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## Institutions, a Prerequisite for trade in the Knowledge-based Economy

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**Abstract**

Creating, developing and strengthening f institutions, affects international trade and is a prerequisite for it. Explaining the process and channels of the influence of different types of institutions on the trade between the countries and quantifying the impact of institutions on international trade, on the basis of scientific methods, has a special importance, which is the concern of the present study. In this study, the effect of economic freedom and good governance institutions, as second and third levels of institutional analysis from the Oliver Williamson social analysis fourth levels theory, on the trade between a group of leading Asian countries in knowledge-based economy was investigated using the gravity model and the method of panel data from 2005 to 2014. According to the results, institutions are influential in trade and affect the trade between the countries via important channels, such as competition and competitive advantage, human capital, productivity and transaction costs,. The estimated model shows that the effect of good governance and economic freedom on the trade between the countries is positive and significant. According to the results of the estimated model, With a 1%increase in economic freedom index in the exporting and importing countries, their trading value increases by 3.78%and 3.49%, respectively. The trading value of the exporting countries also increased by 0.933%, following a 1%increase in good governance.

**Keywords**: Institutional, Trade, Panel Data, Knowledge Based Economy.

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### 1. Introduction

Differences in the nature and function of institutions, is one of the causes of differences in levels of development of countries. Institutions can appear as a factor in promoting economic development by shaping the motivational structure

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and providing a suitable platform for productive activities, or, in contrast, play a role as a deterrent factor, by creating a deviation from production, increasing transaction costs and increasing the investment risk. According to international trade theories, trade development can increase economic growth and prosperity through international division of labor, specialization and relative advantage. It can also lead to the export development of different sectors with economies from a high scale, and such conditions will undoubtedly be accompanied by welfare improvement and an ever-increasing economic progress. This research examines the impact of good governance and economic freedom institutions on business and how this process works.

## 2. Institutions and Their Role in Trade and Influence Channels

In general, development includes a set of institutional evolutions. Based on the four levels of Williamson's social analysis theory, these institutional developments occur step by step and if the necessary infrastructures are available at levels 1 through 3, then neoclassical theories can be used for policy making in the country, because neoclassical theories assume the existence of such institutions. Therefore, neoclassical theories cannot be applied at any time and place. Because the institutional context of establishing these theories at levels 1 to 3 is not necessarily available at any time and place, therefore, in order to carry out the reforms, it is necessary to start by reforming the institutions at levels 1 to 3 (Motavaseli & Fathollahi, 2010). Institutional factors such as economic laws, government policies, legal systems, etc., form the economic environment for production and trade (Jafari Samimi & Azarmand, 2005: 6). Institutions can directly influence trade and the volume of trade by influencing economic agents' willingness to do international trade. They can also affect the trade tendency and its volume via indirect channels by affecting the economic variables influencing trade. According to the results of the research, institutions are influential in trade and affect trade through important channels such as competition and competitive advantage, human capital, value added, efficiency, and transaction costs.

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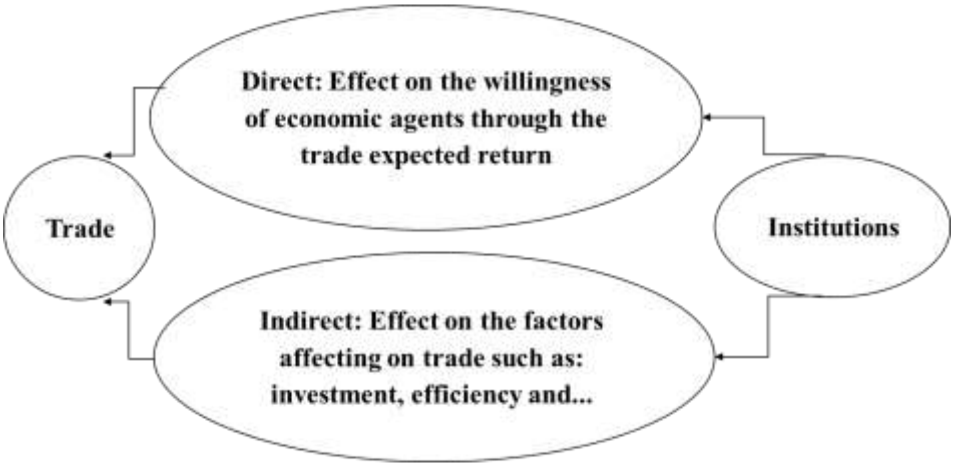


