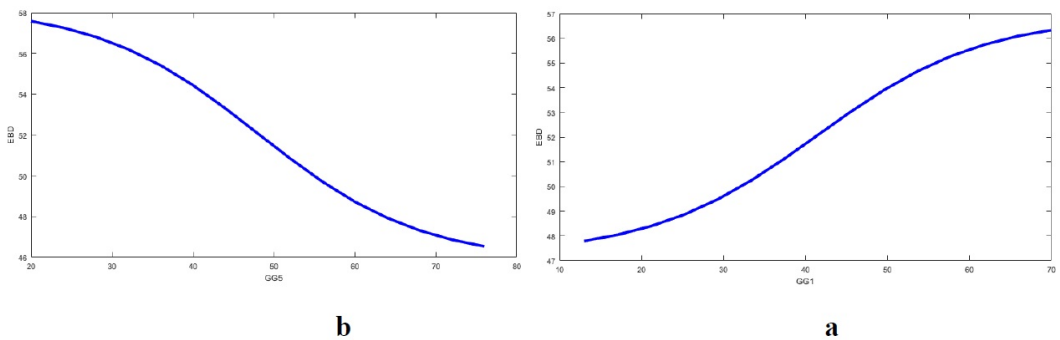


Figure 8: the effect of input changes, a: GG1 on the output of the second model (developing countries), b: GG5 on the output of the second model (developing countries)

The rule of law has a negative effect on facilitating the business environment. The rule of law has led to the governmentalization of the economy.

6.7 Interpretation of the fuzzy inference model of the fifth dimension

The following figure shows the effect of GG1 and GG6 on the output of the model. The combination of these two components increases the output of this model from 56.6 to 67.2.

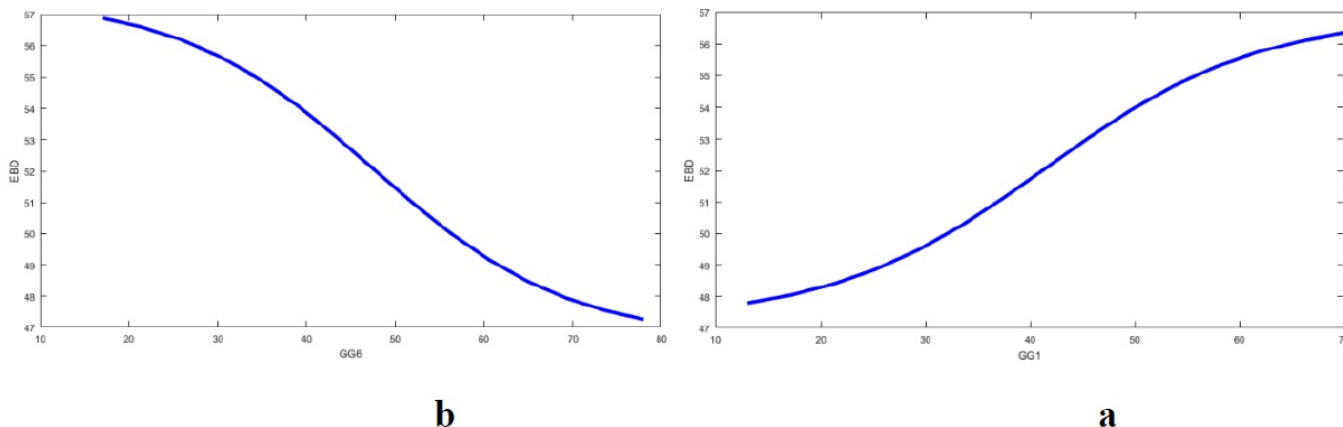


Figure 9: the effect of input changes, a: GG1 on the output of the second model (developing countries), b: GG6 on the output of the second model (developing countries)

Increasing corruption control has led to a balanced reduction in business facilitation.

6.8 Interpretation of the fuzzy inference model of the sixth dimension

The following figure shows the effect of GG2 and GG3 on the output of the model. The combination of these two components increases the output of this model from 56.3 to 74.0.

