Export Dynamics in Emerging Market Economies

Araş. Gör. Asuman KOÇ YURTKUR
İstanbul Üniversitesi, İktisat Fakültesi, İktisat Bölümü, İSTANBUL
Araş. Gör. Arzu TAY BAYRAMOĞLU
İstanbul Üniversitesi, İktisat Fakültesi, İktisat Bölümü, İSTANBUL

ABSTRACT

This study analyses the determinants of export by using balanced panel data method for the 9 emerging market economies with quarterly data covering the period 1994:1-2009:1. In basic macroeconomic theory, export is dependence of real exchange rate and gross domestic product directly and they effect on export positively. And it is implied that export is independence of gross domestic product (national, inside). Also indirectly an increases in domestic prices is caused to decrease real exchange rate. Because of that an increase inflation effects on export negatively. Additionally the theory, it is obvious that import is an important factor for export in global integrated economies. In this study we tested this macroeconomic theory. Empirical results show that real exchange rate, gross domestic product, import and inflation rate are significant variables for export.

Key Words: *Export, Real Exchange Rate, Panel Data Method.*
JEL Classification: *F43, F31, C23.*

Gelişmekte Olan Piyasa Ekonomilerinde İhracatın Dinamikleri

ÖZET

Bu çalışmada, 1994:1-2009:1 arası çeyreklik veriler kullanılarak gelişmekte olan piyasa ekonomilerinde ihracatın belirleyicileri dengeli panel veri yöntemi ile analiz edilmektedir. Temel makroekonomik teoride, ihracat ile reel döviz kuru ve yurtiçi gelir arasında doğrusal ve pozitif bir ilişki bulunmaktadır. Buradan hareketle ihracatın yurtiçi gelirden bağımsız olduğu da anlaşılmaktadır. Aynı zamanda yerel fiyatlarda bir artış reel döviz kurunda düşüşe neden olmaktadır. Bu nedenle enflasyon artışı ihracatı negatif etkilemektedir. Teoriye ilaveten, ithalatın uluslar arası entegre ekonomilerde ihracat için önemli bir faktör olduğu açıkça görülmektedir. Bu çalışmada makroekonomik teori test edilmektedir. Ampirik sonuçlar reel döviz kuru, yurtiçi gelir, ithalat ve enflasyon oranının ihracat için önemli değişkenler olduğunu ortaya koymaktadır.

Anahtar Kelimeler: *İhracat, Reel Döviz Kuru, Panel Veri Yöntemi*
JEL Sınıflaması: *F43, F31, C23.*

Introduction

Exporting is a major component of international trade, and the macroeconomic risks and benefits of exporting are regularly discussed and disputed by economists and others. Although export is depend on lots of economic factors, there has always been an ongoing debate and critics about the level of the real exchange rate and its potential effects on foreign trade and especially on export. In this context exporter firms generally complain about overvaluation of domestic currency, as if it is the only variable that determines the degree of competitiveness in the international goods markets. This turns out to be a misbelief considering the enhanced export performance especially prevailed in the recent years, during which export developments cannot be explained only by the movements of the real exchange rate. In this study we aimed to test basic

macroeconomic theory about export and investigate determinants of export except real exchange rate.

Export is a main factor for the growth of economic size. Also, export growth is often considered to be a main determinant of the production and employment growth of an economy. The neoclassical theory argues that there is a strong relationship between export expansion and economic growth. Export expansion is one of the main determinants of growth.

Export growth is often considered to be a main determinant of the production and employment growth of an economy. This so-called hypothesis of export-led growth (ELG) is, as a rule, substantiated by the following four arguments. First, export growth leads, by the foreign trade multiplier, to an expansion of production and employment. Second, the foreign Exchange made available by export growth allows the importation of capital goods which, in turn, increase the production potential of an economy. Third, the volume of and the competition in exports markets causes economies of scale and a acceleration of technical progress in production. Forth, given the theoretical arguments mentioned above, the observed strong correlation of export and production growth is interpreted as empirical evidence in favour of ELG hypothesis (Ramos, 2000).

