

Dynamic Modelling for Effect of Cultural Values on Economic Growth in Iran

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Abstract. The concept of cultural economy count goes to new concepts of economic and cultural areas and this means that countries can use the creative talents, their cultural heritage and have, Stimulated economic growth, support and strengthen the prosperity of society has finally come. In recent years, analytical frameworks and empirical tools of economics to the culture and economic outcomes using closed these developments led to the identification of methods and mechanisms of culturally-based on the economy that can be tested and may cause economic growth and development. Considering the relationship between culture and economic growth in modern societies , this paper component of the cultural values of Iran's economic growth studied ,and using the AHP technique according to the VENSIM modeling software discussed in terms of dynamic and behavioral components of cultural values on economic growth in Iran has until the end of 2025 year.

Keywords: Cultural Values, Economic Growth, Modelling, AHP Technique.

1. Introduction

Mariano Grondona, prominent argentine intellectuals, in his book entitled "The Cultural Conditions of Economic Development" that was published in 1999 Published the analysis of differences between cultures in favor of development (Such as the U.S. and Canada) and resistance development (Latin America) deals.

Intrinsic values those values are that, regardless of their benefits and harms them, we confirmed. Value is patriotic that Sometimes must be sacrificed for it and the same value can be harmful for the life of a man. Inverse instrumental value is well worth it because we support that is directly beneficial to our. Let's also assume that a country dedicated to the economic development and in regard to employment, productivity and investment emphasizes.(Grondona,2000:45).His twenty-cultural factors influencing the growth and economic development are assessed and investigated and five are classified as follows (Ibid:46-53).

Work-related values and produce,Values of the universe,Personal values and beliefs, Values about governance and the rule,Religious values

Michael McPherson, argues that economics itself is part of a cultural realm, realm of cultural activities and goals to a great extent makes economic sense and limits the opportunities to show people in which people are developing themselves. In addition to these theoretical discussions, the relatively large number of experimental studies conducted on the western and eastern sides of the same are claimed. Economic growth and development, valuation and realization of people's beliefs and values (Symphonies, 2009:6-11)

2. The Map of Flow-Stock of Cultural Value

The variables that affect stock and auxiliary variable Individual values and Social values are located .

3. Simulate the Dynamic Behavior of Variables

In this paper, the simulation of dynamic systems has been so in the years from 2011 to 2025 time horizon to a 15-year period, the behavior of variable cultural value and economic growth is seen. Cultural values will

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change to ascending, in 2011 year and started rising and in 2025 year will be 8.66 units. The trend economic growth rate of 0.25 units in 2011 year will be 2.16 units in year 2025 .

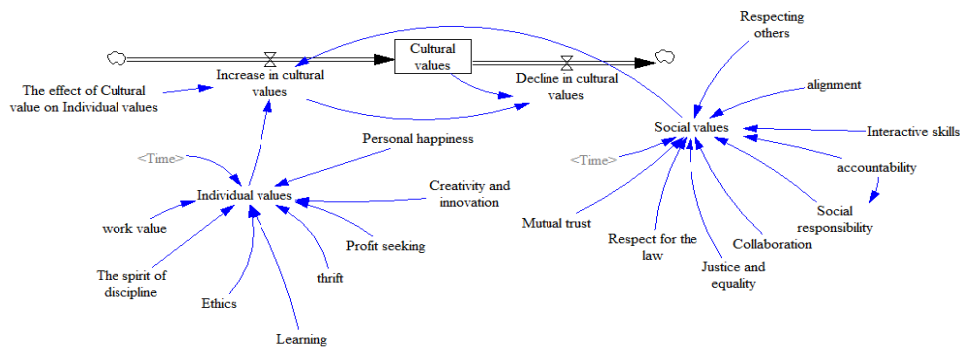


Fig. 1: Simulated pattern of Cultural Value

4. Sensitivity Analysis and Model Policies

In this situation, one after the other model parameters are changed and results related to the performance of some key variables are the variables which are compared with the baseline model dynamic systems model of economic growth, it is going to change parameters affecting economic growth, the sensitivity of this test is variable. Selected variables are: **Ethics and Accountability**.

4.1. The Sensitivity Analysis of Ethics Variable

In economic growth model, Ethics is considered 0.215, The value of this parameter decreased to 0.001 and the model implemented and simulation model for the auxiliary variables are examined. Then the value increased to 0.9 and its effect on changing the cultural values and Individual values are reviewed.

