Regional Economic Integration and its Effects on Economic Growth and Economic Welfare

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Abstract: World is transferring from the phase of nations struggle in business relations to a new phase of multiple transactions and public cooperation in economic activities. In this article, the effects of regional integration and extrovert policies on growth and welfare of Iran and northern neighboring countries were analyzed and studied in an economic framework during 1995-2009. Results reveal that increased trade exchanges among the studied countries and creation of regional integrations have had long-term economic integration effects; and as time passes, various indexes especially economic growth indexes have had integration with each other in these countries. Economic liberalization has also a positive effect on gross domestic production of selected countries. Also, not only does increased domestic investment in these countries increase economic growth but also it has a positive and statistical effect on economic welfare and increases it. In contrast, gross domestic production in these countries hasnot increased simultaneously with foreign investment and thus the relationship between foreign investment and grosses domestic production is negative with economic growth. Moreover, the more trade plays a role in gross domestic production, the less society welfare will be. At the end, some suggestions have been presented to improve the conditions of the studied countries.

Key words: Economic integration · GDP growth · GDP per capita · Northern neighboring countries

INTRODUCTION

The main element of economic globalization is to release business which leads to national economies competitiveness and then to movement toward integration into global markets. Societies that have been able to adapt their national economies with new competitive conditions and have taken a role in this global game have benefited from economy globalization phenomenon. Some of passive actions these country have done to face globalization include entering economic-regional integration. Indeed, adopting business arrangements and economic-regional integration can be one of necessary actions in globalization and can protect economy of most developing countries against global competition [1]. Relying on relative benefits and various economic potentials and obtaining different resources from different economic-regional integrations, Islamic Republic of Iran can also increase its capability to move toward globalization trend.

Therefore, employing business arrangements and economic-regional integration can be an essential action toward globalization and can help most developing countries enter the global field. Also, competitive benefit fosters in various markets, results in increased investment in the region, improves economic welfareprovides economic growth and development through increased mutual capital volume.

Moving toward regionalization helps economics of these countries prepare for globalization and thus improved investment and growth in the region is obtained. It can also help countries overcome world's financial crises including recent financial crisis which started from America's housing market and affected all world's financial markets; moreover, it enables the members to make unique policies to avoid such threats [2].

Generally, integration can be viewed in two economic and socio-political aspects. Considering economic view, integration theory is considered a series of policies that

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remove or minimize business constraints, obstacles and prejudices available in international economies relations. The aim of this kind of integration is to develop global production and subsequently to specialize in domestic production, to obtain exchange revenues, to decrease production expenses in regional level, to increase business, to save rare domestic resources, to distribute optimum incomes, to increase efficiency in production and business, to increase foreign investments and to make use of comparative advantages [3].

There are a lot of research about integration and globalization; some of them are as follow:

To study the effect of regional integration on attracting foreign capitals, Najarzadeh and Shaghaghi (2006), used generalized pattern of attraction for 8 members of MENA during 1995-2000. Results showed that regional integration among Islamic countries of MENA would increase the volume of mutual foreign direct investments among the mentioned countries. This can be considered a cause for more cooperation among region countries [1].

To study globalization and regional business integrations in Islamic countries of Middle East and north Africa, Elahi and Nahavandian (2005) considered demand isotropy (like Linder's theory and unlike classical business theories e.g. HeksherUhlin theory) the main factor in forming and developing business. Consequently, integration and disintegration of per-capita income plays the most important role in increasing or decreasing business [4].

Stack (2011) Examined the trade prospects for the new European Union (EU) member states and the EU associated partner countries is an important issue in the context of European eastward enlargement and greater economic integration with its immediate neighbors. An out-of-sample approach to project trade volumes for twenty countries of interest is adopted using a gravity equation for a panel data set of bilateral export flows from twelve EU countries to twenty OECD trading partners over the 1992-2003 periods. The potential trade volumes were calculated from a gravity model of new trade theory (NTT) determinants. The selected twenty countries' prospects for further trade integration vis-à-vis the EU can be gauged by expressing the trade volume projections as a ratio of actual trade volumes for each pair of countries. The projected trade ratios for the ten new member states are found to be multiples of actual 2003 levels, indicating that trade expansion looks set to

continue. Near unity values, however, are more frequent among the Mediterranean countries, indicating fewer opportunities for further trade integration with the EU [5].