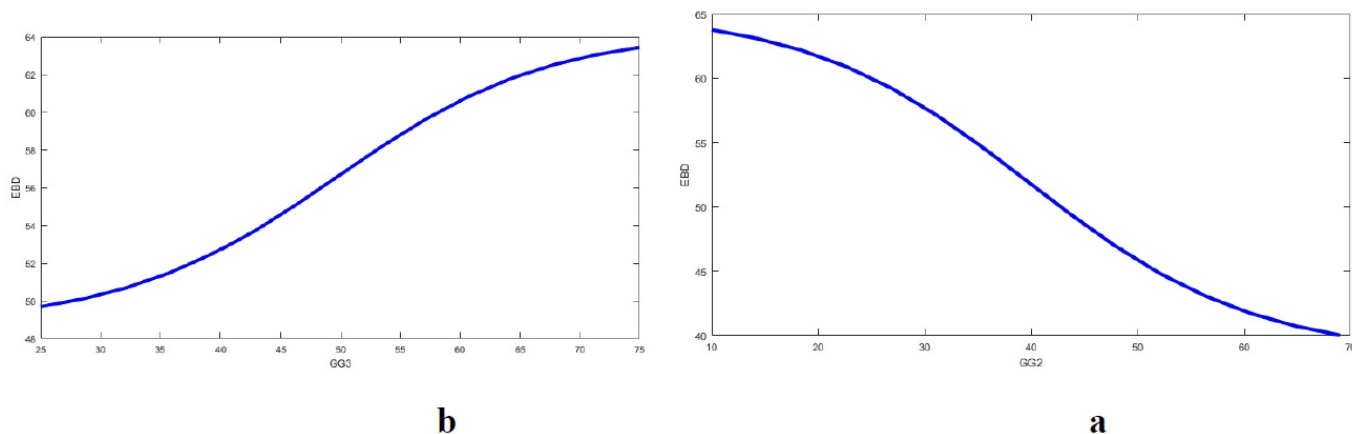


Figure 10: the effect of input changes, a: GG2 on the output of the second model (developing countries), GG3 on the output of the second model (developing countries)

Government effectiveness has led to increased facilitation of the business environment.

6.9 Interpretation of the fuzzy inference model of the seventh dimension

The following figure shows the effect of GG2 and GG4 on the output of the model. The combination of these two components increases the output of this model from 55.4 to 71.3.

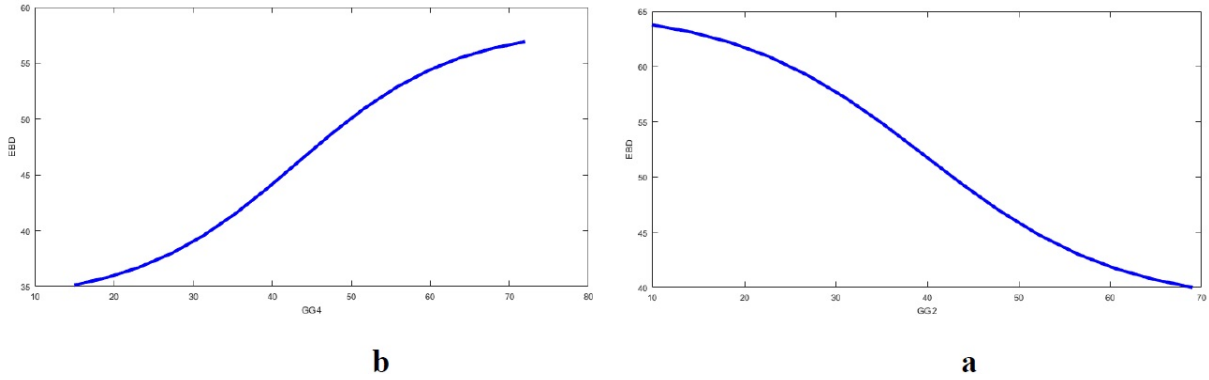


Figure 11: the effect of input changes, a: GG2 on the output of the second model (developing countries), b: GG4 on the output of the second model (developing countries).