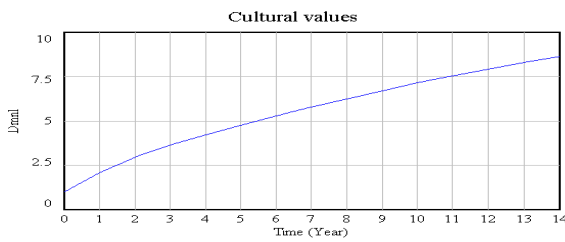


Fig. 2: Behavior of the Cultural Value

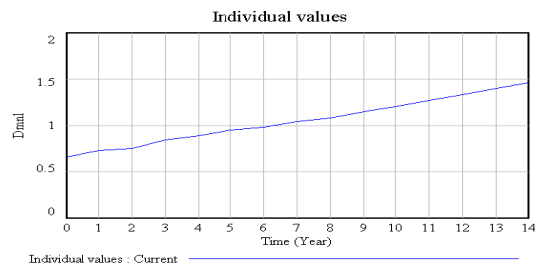


Fig. 3: Behavior of the Individual Values

Before the change in Ethics parameters, the Individual values of 0.66 units in 2011 year will be to 1.46 units in 2025 year.

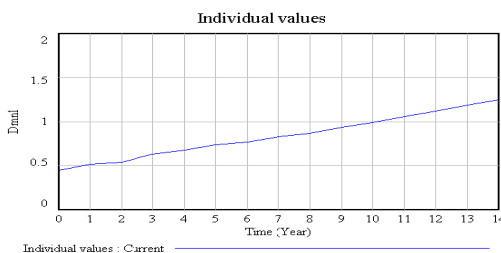


Fig. 4: The behavior or Individual Value by changing Ethics to 0.001

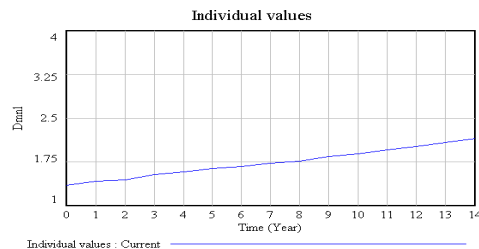


Fig.5: The behavior or Individual Value by changing Ethics to 0.9

As can be seen with increasing rates of Ethics 0.9, the Individual values of 1.35 units in 2011 year to 2.15 units in 2025 year will increase. The decrease in the rate of 0.001 to 0.45 units of Individual values will be 1.25 units in 2025 year.

You can change the effect of this variable also on the variable of cultural values:

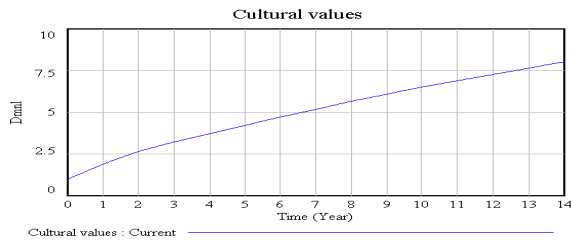


Fig.6: The behavior of Cultural Value by changing Ethics to 0.001

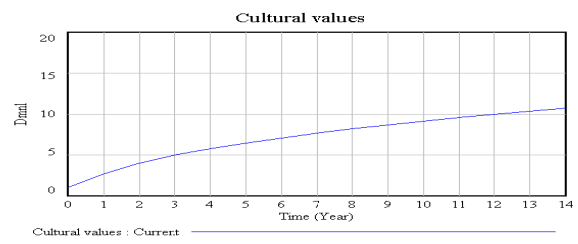


Fig. 7: The behavior of Cultural Value by changing Ethics to 0.9

Before the process was the cultural values of 1 unit to 8.66 units, as can be seen that the change rate increases Ethics to 0.9, the cultural values of 1 unit in 2011 year will be to 10.7 units in 2025 year. The cultural values of a reduced rate to 0.001 unit will be 8.02 units in 2025 year.

