Evaluation of the Relationship between Doing Business Indicators and Export

Mobarakeh Rajaee-Lotfabadi

M.A. student of Economic Development and Planning, Economy Department, Islamic Azad University, Yazd, Iran

Khatereh Gheysari

M.A, Business Administration, Department of Management, Payame Noor University of Tehran, Tehran, Iran

Rasul Sadeghpour

M.A. student of Economic Development and Planning, Department of Economics, Islamic Azad University, Yazd, , Yazd, Iran

Abstract

Because the issue of import and export and improvement of business and its associated problems have been the topic of controversy among exports, this study tries to determine the relationship between business and export among D8 Islamic countries within the years 2006-2012. Results indicated that all the parameters under investigation had a significant effect on the improvement of export in these countries.

Keywords: business, export, D8 countries, panel data models

1- Introduction.

A a significant part of the economic development, requirements of any country depend on the country's favorable business climate. Since 2004, World Bank has analyzed Doing Business (DB) in different countries. Reports from World Bank have investigated the constraints of business in two groups: states' behavior and market's quality. In order to evaluate the ease of business, this organization studies different countries comparatively, and by using the experiences of countries, it offers guidelines to improve DB. Studies on exporting in Iran and other countries and its impact on economic sectors are very important and can have considerable contributions to other fields such as sociology, political science, and technical considerations. In fact, increased export increases demand and in turn wages and employment will increase too. By encouraging export, domestic products grow into an international competition. According to this view, by using static and dynamic resources, free trade will increase products and prosperity (Azimi, 2000).

2- Export, DB and business indicators

Export: export means the transfer of goods or sending goods from one place to another either within a country or from abroad (Ebrahimi et al., 1999). Or in other words, export means the association and working with professional markets across the borders as a starting point to interact with others.

DB is a set of environmental and external factors affecting enterprises' performance and it is beyond the power of directors to interfere in it. To assess DB, different indicators have been proposed by various organizations. Indicators provided by the Word Bank include:

Starting a business, dealing with permits, hiring and dismissing employees, registering property, getting credit, protecting investors, paying taxes, trading across borders termination of activities, enforcing of contracts. In this study, some common concise definitions of indicators are discussed.

1. Getting credit: this indicator is the empowerment and data coverage of financial information of individual and legal person's financial coverage which is recorded in public or private sector and available to other organizations or individuals; based on the determined credit, economic actors can be evaluated.
2. Protecting investors: this indicator examines the extent to which owners are backed by official and legal institutions. Particularly in transactions in which director's interests conflict with the interest of companies or government.
3. Tax payment: this indicator evaluates the source of taxes paid, number of payments, time of payments and total payable taxes based on the percentage of profits gained from economic activities.
4. Cross border trade: this indicator measures the number of stages, number of signatures, number of documents and number of days for export (from packing in the factory to leaving the port), tariff rates, wharf age, number of stages, number of documents, and days for imports (from berth at the port to cargo delivery to warehouse of factory) and rate of tariffs and wharf age.

3- Theoretical foundations

Consideration of DB and its relation to economic development has increased since early 1980s by studies of Hernando de Soto's book "The Mystery of Capital" and "The other way". Along with a team of over 100 experts in law, management and economics, he concluded that difficult barriers and red tapes in different countries cause the private sectors to take towards the informal economy and get outside of the law which has less productivity than the formal economy, and thus bringing economic development of countries to a dilemma. According to the studies in the field of exporting, it could be understood that form and function of the explanatory variables are not the same, and that form of the export function is dependent on different factors, and it will vary depending on the country in which the study was conducted and on the fact that which groups of goods are to be exported and whether export supply or demand is considered. In this section, we will present an overview on some studies on export functions and its determinant factors, and business environment.

3-1- Iranian studies

In a study on effects of export in Iran's economic development through Granger test and Garshan Feder Messi, Shoraka brothers (1998) concluded that there is one-way relationship from export growth to economic growth. In another study, Tayebi and Mesrinejad (2002) considered non-oil exports as a function of real gross domestic product, relative export price, exchange rate and they took real amount of money under consideration. Results show that non-oil exports has negative correlation with inflation rate and monetary but it has positive correlation with real gross

domestic product and effective exchange rate. Tayebi and Abaslu (2009) examined bank credits and other economic determinants of business environment in their study. They also investigated the impact of bank facilities on other major economic sectors during 1971-2001. Results demonstrate the fact that the analysis of different effects of bank credit's growth on development of business environment provides the required situation for the improvement of various sections. In an article on important financing constraints and the role of financial resources on DB, Ayyagari et al. provided evidence about the relative importance of different attributes in DB by surveying data at an enterprise level. In this paper, directed acyclic graph (DAG) and regression were used to conclude that the only obstacle to the budget (financial barriers), crime and political instability directly affected the enterprises' growth rate. Also, they found that to promote the business growth, crime rates had to be controlled, political stability had to be maintained, and reforms had to be implemented to get rid of financial constraints.