Sousa (2011) studied Market Access in Global and Regional Trade and develops a new method to measure dif?culties in market access over a largesample of countries (both developing and developed), industries and years. It also offers a renewal of the assessment of the impact of regional trading arrangements. They use a micro-founded gravity-type model of trade patterns to estimate in particular the impact of national borders on revealed access to Northern markets by Southern producers. Also they found that dif?culties of market access for Southern producers have experienced a noticeable fall during the last thirty years [6].

Fidrmuc (2011) analyzed globalization and the business cycles in China and selected OECD countries and used dynamic correlation analysis. They show that dynamic correlations of business cycles of OECD countries and China are negative at the business cycle frequencies and positive for the short-run developments. Furthermore, trade and financial flows of OECD countries and China lower the degree of business cycle synchronization within the OECD area especially at the business cycle frequencies. Thus, different degree of participation in globalization can explain the differences between business cycles of the OECD countries [7].

Raymond Mac (2006) studied the relationship between business-regional agreement (e.g., AFTA) and direct foreign investment. He showed that business integration encourage and improve direct foreign investment [8].

Willem (2011) in one paper with the title "Regional Integration, Growth and Convergence"examine empirically whether and how regional integration leads to convergence and growth amongst developing countries. Using standard growth models for nearly 100 developing countries over 1970-2004. He cannot establish robust growth effects of regional integration as such at the aggregated level of analysis even after using alternative measures of regional integration. However, because he finds that trade and FDI promote growth and because regional integration tends to increase trade and FDI, regional integration still has a positive impact on growth in its members through the effects of increased trade and investment on growth. Further, country-specific growth

diagnostics do suggest that regional integration can be a binding constraint to growth as "deep" regional approaches can help to address crucial rail, road, air and energy links amongst countries (e.g. in the East African Community). His findings also suggest that initially high levels of regional income disparities will lead to greater decreases in disparities.

Findings of this article show that business behaviors of members of this statistical universe with both members of Islamic Conference Organization and other countries before and after globalization conform to Linder's Theory [9].

In this article we will survey the effect of economic integration between Iran and its northern neighboring countries on economic growth and welfare during 1995-2009.

Hypotheses proposed in this research include: Economic integration of northern neighboring countries increases economic growth of these countries; Economic integration of northern countries increases direct foreign investment in these countries.

According to the obtained results, the mentioned hypotheses will then be examined as follow andmaterial, methods, results and discussions will be explained too.

MATERIALS AND METHODS

In this study to evaluate the effect of integration on the long – term economical growth of Iran and northern countries (Armenia, Azerbaijan, Turkmenistan, Russia and Iran), the integration of time – series and cross – sectional statistics during the years of 1995 and 2009has been used. The used statistics are from different sources especially the statistical tables of WB (World Bank) [10]. To evaluate the gravity model, the software Eviews 7 was used.

In this dissertation, after reviewing theories and literature, to determine the relationship between regional integration and long-term basic economic growth,statistics – time series based models are used. In this model, the dependent variable is GDP growth which represents economic growth in the countries; Azerbayejani, 2002, Willem, 2011, Bamou, 2006 and Yin, 2003 also have used this variable for indicating economic growth [2, 9, 11, 12]. explanatory variables indexes are logarithm of GDP at the beginning of the period,GDI to GDP, DEBT to GDP, FDI/GDP and finally TRADE/GDP which represents trade liberalization degree. These explanatory variables in this model reflect the role of integration, extrovert policies and trade liberalization degree.

$$GROW_{it} = B_0 + B_1 LOG\left(GDP_{it}\right) + B_2\left(\frac{GDI_{it}}{GDP_{it}}\right) +$$

$$B_3\left(\frac{DEBT_{it}}{GDP_{it}}\right) + B_4\left(\frac{FDI_{it}}{GDP_{it}}\right) + B_5\left(\frac{TRADE_{it}}{GDP_{it}}\right) + \varepsilon_{it}$$

In model (1):

GROW$_{it}$: Economic growth rate of country "i" in time t

Log(GDP$_{it}$): Logarithm of Gross domestic production of every country at the beginning of period