6.10 Interpretation of the fuzzy inference model of the eighth dimension

The following figure shows the effect of GG2 and GG5 on the output of the model. The combination of these two components increases the output of this model from 59.6 to 73.0.

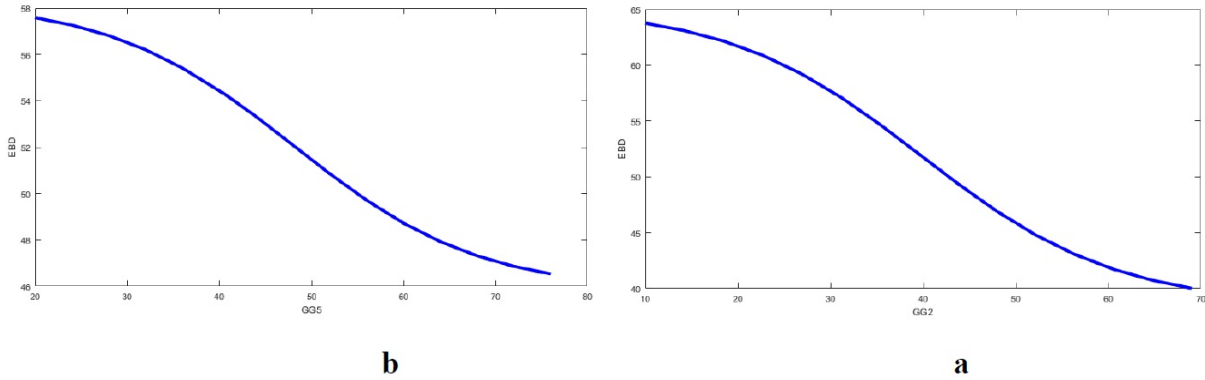


Figure 12: the effect of input changes, a: GG2 on the output of the second model (developing countries), b: GG5 on the output of the second model (developing countries)

6.11 Interpretation of the fuzzy inference model of the ninth dimension

The following figure shows the effect of GG2 and GG6 on the output of the model. The combination of these two components increases the output of this model from 56.9 to 63.3.

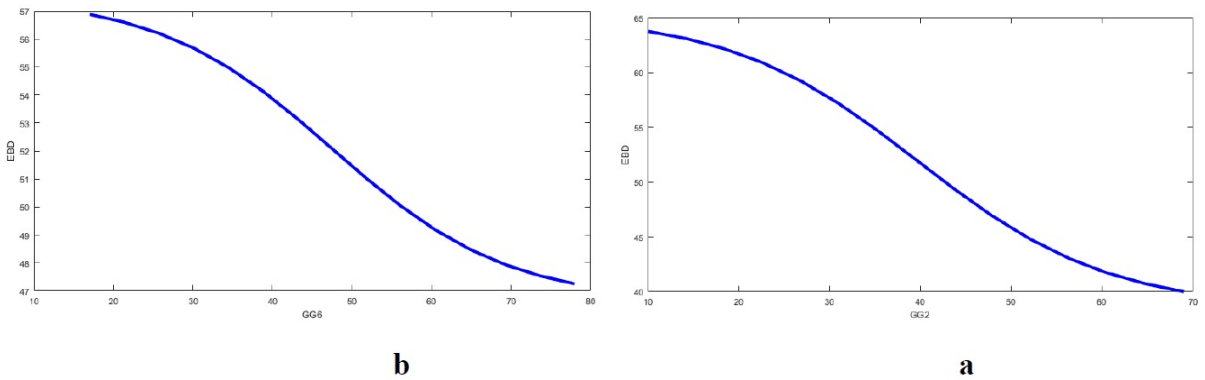


Figure 13: the effect of input changes, a: GG2 on the output of the second model (developing countries), b: GG6 on the output of the second model (developing countries)

6.12 Interpretation of the fuzzy inference model of the tenth dimension

The following figure shows the effect of GG3 and GG4 on the output of the model. The combination of these two components increases the output of this model from 57.2 to 70.1.