**Graph1: Effective channels of institutions on trade. Source: Investigator Inference**

## 3. Empirical Test of the Effect of Institutions on Trade

The models investigating the empirical effects of institutions on trade include assessing the impact of institutions on trade in the group of leading countries in the field of knowledge-based economy in Asia with two indicators of good governance and economic freedom. With the specification of the model, the impact of institutions on foreign trade is assessed using the econometric model of panel data in the period 2005-2014 for the leading countries group in the field of knowledge-based economy in Asia with institutional indicators.

$$\mathrm{LNX}_{ijt} = \beta_0 + \beta_1 \mathrm{lnGDP}_{it} + \beta_2 \mathrm{lnGDP}_{jt} + \beta_3 \mathrm{lnPOP}_{it} + \beta_4 \mathrm{lnPOP}_{jt} + \beta_5 \mathrm{INS}_{it} + \beta_6 \mathrm{INS}_{jt} + \beta_7 \mathrm{lnDIS}_{ij} + \beta_8 \mathrm{LANG}_{ij} + \beta_9 \mathrm{BOR}_{ij} + \mathrm{U}_{it}$$

$X_{ijt}$ represents the trade flow between countries i and j during t period. $\mathrm{lnGDP}_{it}$ and $\mathrm{lnGDP}_{jt}$ are the GDP of the i-th and j-th countries, respectively. $\mathrm{lnPOP}_{it}$ and $\mathrm{lnPOP}_{jt}$ represent the population in countries i and j. $\mathrm{lnDIS}_{ij}$ denotes the geographical distance between the center of the two trade parties. The distance increases transportation costs. With increasing distance, the possibility of trade between the two countries can be reduced, because partners who are far from each other naturally need more time and money to trade goods, which sometimes leads to costs equal to the inherent value of the goods. The virtual variable $\mathrm{BOR}_{ij}$ represents a common border between the trade parties. $\mathrm{INS}_{it}$ and $\mathrm{INS}_{jt}$ indicate institutional quality in both i and j countries. $U_{it}$ is the Error Term of the model that has a mean zero and a specified variance.

## 4. Model Estimation

Based on the results of estimating the first model with the institutional index of economic freedom, the model coefficients were significant, which shows that the relationship between institutions in this group of countries is positive and significant and a 1% increase in institutional levels in exporter and importer countries from this group of countries would increase the volume of trade by 3.78% and 3.49%, respectively. The results of the second model estimation with the institutional index of good governance indicate that the model coefficients are positive for the exporter countries and shows that a 1%increase in institutional levels in exporter countries will increase the share of trade by 0.933% of. This institutional variable for importer countries suggests that an increase of 1% in institutional levels in exporter countries increases the share of trade by 0.20%.

## 5. Conclusion and Politic Recommendations

Based on the results of model estimation by both institutional indicators for exporter countries, the model coefficients were significant, which this shows that the relationship of institutions in this group of countries with trade is positive and significant and a 1% increase in institutional levels in exporter countries increases the volume of trade 3.78% and 0.933%, respectively. According to the results, institutions have an impact on trade and affect trade through important channels such as competition, value added, efficiency, exchange costs and human capital.

- The basis of knowledge-based economy is three components including knowledge, innovation and technology; therefore, it is suggested that a set of political and economic institutions be created to motivate the production, accumulation and use of knowledge in order to create value added, which is one of the influential factors in trade.
- The driving force of creating value added is ideas. The ideas are intangible and the defining, ensuring, and enforcing property rights on them is very complicated and requirs the adoption of laws and regulations in line with the enforcement of property rights that must be taken into account. In such a situation, policies in the field of guaranteeing and implementation of property rights are essential to creating the necessary motivation for supporting ideas and creating new technologies, and this confirms the important role of institutions in creating new technologies to create added value and increase competitiveness.
- According to the results, the role of institutions in determining the transaction costs is important. Inefficient institutions such as bribery, insecurity for ownership, non-compliance with contracts, etc., play a key role in increasing transaction costs and, consequently, non-cost-effectiveness of a significant portion of transactions. It is in itself an important factor that reduces transactions and the volume of trade. Therefore, the attention and policies of managers are to be directed at reducing transaction costs through a serious struggle against bribery, corruption and rent in the economic system, institutionalization of the implementation of laws and regulations and the rule of law and the result will be an increase in the level of trade.

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- The results show that poor institutions have a negative effect on productivity and growth. Little efficiency is one of the obstacles to creating competitive power. As a result, countries with a poor institutional environment face major problems in improving productivity and increasing competitiveness, and expanding exports and the volume of trade in these countries is more challenging. Therefore, the requisite for increase the level of trade is the existence of institutions that reinforce productivity and increase competitiveness, which should be focused on by the planners.

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