GDI$_{it}$/ GDP$_{it}$: Ratio of gross domestic investment to GDP of country "i" in time t

DEBT$_{it}$/GDP$_{it}$: Ratio of total foreign debt to GDP of country "i" in time t

FDI$_{it}$/GDP$_{it}$: Ratio of direct foreign investment to GDP of country "i" in time t

TRADE$_{it}$/GDP$_{it}$: Ratio of trade to GDP of country "i" in time t (business openness level)

ε_{it}: The residual or waste

In the second scenario, the dependent variable is countries' GDP per capita and explanatory variables are indexes like logarithm of GDP at the beginning of the period, GDI to GDP, DEBT to GDP, TRADE/GDP which represents trade liberalization degree and finally (TOT) (obtained from price index of exported goods divided by price index of imported goods).

The final form of this model to supply the effect of factors affecting economic growth is as follows:

$$GDP_{it} = c_0 + c_1 LOG\left(GDP_{it}\right) + c_2\left(\frac{GDI_{it}}{GDP_{it}}\right) +$$

$$c_3\left(\frac{DEBT_{it}}{GDP_{it}}\right) + c_4\left(\frac{TRADE_{it}}{GDP_{it}}\right) + c_5\left(TOT_{it}\right) + \varepsilon_{it} \quad (2)$$

RESULTS AND DISCUSSION

Two scenarios were proposed in this research. In the first scenario, the effect of integration role, extrovert policies and trade liberalization level on economic growth

Table 1: Test cross-section fixed effects

Statistic effect test	First model	Second model
Cross-section F	-0.72	183/59
Prob (%)	1	0

Table 2: unit root test results

Null: unit root (assumes common unit root process)		
	First model	Second model
	-------------	------------------
Method	Unit	Unit
Levin, Lin& Chu t Test	-4.81***	-5.53***
Breitung t-stat	4.45	4.54
Null: unit root (assumes individual unit root process)		
Im, Pesaran& Shin W-stat test	-3.74	-3.12***
ADF- Fisher Chi-Square test	95.90***	90.15***
PP- Fisher Chi-Square test	64.82*	44.23

*&***Shows meaningfulness in level one and 10

Table 3: Effect of integration on long-term economic growth of Iran and northern countries (Armenia, Azerbaijan, Turkmenistan, Russia), scenario 1

Pattern variables	Factor evaluation	Standard deviation	T standard
$LOG(GDP_{it})$	-0.38	0.13	-2.83***
$\dfrac{GDI_{it}}{GDP_{it}}$	0.30	0.10	2.98***
$\dfrac{DEBT_{it}}{GDP_{it}}$	-0.20	0.04	-4.47***
$\dfrac{TRADE_{it}}{GDP_{it}}$	0.13	0.02	6.47***
$\dfrac{FDI_{it}}{GDP_{it}}$	-0.36	0.12	-3.11***
AR(1)	0.56	0.08	7.10***

R-SQUARE =81%R-SQUARE ADJUSTED = 80%DURBIN-WATSON = 1.9

***Shows meaningfulness in level 10

Table 4: Effect of integration on economic welfare of Iran and northern countries, scenario 2

Pattern variables	Factor evaluation	Standard deviation	T standard
C0	-51193.74***	3919.68	-13.06
$LOG(GDP_{it})$	2289.206***	166.02	13.79
$\dfrac{GDI_{it}}{GDP_{it}}$	18.63***	3.45	5.40
$\dfrac{DEBT_{it}}{GDP_{it}}$	-6.43***	1.71	-3.76
TOT_{it}	-4.20***	0.87	-4.82
$\dfrac{TRADE_{it}}{GDP_{it}}$	-12.10***	2.02	-5.97
Fixed effects (cross)			
Armenia, destination latitude			4072.25
Azerbaijan, destination latitude			1604.50
Iran, destination latitude			-4538.77
Russia, destination latitude			-4682.17
Turkmenistan, destination latitude			3544.190

R-SQUARE=95% R-SQUARE ADJUSTED = 94% DURBIN-WATSON=1.99 ***Shows meaningfulness in level 10

of Iran and northern countries has been examined. In the second one, dependent variable is per capita gross production of countries; in this research, Eviews 7 Software was used to assess gravity model.

