

The Evaluation between Global transactions, Electronic Commerce and Economic Growth

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ABSTRACT

Globalization of markets, global economic integration, intense competition, unreliability, instability in global trade environment have created new requirements for countries that are interested in survival and competitive environments are complex and unstable world economy. This article examines the importance and impact of globalization and consequences of modern economy with emphasis on the role of electronic commerce on economic growth in developing countries. From an econometric panel data model and the statistics used in the period 1990 to 2005. The survey results indicate that for developing countries with above-average income, variable coefficient of electronic commerce is positive and significant. The global variable coefficient is statistically significant and for group countries with income below average both variable and e-commerce globalization indicators show a positive relationship with economic growth. Because in countries with above-average income infrastructure gap, government role and how to use IT tools and communication in comparison with developed countries. On the other hand, in poor countries growth rate and empty capacity in ICT are as factors in order to increase interaction of economic growth, globalization and E-commerce.

KEY WORDS: globalization, economic development, electronic commerce.

1. INTRODUCTION

At the beginning of the third millennium many of the affairs of human life has undergone fundamental changes (Torabi, 1998). Volume of use of information technology is rapidly expanding this is the problem with most organizations. Information technology as the centerpiece of the information society was Concerned by most organizations, such a way that has gained The special place in development program. In this order electronic readiness in the effective use of technology is beginning of the optimal plan for achieving the goals of organizations. (Movahedi, 2008). Globalization in its new form encouraged Individuals, businesses and country to participate and compete more and it is seen that community development of different groups are linked together so simple and without intermediaries, as if the world is integrated. Development caused by communications technology and by virtue of its e-commerce, as an integral part of the globalization process, has such Speed that many countries have succeeded reduce their distance with many developed countries With the development of national infrastructure, with less time and expense And find its position in the global economy this route is a new concept as a modern economy. According to forecasts made volume of electronic commerce worldwide up to end of 2009 will reach to more than 30 trillion dollars. (Torabi, 1998). In recent years developing countries keep pace with developed countries with the gradual abandonment of traditional paper-based business and the physical exchange of documents, practices have turned to electronic commerce. Paperless trading technique known as electronic commerce that have followed by saving time, costs and manpower and has increased productivity indicators (Bashiri, 2008) This study examined standards and implications of globalization with emphasis on requirements of e-commerce. The main questions are: Is e-commerce essential to economic growth for developing countries and in this case how can globalization makes the relationship strong and justifiable. Main hypothesis of this research has emphasized that although e-commerce is considered as an important factor in economic development, lack of infrastructure and appropriate platform for business communication and globalization is necessary to achieve these goals. To access this important, using the results of investigations in this field and applying econometric models, Limitations, Infrastructure and challenges of globalization, for third world countries are reviewed and the role of electronic commerce that passes through globalization route, are determined.

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2. Research Background

Fundamental question in this review is learning how e-commerce performance and use of ICT have a positive impact on national economy and countries that have used this facility, have been able to achieve higher economic growth. Claessens et al (2002) In their review showed that E-commerce may be one of the chances of poor countries for mutations in the financial system. Also in countries where there are E-commerce and electronic financial communication in them have been able to achieve more and fast sustainable growth. (Claessens et al, 2002).