Exporting is one of the most important channels through which developing countries can link with the world economy. Exporting allows firms in developing countries to enlarge their markets and benefit from economies of scale (Dijk, 2002:2). In addition, several scholar have pointed out the importance of exporting as a channel of technology transfer (Pack, 1993). In order to formulate trade and industrial policies aimed at stimulating exports, it is important to understand which factors determine export.

Emerging Market Economies (EME) have been winning large market shares since the early 1990s. These countries have uptrend especially related the export performance. The study aims to analyse the relationship between export and some of national macroeconomic variables nine chosen emerging markets namely Turkey, Mexico, Thailand, South Korea, Indoneisa, Malaysia, China, Brazil and Argentina. Turkey is favor of chosen emerging market economies in terms of the extent of economic potential. Also, all of these countries have huge export potential.

I. The Performance of Export In Emerging Markets

Export performance has a significant role for the size of an economy, especially emerging market economies have a major role since 1990s. In the context of export performance, the determinants are domestic transport infrastructure, macroeconomic environment, foreign direct investment and institutions. United Nations Conference on Trade and Development (UNCTAD) study domestic transport infrastructure as a proxy for infrastructure as a whole. It found that the importance and the significance of domestic transport structure vary from period to period and from one group of countries to another. The other

determinant FDI is likely to affect export performance positively (UNCTAD, 2002). FDI, strongly contributes to the transformation of the composition of exports. Recently, China have helped to increase significantly the technology content of exports. The UNCTAD's analysis seems to indicate that institutions matter more at a higher level of export performance. The analysis also suggests that institutions and macroeconomis variables are substitutable along the export development process.

The real exchange rate proves to have a significant effect on the export performance, especially the lowest performers. For all periods, an overvalued real exchange rate is seriously detrimental to export performance. For example, on average a 1 percent real depreciation could increase exports by 6 to 10 percent. An overvalued currency, sometimes as a result of fixed exchange rates that are used as a nominal anchor to control inflationary pressures[1].

Export-oriented industrialization has been a marked feature of growth and development in many countries since 1970s. Especially Emerging Market Economies have an attack in 1990s. Like Indonesia, Malaysia, Korea, Thailand , the Asian countries have a potential as an exporter (Jongwanich, 2007). According to Krugman (1989) emerging market economies to diversify their export performance allowed them to increase their volume of exports without resorting to a real exchange rate depreciation. A country's own policies play a crucial role in affecting export expansion and the prospect for economic growth (Balassa 1989, Kravis 1970).

In 1994, European Union (EU) market share has been slightly affected by competitive pressure form emerging economies. This effect has increased down to in 2007. Thus, the EU market share has been fairly affected by emerging economies. The EU's export performance was uneven because of the emerging market economies, especially China. China stands out with remarkable performance since 1994. China has promoted its world market share triplicate. In 1994, Chinese market share has % 5.8, in 2007, market share % 16.1. The Chinese competitive pressure has increased since 2000, and some emerging markets have managed to cope with this[2] (Cheptea et all, 2010). Malaysia and Thailand stand out in Asia for their heavy dependence on parts and components for export dynamism. Their exports have increased rapidly to during 2000-2006 (Jongwanich, 2007).

For Emerging Market Economies, the contribution of the positive extensive margin to the growth of the value of exports is very similar for the developed economies. Emerging market economies are characterized by a larger contribution of the positive extensive margin. Especially, Turkey, Brazil, China and Mexico have high levels of exports. China and Mexico have experienced a structure of exports growth similar to EU, USA and Japan. Mexico, reaped the

[1]This policy approach was used extensively to control hyperinflation.

[2]According to the World Bank (1987) trade orientation for Korea is strongly outward, for Malaysia and Thailand it is moderately outward.

benefits of its preferential market to the huge U.S. market, but did not manage to diversify its portfolio of products or markets over the considered period. As for China, the results confirm the importance of the increased intensive margin, whereas the diversification of exports was already accomplished in 1994 (Cheptea et all, 2010).

II. Literature Review

Emerging Market Economies (EME) have become one of the most dynamic and economically important groups in the world economy. Many studies have tested these economies in several ways with many macroeconomic variables. As these economies become larger and more integrated into international trade and finance, they face an increasingly complex and set of policy challenges.