To differentiate between Pannel or Pool models, cross-section fixed effects test was used and results are shown in Table 1.

As observed here, this test is not statistical in the first model while it is very statistical in the second one. Thus, according to description of the above software, the first model is pool and the second one is panel.

Due to nature of variables used in this model and its nature in the form of time series, at first reliability of these variables were examined and then reliability test was used as sufficient condition for model reliability in Table 2. Results of this table show that the calculated amount of the pattern is more than the critical figure in all tests and thus the resultant pattern is a reliable pattern. In terms of Breitung Test, null hypothesis also reflects reliability of variables and since they are not statistical, null hypothesis is accepted. Therefore, this test also reflects lack of unit root in the model.

After the models are recognized and no unit root is found, the models were evaluated (Table 3 and 4). According to table 3, logarithm factor of gross domestic production is -0.38 at the beginning of the period and is meaningful in 1% level. Negative sign of this factor emphasized integration hypothesis; that is, increased trade exchanges among studied countries and long-term regional integration have some effects on economic integration and as time passes, various indexes especially economic growth index gets integrated with each other.

Ratio of gross domestic investment to GDP conforms to this theory and is completely meaningful; that is, domestic investment is of great importance in these countries and can cause economic growth. One unit increase in this ratio can increase economic growth up to 0.3.

It is obvious that ratio of total foreign debt to gross production is -0.20 and is meaningful in level 1%. That is, if foreign debts of studied countries increase by 1%, economic growth decreases by 20%.

Another variable used in this model is ratio of foreign trade to gross domestic production. This variable reflects trade liberalization level in economic literature. Its factor in table 3 has positive sign and is highly related to dependent variable (economic growth rate); that is, the higher trade liberalization level is in studied countries, the higher economic growth will be.

The ratio of foreign direct investment to GDP is also negative and is highly meaningful; that is, increased foreign direct investment (new foreign investments minus expenses and loss of capital and asset) has had negative effects on economic growth of these countries. It means that increased GDP in these countries hasn't increased simultaneously with foreign investment. However, increased GDP in this case has ascended simultaneously with trade. In some studies it has been showed that free trade or foreign investment always has not have a positive effect on economic growth. Gorg, 2002 showed that at first, free commercial, had negative effect on economic growth but after years it can help to increase economic growth. Bailliu (2000) found that capital flows can only enhance economic growth in countries with sufficiently-developed financial sector [13, 14].

Thus, this study shows that the role of domestic investment on economic growth of region countries is of great importance in comparison with foreign investment. Also, to remove self-correlation of this model, the variable AR was added to the model.

In the second scenario, in table (4) after testing lots of model with various variables, the best econometrics model has been chosen. The effects of extrovert policies and global and regional integration on per capita gross domestic production, which reflects economic welfare level in countries, have been studied. Studying the factor related to GDP logarithm in this case reflects that although regional integration cause economic growth integration in region countries, this issue hasn't had a significant effect on integration of economic welfare level in these countries. Another difference is that the ratio of trade to GDP has a negative meaningful relationship with economic welfare. That is, the lower the denominator (includes people's consumption, government expenses and investment) is, the higher the given fraction is and thus the lower economic welfare will be. Therefore, the higher trade role is in GDP, the lower society welfare will be. Trade transaction rate and debt level to per capita GDP has also a negative relationship with per capita GDP. Thus, it can be said that the higher the import unit value is in the denominator of trade transaction rate variable (consisted of ratio of export unit value index to import unit value index), the higher economic welfare will be. Also, increased debt levels to GDP decreases per capita GDP.

In this scenario, not only does increased domestic investment in these countries increase economic growth (table 4), but also it has positive meaningful effects on economic welfare.

CONCLUSION

Therefore, with regards to research method and the results obtained in tables 3 and 4, summary of results of this research, as explained in details, is as follows:

Establishing regional integrations will, in long term, have economic integration effects; over time, various indexes especially economic growth index will be integrated in these countries.

Domestic investment between Iran and its northern neighboring countries is of great importance. However, gross domestic production in these countries hasn't increased simultaneously with foreign investment and it has caused increased direct foreign investment to have a negative effect on economic growth of these countries. Thus, the role of domestic investment on economic growth of these countries is more important than that of foreign investment.