4.2. Sensitivity Analysis of Accountability Variable

In economic growth model, Accountability is considered 0.130, the value of this parameter decreased to 0.001 and the model implemented and simulation model for the auxiliary variables are examined. Then the value increased to 0.9 and its impact on Accountability variable and is considered the cultural values:

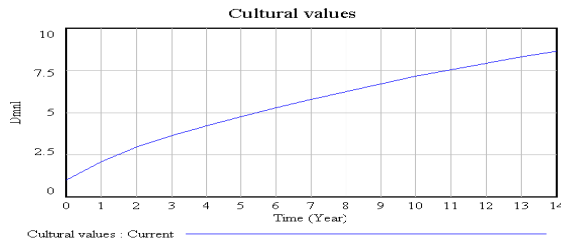


Fig .8: Behavior of the Cultural Values

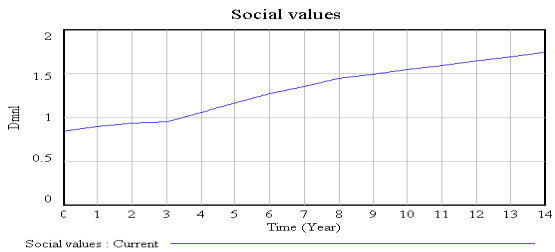


Fig .9: Behavior of the Social Values

Before changing the parameters of Accountability social values of 0.84 units in 2011 to 1.74 unit in 2025 will increase.

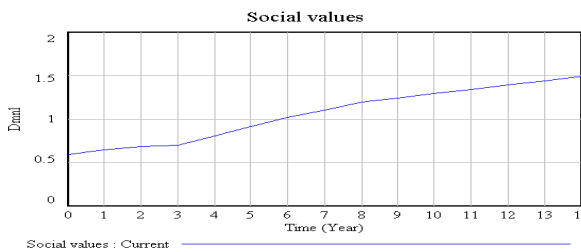


Fig. 10: The behavior of Social Value by changing Accountability to 0.001

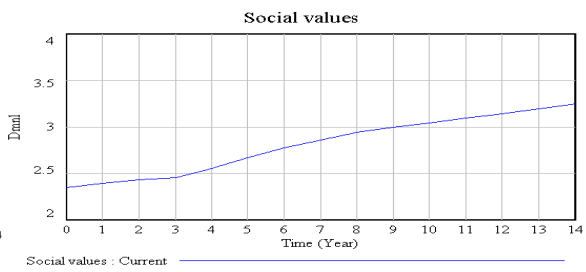


Fig .11: The behavior of Social Value by changing Accountability to 0.9

As can be seen by increasing the rate of Accountability to 0.9, the social values of 2.34 units in 2011 to 3.25 units in 2025 will increase. The decrease in the rate to 0.001 of 0.59 units of intangible assets will be 1.50 units in 2025.

You can change the effect of this variable also on the variable of cultural values:

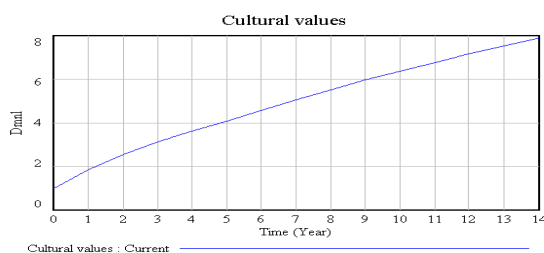


Fig. 12: The behavior of Cultural Value by changing Accountability to 0.001

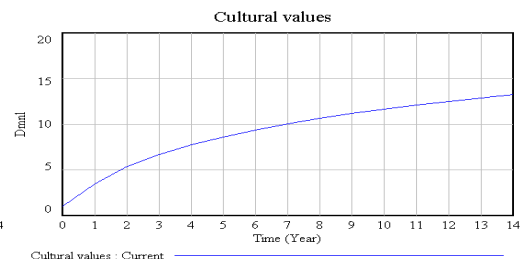


Fig .13: The behavior of Cultural Value by changing Accountability to 0.9

Before the process was the cultural values of 1 unit to 8.66 units, as can be seen, but after the change Accountability by increasing the rate to 0.9, the cultural values of 1 unit in 2011 to reach 13.26 units in 2025. The reduction rate to 0.001, the cultural values from 1 unit will be to 7.88 unit in 20150year.

5. Scenario Building: Best and Worst Strategies

This article, the optimistic scenario (Best) and pessimistic (Worst) to the plausible range of parameters using sensitivity analysis provides Two new scenarios and compared with the baseline scenario has been addressed.

5.1. Baseline Scenario

Considering the critical parameters in the baseline scenario and the results of sensitivity analysis, best scenario for developing the best parameters to 0.9 and Worst scenarios for setting the parameters changed to 0.001 and behavior cultural values and economic growth in both cases are compared.