Many studies included the export, only investigated the relation between export and economic growth. These studies found a positive relationship between export growth and economic growth. The linkage between export performance and a country's economic growth is generally supported by the empirical evidence in the literature. In this way, we introduced the literature that included export or at least one of the emerging market economies.

The extent literature on exporting can be divided into two categories: macro level research and micro level research. At the macro level, scholars have modeled export performance based on international trade theories such as Hecksher-Ohlin framework. Some of the issues investigated include export competitiveness of nations, magnitude and direction of trade flows between nations and how public policy affects exporting activities in specific sectors and industries. These studies have found trade flows between nations as a function of country level factor endowments and government policies.

The macro level view point for the determinats of export in the literature established a link between export and many macroeconomic variables. Especially, export is affected exchange rate, import and gross domestic product. Saribas and Sekmen (2007) examined the cointegration and causality among exchange rate, export and import for Turkey during the period of 1998-2006. The econometrics results show that there is a cointegration between exports and import, but direction of causality is bi-directional between these two variables. The impulse response functions also supports that there is a trade-off between exports and imports; for example, when imports are high, there is smaller exports at that time. This study supports few investigators who find no negative effect of exchange rate volatility on trade volume since it is found that exchange rates cannot determine the variation in exports and imports.

Balassa (1978) studied the relationship between exports and economic growth in 11 developing countries during 1960-1973 and concluded that the growth in exports effects economic growth positively. Kavoussi (1984) examined the relationship between export expansion and economic growth in a sample of seventy-three developing countries, using data for the period 1960-1978. The study demonstrated that the effect of commodity composition of exports on the

relationship between export expansion and economic growth is substantial in more advanced developing economies.

Chow (1987) investigated the causal relationship between export growth and industrial development in eight newly industrializing countries (NICs: Argentina, Brazil, Hong Kong, Israel, Korea, Mexico, Singapure and Taiwan) and found bidirectional causality between export growth and industrial output in most of newly industrialized countries. Ghartey (1993) studied causal relationship between exports and economic growth for Taiwan, Japan and the US. He found that exports growth causes economic growth in Taiwan, economic growth causes exports growth in the US, and a feedback causal relationship exists in Japan.

Glasure and Lee (1999) examined the export-led growth hypothesis for Korea in five-variable vector autoregressive and vector error correction models the period of 1973-1994. Results of the vector autoregressive models indicate economic growth Granger-causing export growth regardless of the sample period. Khalafalla et al, (2000) investigated a causal link between export and economic growth for Malaysia the period of 1965-1996. They used VAR analysis of Malaysian quarterly trade and GDP growth to test fort he presence of export-led growth. The results showed that exports apparently have had a stronger direct impact on Malaysian economic growth.

Karagöz and Şen (2005) analyzed the dynamic relationship between export growth and economic growth in Turkey, using quarterly data from 1980 to 2004. They used modern econometric time series methods such as cointegration and error-correction models. The empirical research showed that a uni-directional long term causality exists from export growth to economic growth in Turkish Economy. In terms of error correction models, there is evidence for short-run Granger causality running from export growth to economic growth. However, there is as well evidence for short-run causality running from economic growth to export growth. Bilgin and Sahbaz (2009) researched the relations between export and growth in Turkey by using monthly data for the period of 1987-2007. In other words, export-led growth hypothesis is being tested. The relations among export, import, term of trade and industrial production index are evaluated in the framework of Johansen co-integration analysis. Sarıkaya (2004) presents a structural vector autoregression model to explore the export dynamics in Turkey. The models are estimated with quarterly data covering the period 1989:1-2003:3. Given the notable export performance after 2002, albeit high-rated real appreciation of Turkish lira, he investigate the role of unit wages in explaining the high export growth. He found that, through historical decomposition of exports, real unit wage, not the real exchange rate, has been the main determinant of Turkish exports after 1999. Moreover, the impulse response analysis suggests that the short-term impact of a real unit wage shock on exports is larger than the real exchange rate.