Also, the more trade freedom level is in the studied countries, the more the economic growth will be.

Regional integration causes economic growth integration in region countries but it doesn't have a significant effect on integration of economic welfare level in these countries.

Ratio of trade to gross domestic production has a negative and meaningful relationship with economic welfare. That is, as consumed, governmental and investment expenses decrease, economic welfare decreases too.

It was recognized that extrovert policies have positive meaningful effects on economic growth. Therefore, region countries must, to achieve stable economic growth and development, pay more attention to development of regional trade arrangements so as to strengthen investment trend and establishment of occupational opportunities. As an example, regarding the important position of Armenia as a member of Iran and northern countries and its location in North-South Corridor and the fact that its imports is higher than its exports, there is suitable field to recognize target markets in this country.

Economic liberalization has a positive effect on GDP growth of the selected countries. The more the economic openness increases, the more the international trade volume increases because they will enjoy effectiveness resulted from specialized production. In other words, the opener the economic is, the more mutual capital increases; and members must increase interaction among themselves by reducing limitation especially in the field of trade

policies. Also, countries, in globalization trend, must design more balanced policies so as to improve international competitiveness and markets openness. It's worth mentioning that removing competition barriers is now a main issue in the world and is considered as a tool to achieve desirable economic growth and stable development.

According to results of Table (4), decreased share of trade from GDP increases people's welfare. Thus, policies must try to increase their GDP which includes government expenses, consumption and investment in spite of increase in trade among Iran and northern countries.

Increased foreign investment has reduced economic growth and thus countries tend to absorb domestic investment. For, as observed before, the ratio of domestic investment to GDP has a positive and meaningful relationship with economic growth and welfare. Therefore, trade policies in these countries must attract domestic investment.

Also, increased foreign investment among these countries is said to, due to various reasons including rule limitation and various viewpoints, increase prices, establish monopoly and damage savings and thus capital in long term. These people believe that foreign investment decreases savings and investment in developing countries by creating a monopoly and preventing competition; because most part of profits resulted from foreign investment exits the country instead of re-investment. Moreover, income of these investments goes to some groups who have fewer saving. Foreign investments reduce investment rather than increasing it and thus increase prices through increased demand. Foreign investment opponents believe that entrance of foreign investors destroys competition market, creates monopoly and finally makes the society get accustomed to useless consumption. In terms of improvement of exchange status, its opponents believe that this condition is temporary and will act in a reverse direction in the long-term. Economic bipolarization is another reason why opponents don't like foreign investment. That is, these investments cause a limited number of people to work in modern economic sections and receive relatively good incomes and thus there will appear a big difference between their salary and that of other employees.

With regards to the relationship between trade transactionsRate with economic welfare in studied countries, increased import unit value increases economic welfare. Thus paying attention to this topic can improve per capita national gross production.

Regarding the second model (Armenia, destination altitude), Armenia has a better condition in terms of economic welfare in comparison with other countries around the Persian Gulf. Therefore, this country can be a suitable pattern for the studied countries to improve their socio-economic conditions.

Reviewing time and statistical series of economic indexes of Iran and Armenia reveals the fact that economic relations are in a good position; however, there are a lot of fields for investment and these investments should be direct so that they can double economic growth rate.

Concerning important position of Armenia and its location in north-south corridor, it is recommended that necessary fields must be provided for performing interactions among free trade and industrial zones of these two countries.

There are a lot of important elements in integration of these two countries. Thus, necessary fields must be provided to introduce investment opportunities by these two countries through holding scientific meetings.

Nowadays, Iran direct foreign investment act isn't as easy as that of Armenia. Thus, it is recommended that an opportunity must be provided for Armenian merchants to invest in free trade zones and industrial areas based on special governing rules. In this case, attractiveness of attracting foreign investment will increase significantly and will cause economic growth of both countries.

Since northern neighboring countries have different features (regarding selection of trade partners), it is suggested that, by emphasizing Iran-Armenia relations, other northern countries will be taken into consideration in trade transactions.

Since importing goods in Armenia is more than exporting goods, there is a suitable field for recognizing target markets in Armenia for Iranian merchants. Thus, Iran Trade Development Organization should try more in this field.

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