Lund and McGuire, Lund (2005) in an article entitled "Institutions and Development: Electronic commerce and economic growth" Stating that trading in electronic commerce for individuals, firms and countries that are in the developed world, has increased profits. Their findings showed that e-commerce is key force in the integration of less developed countries in the multilateral trading system (Lund and McGuire, 2005). Pachala Vjavala (2007) found that improving economic conditions in America in the 1990s, about 3/2 percent improvement in labor productivity was resulting from the use of information technology and communication. Of course this evidence was weaker in other countries. In this study it was found in other countries that are member of group 7, share of information and communication technology in production has also been half of share of ICT in producing in America. They also have provided new evidence to estimate the amount of information technology and communication relative to economic growth in Finland. This study showed that the contribution of information technology and communication relative to output growth in the markets of Finland 0.3 in the early 1990s to 0.7% in late 1990 has increased. (Pohjola and Javala, 2007). Komijany and Mahmoudzadeh (1998) in an article entitled "The effects of information technology and communication infrastructure operation on economic growth (Case study of Iran and developing countries), By using Arbikam method studied, effects of data compression (Indicator under construction) and application of information on user economic growth In the steady state and using the fusion techniques for the 28 countries in the period 1995-2004. This result indicates that network Index has a positive and significant impact on economic growth. Physical capital had the most influence on growth And human capital has a positive effect in some equations and in some cases has a negative effect on growth. Inflation has significant negative impact on economic growth although much of this effect is low. It seems the only element of information technology and e-commerce software that can't be as processor factor of productivity growth followed by economic growth and to make this process the chain is also required that is Globalization. In other words, when using ICT can be placed in the path of economic growth and commerce that appropriate infrastructure be provided for global markets. This issue takes on more serious dimensions when we consider the speed of globalization and the extent of its influence in these conditions countries will be successful that earlier than others discover the future. (Torabi, 2008).

2. LITERATURE

No doubt the most important and most striking distinction aspect of the present and past world is Globalization. Globalization is a phenomenon that occurred in the present era cause changes in many different fields of economic, social, cultural and political because of structure and extensive nature and remarkable speed of globalization humans are facing with new style of business. In general definition the concept of globalization is the expansion and acquisition. Means that Globalization has provided reference or mother collection for relevant concepts and ideas in economic, social and political area. (Torabi, 1998).

3.1 Globalization: Definitions and criteria

The International Monetary Fund, defines Globalization as rising economic convergence of world countries, through various cross-border exchanges of goods and services, international free capital flows and more widespread and rapid transfer of technology. Robertson (1992) knows Globalization as the specific orientation of global issues and adaptation of globalization community with opinions of the world (Robertson, 1992). From Horseman and Marshall (1994) opinion Globalization has close relationship with the emergence of international financial capitalism and technological developments and therefore believe that the Globalization, emphasizes on decline of state power and market domination (Horseman and Marshall, 1994). Castells know Technological developments as the most important development in the era of globalization and introduces the theory of network society that is the set of interconnected networks based on data transfer as principle of globalization (Castels, 1998). Amartya Sen globalization as interpreted: Intensification the process that includes trade, migration and dissemination of knowledge And will lead the world to form in the next millennium. (Amartya Sen, 2001). One of indicators that is ranked globalization, "with emphasis on the standards of the West" is KOF index. This index is a measure of globalization of Economy, Political variables and social variables. Social globalization index with 38% weight has the highest weight. This index includes three indicators of globalization that encompasses Information about global communication, Information flow and Cultural indicators. Index of economic globalization with 36 percent weight is in the next place. This indicator are included two

different field such as capital flows and trade and restrictions area such as all kinds of tariffs. In third place with 29% contribution political globalization index is located. Table 1 shows the existing criteria in this index and the share of each one.

Table 1. Indicators and weight of each one in globalization index KOF percent

Economic Globalization	36
Actual flow	5
Foreign direct investment flow, percent KDP	16
Foreign direct investment, equity percent KDP	21
Investment portfolio percentage of KDP	23
Percentage of income paid to foreign governments KDP	19
Limitations	22
Hidden import barriers	50
The average tariff rate	24
Taxes on international trade (% of current revenue)	28
Capital account restrictions	28
Social globalization	20
For personal communications	38
Telephone number abroad	29
Transfers of KDP	40
International tourism	8
Foreign population% of total population	27
International mail per capita	25
Statistics relating to information flow	27
Internet hosts per 1,000 people	35
Internet users per 1,000 people	20
Cable TV for 1000	24
Journal of Commerce KDP	20
Radios per 1,000 people	14
Statistics and cultural proximity	23
Number of McDonald's restaurants per capital	37
Number of Aykia dealers for each capital	40
Percent of the book trade	40
Political Globalization	20
Embassy of the country.	26
Membership in international organizations	35
Participation in the UN Security Council mission	36