Hamori and Matsubayashi (2009) used panel data to empirically analyze the stability of the export functions of LDCs (Least Developed Countries) for the period 1980-2004 using the non stationary panel time series analysis. They find

that the use of panel data for the region of the LDC clearly supports a cointegrating relationship. Pazim (2009) tested export-led hypothesis in three BIMP-EAGA countries (i.e. Indonesia, Malaysia and Philippines) by using panel data analysis. The one-way random effects model leads to a conclusion that, there is no significant positive relationship between size of national income and the amount of export for these countries. In other word, the export could not seen as the "engine" of growth in these countries. In short, the empirical findings did not provide sufficient evident to support the "export-led hypothesis" in BIMP-EAGA countries.

Ramos (2001) investigated the Granger-causality between exports, imports, and economic growth in Portugal over the period 1865-1998. The role of the import variable in the investigation of exports-output causality is emphasized. The empirical results do not confirm a unidirectional causality between the variables considered. There is a feedback effect between exports-output growth and imports-output growth and no kind of significant causality between import-export growth. Tuncer (2002) investigated the dynamic causal linkages between GDP, export, import and investments Turkey for the period of 1980-2000 by using quarterly time series data and constructing a vector autoregression (VAR) model. The results showed a strong causality runs froms GDP to export and investment.

Hondroyiannis et al, (2008) examined the relationship between exchange-rate volatility and aggregate export volumes for 12 industrial economies by using a model that includes real export earnings of oil-producing economies as a determinant of industrial-country export-volumes the period of 1977:1-2003:4. The results showed that, no findings in which volatility has a negative and significant impact on trade. Hall et al, (2010) found evidence of negative and significant affects of exchange-rate volatility on trade, between EMEs and other developing countries and introduced the effects of real-exchange volatility on exports of ten EMEs and eleven other developing countries. They used panel data sets that cover the periods 1980:1-2006:4 for the EMEs and 1980:1-2005:4 for the other developing countries. They used generalized method of moments (GMM) estimation and time-varying-coefficient (TVC) estimation. The results for the EMEs do not show a negative and significant effect of exchange-rate volatility on the export of the countries. Their findings suggest that the open capital markets of EMEs may have reduced the effects of exchange-rate fluctuations on exports compared with those effects in the cases of other developing countries.

Chen (2009) argued by empirical test that it is the underlying export variety that helps to explain the strong correlation bteween China's provincial export revenue and productivity. Employing a panel data that covers all 31 executive districts of mainland China from 1998 to 2005, he find that export varieties via export revenue, significantly affect export productivity. Santos-Paulino (2008) analysed the patterns of export productivity and trade specialization profiles in the China, Brazil, India and South Africa, and in other regional groupings. The findings indicated that export productivity is mainly

determined by real income and human capital endowments. Hesse (2008) introduced export diversification can lead to higher growth the process of economic development which is a process of structural transformation where countries move from producing "poor-country goods" to "rich-country goods". Export diversification does play an important role in this process. He provided robust empirical evidence of a positive effect of export diversification on per capita income growth. He used an empirical strategy that has been used in the growth literature. He estimated dynamic panel growth models based on the GMM estimator developed by Arello and Bond (1991).

At the micro level scholars have focused on establishing a link between different firm level characteristics, such as firm size, technological capabalities, and managerial motivation to export performance. Aulakh et al, (2000) studied develops a framework for examining the export strategies of firms from emerging economies and their performance in foreign markets. Hypothesis derived from this framework were tested on a sample of firms from Brazil, Chile, and Mexico. Findings suggest that cost-based strategies enhance export performance in developed country markets and differentiation strategies enhance performance in other developing countries. Roper and Love (2002) studied determinants of export performance for Irish manufazturing plants in the republic of Ireland and northern Ireland the period of 1991-1999 by using panel data evidence.

III. Econometric Method and Analysis Results

i. Data set

In this model including the quarterly data for the 1994:1-2009:1 period, 1 dependent variable and 4 independent variables for emerging markets. The data of variables was based in Dollars and was sourced from the IMF, International Financial Statistics (IFS) online database. When the time series were being formed, the gaps in the series[3] were filled out according to the linear trend[4] at point in SPSS 13.0 statistics software.

The definition of variables and the applied calculations are displayed in Table 1.