4- Experimental results

4-1- Description of statistical data

In computer science and mathematics, directed acyclic graph (DAG) is a directed graph which has no orientation (there is no directed path which has the same at the beginning and end). Because of the characteristics of this type of graph, it can be used as a cause an effect system.

It is essential to use the integrated data method because in this research the relationship between business and export in Islamic countries of D8 is studied.

Combined data are a set of data which are evaluated by sectional data (N) over a period of time (T). In this case, the number of observations is N*T. Thus in this study, cross-sectional data involves 8 countries (Iran, Indonesia, Bangladesh, Pakistan, Turkey, Malaysia, Egypt and Nigeria) and the study period was from 2006 to 2012.

4-2- Model selection tests

4-2-1- F test:

To assess the validity of using combined data model in F Lymer test, restricted result sum of square (RRSS) resulted from estimation of the combined model and unbound residual sum of square F-statistic can be written as follows:

$$F=\frac{RRSS-\frac{URSS}{T}-1}{URSS/(NT-n-k)} \qquad (1)$$

where N is the number of sections and K is the number of explanatory variable.

4-2-2- Hausman Test

If the result of F test is estimation of the model by using panel data, Hausman test can be used to determine whether a fixed or random effects model is used. The test statistics is as follows:

$$H=(\beta^{\wedge}_{FEM}-\beta^{\wedge}_{REM})(\mathrm{Var}(\beta^{\wedge}_{FEM})-\mathrm{Var}(\beta^{\wedge}_{REM}))^{-1}(\beta^{\wedge}_{FEM}-\beta^{\wedge}_{REM})(2)$$

where $\beta^{\wedge}_{FEM}$ is the slope coefficients in the fixed effect models and $\beta^{\wedge}_{REM}$ is the slope coefficients in random effects model and Var is Variance. This statistic has a chi-square distribution (Aflatuni, Nikbakht, 2010).

4-3- specifying model and model estimation

The purpose of this study is to analyze the relationship between business and export. Also, such indicators as protecting investors cross-borders trade, getting bank credit, and tax were considered dependent variables in this model. The impact of exports on any of these variables is examined in the following equation.

$$EX_{it}==\alpha_0+\alpha_1 I_{it}+ \alpha_2 trade_{it}+ \alpha_3 credit_{it}+ \alpha_4 St_{it}+u_{it} \qquad (3)$$

where *I* is protecting investor index, *trade* is cross-border index, and *credit* is the getting credit index, *St* is the index of starting a business and *EX* is exports.

In the above equations, *i* denotes countries and *t* represents time. The above regression equation is estimated based on panel data. For this purpose, the F and Hausman tests were conducted. Final estimations based on the results of these tests are summarized in Table 1.

Table (1): results of combined data estimation:

Variable	Coefficient	Std.Error	t-Statistic	Prob
C	49915056	14175609	3.52	0.0001
Trade	-1.10	21926	-5.007	0.000
Credit	-3.25	31644	-10.28	0.000
ST	3.62	44395	8.14	0.000
I	2.46	22774	10.79	0.000
Hausman test		Prob[0.21]		
F-test		Prob[0.000]		
R-squared	0.56	Adjusted R-squared 0.51		

Source: research computing software
As it can be seen in the Table 1, all the indicators examined in this study (starting a business, investment, getting credit, and cross-border trade) had a significant impact on export. Adjustment coefficient is 0.51, i.e. 51% of changes in the export of countries, is explained by the variable models.

Conclusion

Since studies indicated that there is a direct relationship between economic growth of countries and export, we can assume that it contributes to the growing trend of global trade by taking advantage of the active business strategies. Actually, studying and monitoring the export of countries can have significant effects on growth and economic development of the countries. In this regard, this study tried to assess and evaluate the relationship between business and export, by considering the relationship of such indicators as cross-border trade, starting a business, getting credit, and protecting investors to export in 2006-2012 among D8 countries. Results indicated that all the indicators of business environment under study had a significant effect on exports of these countries.

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