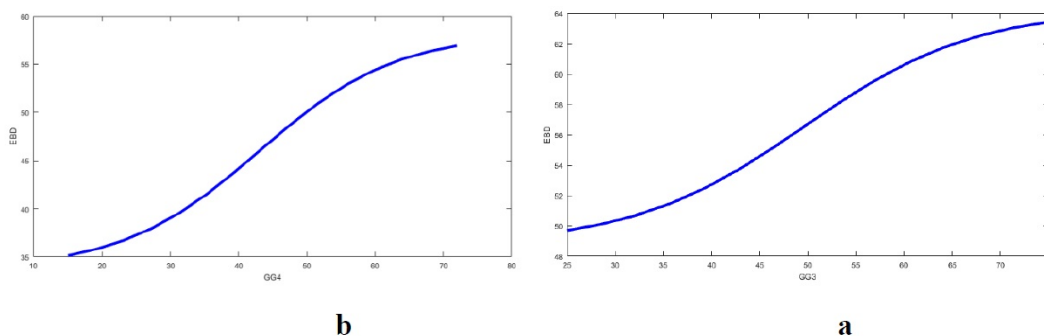


Figure 14: The effect of input changes, a: GG3 on the output of the second model (developing countries), b: GG4 on the output of the second model (developing countries)

6.13 Interpretation of the fuzzy inference model of the eleventh dimension

The following figure shows the effect of two components GG3 and GG5 on the output of the model. The combination of these two components increases the output of this model from 58.2 to 66.9.

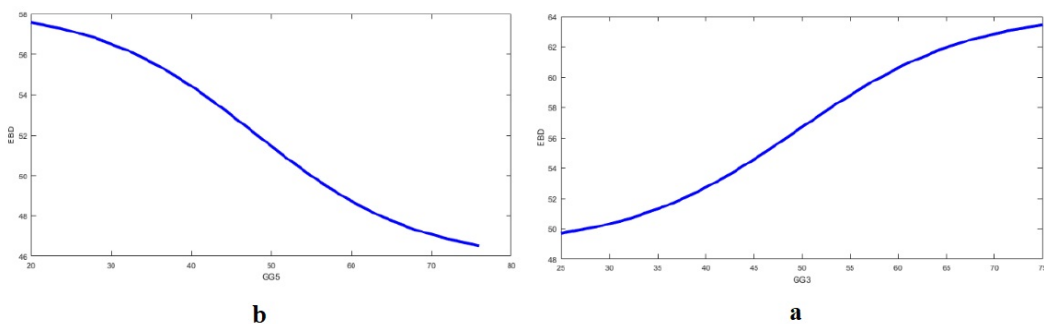


Figure 15: The effect of input changes, a: GG3 on the output of the second model (developing countries), b: GG5 on the output of the second model (developing countries)

6.14 Interpretation of the fuzzy inference model of the twelfth dimension

The following figure shows the effect of the two components GG3 and GG6 on the output of the model. The combination of these two components increases the output of this model from 58.4 to 64.1.