Table 1: Definition of Variables

Variable	Description	Unit Measured
GDP	Gross Domestic Product	percentage change
INF	Inflation Rate	rate %
RER	Real Effective Exchange Rate	percentage change
EX	Export	percentage change
IM	Import	percentage change

The source of data is International Financial Statistics database.

[3] The gaps in the series are 1.5 % of the data set.

[4] Linear trend method was preferred because of the gaps in the first and last values of the time series.

ii. Panel Data Models

Baltagi (2008) lists the following advantages of panel data: Firstly, since panel data relate to individuals, firms, states, countries, etc., over time, there is bound to be heterogeneity in these units. The techniques of panel data estimation can take such heterogeneity explicitly into account by allowing for individual-specific variables, We use the term *individual* in a generic sense to include microunits such as individuals, firms, states, and countries. By combining time series of cross-section observations, panel data give "more informative data, more variability, less collinearity among variables, more degrees of freedom and more efficiency". By studying the repeated cross section of observations, panel data are better suited to study the *dynamics of change.* Panel data can better detect and measure effects that simply cannot be observed in pure cross-section or pure time series data (Baltagi, 2008:295).

Consider the following panel regression:

$$y_{it} = \beta_{1it} + \beta_{2it} x_{2it} + \beta_{3it} x_{3it} + \mu_{it} \qquad \text{t= 1,….,T ve i= 1,….,N} \qquad (1)$$

where *i* stands standar *i*th cross-sectional unit and *t* standar *t*th time period. As a matter of convention, we will let *i* denote the cross-section identifier and *t* the time identifier. It is assumed that there are a maximum of *N* crosss ectional units or observations and a maximum of *T* time periods. If each cross-sectional unit has the same number of time series observations, then such a panel (data) is called a balanced panel. In the present study we have a balanced panel, as each country in the sample has 64 observations. If the number of observations differs among panel members, we call such a panel an unbalanced panel.

iii. Panel Unit Root Tests

Testing for stationarity in panel data differs somewhat from conducting unit root tests in 26tandard individual time series. The most widely utilized panel unit root tests are the Levin et al. (2002) test (LLC), Im et al. (2003) (IPS) and the Fisher type unit root test developed by Maddala and Wu (1999).

One of the first unit root tests to be developed for panel data is that of Levin and Lin, as originally circulated in working paper form in 1992 and 1993. Their work was finally published, with Chu as a coauthor, in 2002. Their test is based on analysis of the equation:

$$\Delta y_{i,t} = \alpha_i + \delta_i t + \theta_t + \rho_i y_{i,t-1} + \varsigma_{it,} \qquad (2)$$

$$i = 1,2,..N, \quad t = 1,2,.....T.$$

The LLC test may be viewed as a pooled Dickey–Fuller (or ADF) test, potentially with differing lag lengths across the units of the panel.

This model allows for two–way fixed effects (α and θ) and unit–specific time trends. The unit–specific fixed effects are an important source of heterogeneity, since the coefficient of the lagged dependent variable is restricted to be homogeneous across all units of the panel. The test involves the null

hypothesis $H_0 : \rho_i = 0$ for all *i* against the alternative $H_a : \rho_i = \rho \prec 0$ for all with auxiliary assumptions under the null also being required about the coefficients relating to the deterministic components. Like most of the unit root tests in the literature, LLC assume that the individual processes are cross–sectionally independent. Given this assumption, they derive conditions (and correction factors) under which the pooled OLS estimate of will have a standard normal distribution under the null hypothesis. Their work focuses on the asymptotic distributions of this pooled panel estimate of under different assumptions on the existence of fixed effects and homogeneous time trends.