3.2 Electronic Commerce: Definitions and indicators

The use of ICT in business areas such as other applications of information technology and communication is increased efficiency and reduced costs. Sellers faced with lower costs and higher profits and consumers also benefited from more information, experienced better choices and cheaper buying (Morad Hasel, Niloofar, 2008). Electronic commerce as a consequence of the progress of information technology, Includes all business activities that are conducted by using computer applications. These activities may include: electronic direct sales, customer relationship management, supply chain management and use of the Internet as a tool for conducting business transactions. (Jafar-Nejad, Ahmad, 2009) E-commerce is the exchange of trade without the use of paper in which Innovations such as electronic data exchange, email and other network-based technologies can be used. Of the OECD perspective electronic commerce is buying and selling goods and services between companies, individuals, governments and other public and private sectors so that this sale can be conducted through computer networks. Chafy defined concept of e-business from four perspectives:

1) Communication view: means transfer of information, goods, services or payments made through electronic Tools

2) Business process view: means IT application work for yourself exchanges and trade flows

Studies show that use of e-commerce, causes 21 to 70 percent savings in cost of various activities. Distribution and selling reducing costs, elimination of intermediaries, direct communication between buyer and seller, search priorities and negotiations without mediators are including benefits of electronic commerce that can be noted. Advanced countries, have created the necessary capacities and infrastructure in this field since years ago and in continuous and logical and comprehensive movement could use of favorable way of communication technology in trading arena and benefit from its advantages. (Sajjadi Panah, 2009).

Various indicators can be considered on a survey of electronic commerce. One of these indicators that are abundant in the international application is E-commerce index that is extracting and ranking information about e-business for 40 countries. According to this index the amount of electronic transactions in 2008 is more than 1781 million Euros (equivalent to 2753 million dollars). Information about these indicators from 1994 to 2005 is available. Growth rate between 1992 and 2000, was 107 percent, 2000 to 2005, 57% and is predicted to reach 34 percent by 2013.

These data indicate that growth of internet buyers in Europe Union is reached from 12 percent to 26 percent of the population between 2003 to 2006. One out of three of internet users purchases in France, are made outside the country. (Mainly from England) While in Luxembourg, 67 percent of people have purchased goods from the other countries and the average per person 1156 euro in year have paid for this purpose. In Denmark 91 percent of all indirect sales is planned through the Internet and 54 percent of Danes make online purchases from abroad. Canadians currently purchase 57% of their Internet retail purchases from the American stores easily. This trend confirms the speed of e-commerce tools on one hand and opening the borders in trade and the other hand, shows distance between north and south countries in this issue.

3. ANALYSIS OF INDICATORS

For investigate how this chain globalization, electronic commerce and economic growth is tied together and these three factors are in a increasing cycle, are used of an econometric panel data model and statistics in the period 1990 to 2005. Despite that emphasis on electronic commerce but because this research will consider areas of developing countries, time series data and E-commerce is not actually documented this is a new category especially for developing countries which virtually from 2001 onwards is discussed in limited dimension (For this group of countries). Therefore possibility of using time-series statistics is not provided in the long run and for this reason emphasis is more on instruments related to electronic commerce. About globalization index should also be regarded that nature of indicators and various variables can be made for the globalization. But because the in the model homogeneous index with appropriate time-series is needed to explain Globalization therefore, considering extensive KOF index and regarding appropriate coverage of time series this index is used. Also because the discussion of electronic commerce for various countries especially in developing countries is a new concept which virtually from 2001 onwards in limited dimension (for this group of countries) have been discussed, so it caused that there is no possibility of using long-term time-series statistics and alternative indicators was intended for it. By using classified Information by the World Bank we consider two groups of developing countries with regard to high and low per capita income level. This categorization by considering the existence of desired information is classified countries in two groups of middle-income countries includes 26 countries and countries with lower -average income levels are including 31 countries. Before getting into the main model some of the important variables in terms of average and correlations are introduced. Table below shows the Number of personal computers use of telephone, mobile and phone use and Internet users for every 1,000 people in the period 1990 to 2000 and from 2000 to 2005.