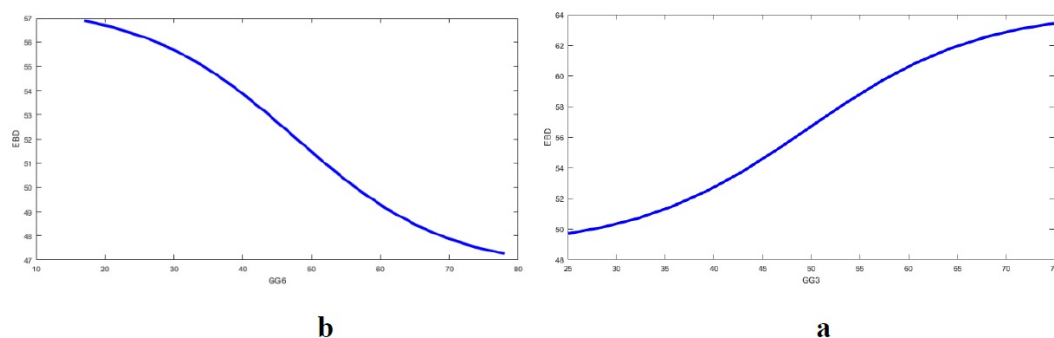


Figure 16: The effect of input changes, a: GG3 on the output of the second model (developing countries), b: GG6 on the output of the second model (developing countries)

6.15 Interpretation of the fuzzy inference model of the thirteenth dimension

The following figure shows the effect of GG4 and GG5 on the output of the model. The combination of these two components increases the output of this model from 51.2 to 63.1.

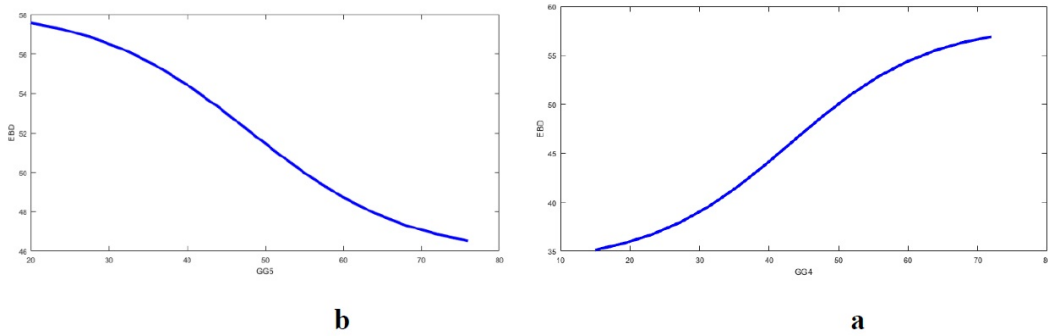


Figure 17: The effect of input changes, a: GG4 on the output of the second model (developing countries), b: GG5 on the output of the second model (developing countries)

6.16 Interpretation of the fuzzy inference model of the fourteenth dimension

The following figure shows the effect of GG4 and GG6 on the output of the model. The combination of these two components increases the output of this model from 47.7 to 62.3.

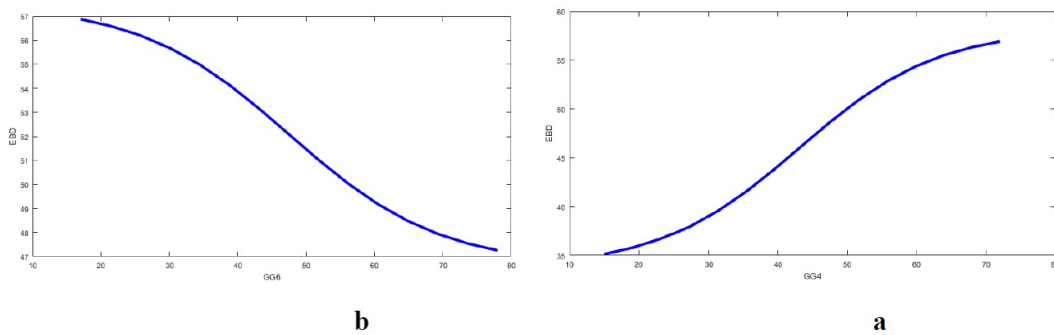


Figure 18: The effect of input changes, a: GG4 on the output of the second model (developing countries), b: GG6 on the output of the second model (developing countries)

6.17 Interpretation of the fuzzy inference model of the fifteenth dimension

The following figure shows the effect of GG5 and GG6 on the output of the model. The combination of these two components increases the output of this model from 53.2 to 65.2.