In Im, Pesaran and Shin (2002) panel unit root tests all series are analyzed by the Augmented Dickey-Fuller test. Consider a sample of *N* cross sections (industries, regions or countries) observed over *T* time periods. It supposed that the stochastic process, y_{it} is generated by the first-order autoregressive process:

$$y_{it} = (1-\phi_i)\mu_i + \phi_i y_{i,t-1} + \varepsilon_{it}, \quad i= 1,\ldots,N; \; t= 1,\ldots,T, \tag{3}$$

where initial values, y_{io} are given. We are interested in testing the null hypothesis of unit roots ($\phi_i = 1$) for all *i* (3) can be expressed as

$$\Delta y_{it} = \alpha_i + \beta_i y_{i,t-1} + \varepsilon_{it,} \tag{4}$$

where $\alpha_i = (1-\phi_i)\mu_i, \beta_i = -(1-\phi_i)$ and $\Delta y_{it} = y_{it} - y_{i,t-1}$. The null hypothesis of unit roots then becomes,

$H_0 : \beta_i = 0$ for all *i,*

against the alternatives,

H_1: $\beta_i < 0$, $i= 1,2,\ldots,N_1, \beta_i = 0$, $i=N_1 +1, N_1+2,\ldots\ldots N.$ (5)

The ADF Fisher panel unit root test proposed by Maddala and Wu (1999) combines the p values of the test statistic for a unit root in each cross-sectional unit. The Fisher test is nonparametric and distributed as a chi-squared variable with two degrees of freedom. The test statistic is given as:

$$P(\lambda) = -2\sum_{i=1}^{N} \log_e \pi_i \tag{6}$$

Here, $P(\lambda)$ horizontal section for i is P value of the ADF test statistics. The Fisher test statistics $P(\lambda)$ has a chi square distribution having 2N independence grade. Where π_i is the p-value of the test statistic in unit i. The test is superior compared to the IPS test [(Maddala and Wu (1999); Maddala et al. (1999)]. Its advantage is that its value does not depend on different lag lengths in the individual ADF regressions.

The IPS, the Fisher ADF and LLC panel unit root test results for variables, are reported in Table 2.

Table 2: The Results of Panel Unit Root Tests

Variable	LLC	IPS	ADF-Fisher
EXP	-2.08765**	-7.73632*	102.597*
GDP	-5.47207*	-7.64221*	108.786*
INF	-93.7894*	-50.1779*	129.893*
RER	-46.7624*	-26.3908*	175.485*
IM	-2.33899*	-5.19885*	67.3476*

Note: "*" is implied that provided stationary in % 1 critical value, "**"provided stationary in % 5 critical value. Panel Unit Root test was applied by Eviews econometric program. This technical process was applied automaticly. It is compared that the critical and variable values for determining stationary. Akaike Information Criterion (AIC) was used for to determine lag order.

According to the results of the Panel Unit Root Tests in the emerging markets displayed in Table 2, GDP, INF, CA/GDP, RER, EX, IM, variables are all stationary intercept, trend and intercept included.

iv. Hausman and Redundant Fixed Effects Tests (Likelihood Ratio)

Fixed effects and *random effects* models that are commonly used in estimating regression models based on panel data. The generally accepted way of choosing between fixed and random effects is running a Hausman test. The Hausman test tests the null hypothesis that the coefficients estimated by the efficient random effects estimator are the same as the ones estimated by the consistent fixed effects estimator. If they are (insignificant P-value, Prob>chi2 larger than 0.05) then it is safe to use random effects. If you get a significant P-value, however, you should use fixed effects. Redundant Fixed Effects testing for panel and pool equations estimated by ordinary linear and nonlinear least squares evaluates the statistical significance of the estimated fixed effects (Baltagi, 2008: 311-312). According to the results of the Hausman and Redundant Fixed Effects Tests (Likelihood Ratio) in the emerging markets displayed in Table 3, we should use fixed effects.

Tablo 3: Correlated Random Effects – Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. D.f.	Prob.
Cross-section random	0.000000	4	1.0000
Period random	0.000000	4	1.0000
Cross-section and period random	74.298030	4	0.0000
Redundant Fixed Effects Test			
Effects Test	**Statistic**	**d.f.**	**Prob.**
Cross-Section/Period F	3.938163	(68,476)	0.0000
Cross-Section/Period Chi-square	245.044903	68	0.0000

v. Anaysis Results

According to the regression analysis results done by panel method displayed for emerging markets in Table 5; GDP, INF, RER, IMP and C variables coefficients are significant at 5%. The signs for the variable coefficients are the following: GDP (+), INF (+), RER (+), IM (+).