5.2. Best Scenario

The table of values below the Best case economic growth compared with the baseline:

Time	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Baseline	0.25	0.52	0.74	0.9	1.05	1.18	1.32	1.44	1.56	1.68	1.78	1.84	1.98	2.07	2.16
Best case	0.25	3.27	5.40	6.92	8.0	8.8	9.39	9.84	10.18	10.45	10.67	10.84	10.94	11.12	11.25

5.3. Worst Scenario

The table of values below the Worst case economic growth compared with the baseline:

Time	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Baseline	0.25	0.52	0.74	0.9	1.05	1.18	1.32	1.44	1.56	1.68	1.78	1.84	1.98	2.07	2.16
Worst case	0.25	0.18	0.16	0.15	0.18	0.23	0.3	0.4	0.48	0.58	0.67	0.76	0.85	0.94	1.03

5.4. Comparing Best Case and Worst Case

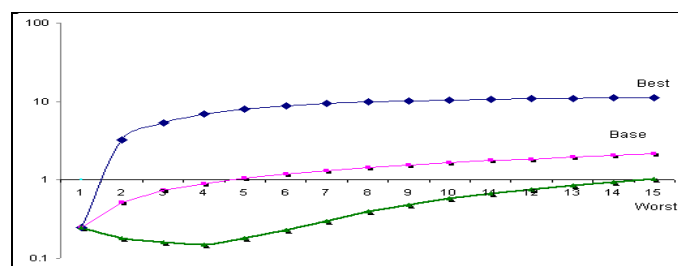


Fig 16: Comparing Best, Worst and Base cases.

6. Conclusion

With AHP technique, first, components, and cultural values indicators based on expert opinions and ratings were measured and found:

- Of 100% of Criteria constituting the cultural value, 12.5% share of "Individual Values" and 87.5% share of the "Social Values" are formed. The indicators relating to Individual Values, the highest share of "Ethics" and "Personal Happiness" was Indicators and in Social Values, "Interactive Skills" and "Accountability" had the largest share.

- Share of components of Individual Values, respectively: Work Value 23%, Creativity and Innovation 9%, Thrift 2%, Personal Happiness 13%, the Spirit of Discipline 3.9%, Profit Seeking 4.1%, and Learning is 23%.
- Share of components of Social Values, respectively: Mutual Trust 6.4%, Justice and Equality 12.5%, Social Responsibility 12.3%, Collaboration 1%, Interactive Skills 15.7%, Accountability 13%, Alignment 7.8%, Respect for the law 9.6% and respecting others is 12.7%.
- Cultural Value in 2011 year started to climb from 1 unit to will be 8.66 units in 2025 year.

After the initial values by AHP technique, of statistical software VENSIM to design patterns in a dynamic situation, it was determined that the operation was:

- With the increasing rates of "Ethics" to 0.9 units, the "Individual Values" of 1.35 units in 2011 year to 2.15 units in 2025 year will increase; the reduction of this rate to 0.001 "Individual Values" of 0.45 units to 1.25 units in 2025 year will be reached.
- Before the change, the cultural values was of 1 unit to 8.66 units, after which the Ethics rate increased to 0.9, the cultural values of 1 unit in 2011 to 10.7 unit in 2025 will, the cultural value of a reduced rate to 0.001 will be 8.02 units.
- With the increasing rate of "Accountability" to 0.9 units, the "Social Values" of 2.34 units in 2011 to 3.25 units in 2025 year will increase, The reduction of this rate to 0.001 "Social Values" of 0.59 units to 1.50 units in 2025 year will be reached.
- With the increasing rate of "Accountability" to 0.9, the cultural Values of 1 unit in 2011 to reach 13.26 units in 2025. The reduction rate to 0.001, the cultural Values of 1 unit will be to 7.88 units.
- In Best case, that the increased amount of initial cultural Values variables is 0.9, Economic growth during the 15 years since the end of 2025 year, the average annual growth is 293.4% have, while in the Base case, average annual growth of 50.9 % reveals. By comparing the two modes can be concluded that economic growth in the Best case is 5.8 times Base case.
- In Worst case, that the recede amount of cultural Values variables is 0.001, Economic growth during the 15 years since the end of 2025 year, the average annual growth of 20.8% may have, While in the base case, the average annual growth of 50.9 % reveals, By comparing the two modes can be concluded that economic growth in the Worst case is about 2.5 times less than Base case.

8. References

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