Table 2. Average and variable growth rate of communication for two groups of countries

31 countries with income levels lower -average income levels					
Users per 1,000 people					
Period	Internet	Mobile Phone	Phone	PC	Average index of globalization
1990-2000	6.4	5.10	2.63	7.12	58.42 ÷
2001-2005	1.60	3.198	0.110	1.36	7.50
Two-period growth rate	.91203	7.1781	1.74	0.184	7.19
26 countries with above-average income levels					
Period	Internet	Mobile Phone	Phone	PC	Average index of globalization
1990-2000	6. [21]	6.50th	4.174	6.40th	81.52
2001-2005	0.136	4.342	4.244	3.111	21.66
Two-period growth rate	0.529	9.575	7.28.	2.174	4.25.
27 developed countries					
Period	Internet	Mobile Phone	Phone	PC	Average index of globalization
1990-2000	92	7.179	180	4.201	.575
2001-2005	409	9.747	750	5.431	.979
Two-period growth rate	6.344	2.316	317	114	6

* Globalization Index is ranking from zero to 100.

The results of statistics in above table shows the distance of communication devices from the perspective of indicators is still a lot between countries with low income and above-average income. Interesting that the gap for both

groups is very high compared to developed countries. In other words, although in recent years, globalization and communication tools has grown rapidly, It is noted that developing countries have not been able to have Growth such that reduce their gap with developed countries. The following table shows the correlation between variables, noted that in each case t here are more than 80 percent correlation between variables that expresses the relationship between globalization and communication tools.

Table 3. The correlation between global variables and communication

A. group of countries with income higher than average

	Computer	Internet	Mobile Phone	Phone	Globalization
Globalization	0.88	0.80	79.0	0.98	1
Phone	0.832	0.735	0.726	1	0.98
Mobile Phone	0.977	0.998	1	0.73	0.79
Internet	0.981	1	0.998	0.73	0.80
Computer	1	0.98	0.98	0.83	0.88

B. Group of countries with income lower than average

	Computer	Internet	Mobile Phone	Phone	Globalization
Globalization	0.595	0.765	0.78	0.98	1
Phone	0.991	0.828	0.84	1	0.979
Mobile Phone	0.901	0.996	1	0.840	0.779
Internet	0.892	0.1	0.996	0.828	0.765
Computer	1	0.892	0.901	0.991	0.595

5. Average Stipulated

The second step is to examine the relationship between economic growth and globalization and e-commerce model is used for two groups of countries. To explain the model of two models, Shamim (2003) and Javala and Pajala (2007) has been used . In fact a combination of these two models are considered:

$$G = a + Y1ij \text{ fd} + Y2ij \text{ pop} + Y3ij \text{ ICYG} + Y4ij \text{ GOVT} + Y5ij \text{ TRD} + Y6ij \text{ INF} + Y7ij \text{ INT} + Y1ij$$

FD as an indicator of investment in the country shows the ratio of capital accumulation to gross domestic product, POP Population growth rate in the country that is as the symbol of workforce. ICT is share of e-commerce of GDP (Data for this variable is only available from 2000 onwards). GOVT government consumption spending to gross domestic product ratio, as a symbol for government fiscal policy, INF average inflation rate ,TRD measuring the level of openness ratio of country's total trade to GDP, G the growth of real per capita income, and the INT is symbol for the tools and facilities, communications and electronic commerce which includes a the number of mobile phone subscribers per 1,000 people , the number of user PCs per 1,000 people and users of the telephone.

6. The estimated model

For fitting model, the independent variables in each group have been entered in the model. First communication model variables that directly enter the model are estimated . This model has been reported in the table below. Hausman test of fixed effects model is used to ensure the election. indeed, this is theory of test of uncorrelated individual effects and explanatory variables that according to it estimates of generalized least squares (under hypothesis H0) is consistent and under the hypothesis H1 is inconsistent. Considering the values of probability of the null hypothesis in the 10 percent test level suggests that method of fixed effects is preferred to random effects method and as a more appropriate and more efficient Method is selected . In the this model, 31 countries with lower income level than average and 26 countries with above-average income level have been fitted separately. Here are four variables to measure the development of electronic commerce means percentage of telephone, internet, personal computers and mobile phones has been considered . Mentioned variables are used as indicators of globalization and therefore in the first model are imported individually. As can be seen despite the significant and correct sign of the main variables model of economic growth (Population, inflation, investment, government size and openness of the economy) which expresses the stability of the model, Variables of group have not suitable significant relationships and actually do not show their positive effects on economic growth . In other words, for low-income groups use the phone, Internet and computers, have not Acceptable relationship with economic growth, increasing mobile owners only with economic growth shows a significant positive relationship. In the case of above-average income countries group the relationship of these variables except the phone with economic growth are not significant. This conclusion is untenable because it states that partial indicators are synonymous with electronic commerce as a single that have no significant relationship with macroeconomic indicators "economic growth" and it is expected.