Table 5: The Result of Regression Analysis (Fixed Effect)

Variable	Coefficient	Std.Error	t-Statistic	P value
GDP	0.074988	0.010679	7.022202	0.0000*
INF	0.403763	0.061587	6.555955	0.0000*
RER	0.407390	0.045090	9.035057	0.0000*
IMP	0.222862	0.026833	8.305591	0.0000*
C	1.416776	0.432756	3.273843	0.0011*
R-squared		0.772874	Durbin-Watson stat	2.120658
Adjusted R-squared		0.738519		
Prob(F-statistic)		2.120658		

Note: "*" is implied that provided significant in % 1 critical value.

F statistic in linear regression models and tests the significance of the model. According to table overall model is significant. And ındependent variables is express 70 % of the export model is seen R-squared. When we look the D.W stat. we can say there is no autocorrelation problem (also see Appendix 1).

IV. Concluding Remarks

The results of this study, indicate that in orderly of effect, real exchange rate, inflation rate, import and gross domestic product, are significant variables for export. They are all affect export positively in emerging markets. The signs for the variables coefficients are as expected excluding inflation rate. When we compare our results to previous studies we see that it is similar in terms of determinant of export. Most of the study found that gross domestic product or economic growth, real exchange rate, import and inflation are determinants of export. But inflation rate is rarely applied for export in previous studies. it is explained by variables in below.

GDP is a basic measure of a country's overall economic output. The expenditure approach works on the principle that export is component of GDP. In this regard export growth contributes positively to economic growth, empirical studies on the causal links between exports and output have provided little support for the export-led growth hypothesis. Additionally to theory it was found that gross domestic product (adopted in theory independent) is affecting export positively.

One of the alleged costs of inflation is said to be the loss of competitiveness in international markets if the rate of change of proces is higher in the domestic country than in the rest of the world. In this context inflation influences export negatively. But we can say that in emerging markets inflation is

result from demand. So when there is a rise in economy both inflation and export increase. Policy prescriptions have generally assumed that exchange rate depreciation would stimulate exports and curtail imports. When real exchange rate increases, country gains on export competitiveness because of relative cheap in global markets. The results we obtained confirm the macro economic theory in terms of real exchange rate.

Additionally the theory, import is an important factor for export in global integrated economies. One of the important outcome in this study, export is dependent to imports. It can be explained with characteristic of emerging markets. In all around the world especially emerging markets export is consist of high import content. Because of this when import increases export will increase too.

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Appendix 1: The Anaysis of Autocorrelation

	GDP				**INF**			
	AC	**PC**	**Q-St.**	**P-Val.**	**AC**	**PC**	**Q-St.**	**P-Val.**
Lag 1	0.346	0.346	66.064	0.000	0.661	0.661	240.90	0.000
Lag 2	0.042	-0.088	67.055	0.000	0.257	-0.318	277.54	0.000
Lag 3	-0.001	0.015	67.055	0.000	0.078	0.126	280.93	0.000
Lag 4	0.039	0.043	67.893	0.000	0.067	0.046	283.45	0.000
	CA/GDP				**RER**			
	AC	**PC**	**Q-St.**	**P-Val.**	**AC**	**PC**	**Q-St.**	**P-Val.**
Lag 1	0.451	0.451	112.50	0.000	0.194	0.194	20.688	0.000
Lag 2	0.415	0.266	207.84	0.000	0.001	-0.038	20.688	0.000
Lag 3	0.376	0.160	286.22	0.000	-0.099	-0.095	26.082	0.000
Lag 4	0.394	0.173	372.24	0.000	-0.064	-0.027	28.350	0.000
	IMP				**RESİD**			
	AC	**PC**	**Q-St.**	**P-Val.**	**AC**	**PC**	**Q-St.**	**P-Val.**
Lag 1	0.245	0.245	33.040	0.000	-0.138	-0.138	10.457	0.001
Lag 2	-0.040	-0.106	33.912	0.000	-0.278	-0.303	53.305	0.000
Lag 3	0.092	0.139	38.651	0.000	-0.063	-0.173	55.479	0.000
Lag 4	0.129	0.069	47.851	0.000	0.377	0.284	134.23	0.000

Appendix 2: Dependent and Independent Variables for Emerging Markets