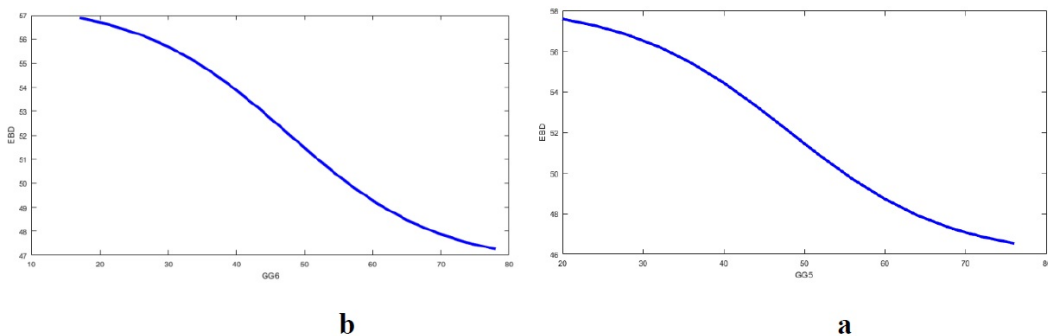


Figure 19: The effect of input changes, a: GG5 on the output of the second model (developing countries), b: GG6 on the output of the second model (developing countries)

The table below shows the effects of good governance parameters on business environment in the first model (developing countries).

Table 9: The extent of the effects of good governance parameters

| | | Facilitate the business environment (EBD) |
|---------------------------------------|--|--|
| Good governance parameters(GG) | Right of Comment (GG1) | +8 |
| | Political stability and non-violence (GG2) | -10 |
| | Government Effectiveness (GG3) | +13 |
| | Quality Rules (GG4) | +20 |
| | Rule of Law (GG5) | -10 |
| | Corruption Control (GG6) | -10 |

7 Conclusion

According to the findings of the adaptive neural-fuzzy network, the multi-output components of the right to comment (GG1), political stability and non-violence (GG2), government effectiveness (GG3), quality of law (GG4), the rule of law (GG5) and corruption control (GG6) constitute good governance that facilitates the business environment.

Explaining the research findings, it can be said that good governance encompasses a comprehensive concept that refers to the effective interaction between three pillars: government, market, and civic institutions. In the good governance theory, the government is referred to as an institution-building social institution. So that it can provide the grounds for economic growth by creating market-supporting institutions. Consequently, this evolved government is adorned with the traits and characteristics of previous governments, which enable it to perform its economic tasks, including promoting economic growth.

Processes and methods designed in macro and micro organizations make the government a fundamental part of the model of good governance. In a way, the government must take the initial steps in a purposeful and planned way to create the structural background for a good governance model. Nevertheless, the government loses its maximum focus and role in the social arena in good governance. Thus, the private sector and various social forces play a role in civil society and in their position in the direction of development in a specific framework and in interaction and coordination with each other to achieve the same goal. Therefore, it can be said that the model of good governance, it has a balanced and decisive role in organizing affairs at three levels: micro, medium, and macro. In a way, it can be said that homogeneity, companionship, and stability are created along with dynamism and mobility in the social space. The findings are consistent with the research results of [3, 4, 9], are in line with each other.

The pattern of good governance is fostered by the right to comment and respond to public awareness and transparency. Business owners have the insight and power to critique incomplete and inconsistent economic policies. It exists for production and investment, and in turn, gross domestic product and per capita income increase. Efficient bureaucracy accelerates the coordination and execution of affairs. The quality of laws and regulations will help reduce costs and remove barriers. The rule of law guarantees property rights and the excellent performance of contracts. By controlling corruption, innovation overcomes rents and bribes, enhances the technical capacity of society, and increases economic attractiveness.

7.1 Research suggestions

1. Continuous use of open market operations to attract liquidity from volatile asset markets (gold, currency, and stocks) and direct it to productive sectors,
2. Determining the priority and industrial capacities of the country and directing foreign resources in line with domestic development goals,
3. Full control over the distribution of facilities among economic sectors and preventing the entry of facilities into mediating sectors.

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