Table 4. Relation between economic growth, globalization and electronic commerce

Independent variables	Countries with lower income levels than average	Countries with above income levels than average
Population growth	- 0.664 967 (-2.936 909)	-0. 481 048 (-0. 986 367)
Domestic investment to GDP ratio	0. 205 913 (8.533 601)	0.241 569 (3.434 251)
Inflation	-0. 003 500 (-5.866 809)	-0. 012 905 (-4.966 264)
Size of Government	(-0. 073 564) (-1.418 489)	-0. 273 013 (-1.963 153)
Degree of economic openness	-0. 013 523 (-2. 088 723)	0. 103 743 (3.898 470)
The use of telephones per 1,000 people	-0. 001 171 (0.7816)	4.627 564 (2.331 503)
The number of Internet users per 1,000 people	-0. 004 041 (-0. 454 769)	-0. 303 556 (-0. 745 648)
Number of users of personal subsidies	-0. 002 288 (-0. 148 675)	0.891 369 (0.784 170)
The number of mobile phone owners per 1,000 people	0.006 471 (1.883 634)	0.169 828 (0.397 149)
Views	303 0.23	263 0.44

This result caused the Globalization variable as macro indicator directly enter in the model . Hence, the second model is used. The results of This model have been reported in the table below. In this model E-commerce variables and globalization index has added to the other independent variables. Due to lack of information, the model is estimated for 2000 and 2005, but according to the number of countries and purpose of this study that is modern economy considered period is justifiable . The results of this model show that the main variables of economic growth model are significant and have the appropriate sign. In other words, for low-income countries the main indicators of economic growth model (population, inflation, etc.) with the logarithm of Globalization have a significant relationship with economic growth. . In this group of countries, only e-commerce to GDP ratio is not meaningful . This result perhaps is because that poor countries have rapid growth Globalization indicators, smallest increase in global communication and the rise in Globalization indicators means the greater presence in Global level compared with previous but according to the trade structure That focuses on crafts and having single product, E-commerce will not be a significant and effective variable for economic growth in tangible form and because of this significant relationship between these indicators and economic growth is not observed. Be noted That for countries with above-average income electronic commerce Variable coefficient is positive and fairly significant but Globalization variable coefficient is meaningless. In the counted countries it is expected that most of the infrastructure is provided for presence in the international arena. But practically, Globalization indicators and its difference with average of developed countries show that such circumstances does not exist and the mere existence of new communication tools are not meant to enter the economic arena . Therefore, definitive and effective relationship between Globalization and economic growth can't be found. This issue indeed is exactly the point of challenging of concept of globalization and developing countries.

7. Conclusions

The survey results showed that developing countries with higher income levels have more communication tools than poor countries , there is still a considerable gap between them and developed countries. This is a challenge that undermines the research hypothesis that states there is a positive relationship between globalization, economic growth and E-commerce .In other words, the results of this research and similar studies showed that Use of communication tools can not only ensure the participation of developing countries in the world of electronic commerce and economic growth this is achieved t with considering very low share of these countries in E-commerce that conditions for participation in global markets has been provided that is strongly influenced by political infrastructure and the role of governments and not the mere existence of communication and information technology. The results of the model showed that poorer developing countries due to existence of empty capacity and very high distance with standards of developed countries, small changes in the expression above could represent a significant growth in these countries and increase speed of their economic growth in the global interactions this

issue has shown in significance of globalization variable and economic growth. But practically significant positive relationship between the index of E-commerce and economic growth for such countries is not seen that indicates the lack of communication tools in e-commerce business.

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