# IMPACT OF OPENNESS AND ECONOMIC FREEDOM ON ECONOMIC GROWTH IN THE TRANSITIONAL ECONOMIES OF EUROPEAN UNION

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**Abstract**

The globalization process has accelerated especially as of 1980s and the countries began to remove the obstacles on the flows of goods, services and capital. Hence substantial increases have emerged in both the global trade volume and cross border capital flows. Moreover countries have improved their institutional and legal infrastructure to achieve sustainable economic growth and attract foreign capital. This study examines the impact of trade and financial openness and economic freedom on economic growth in the transition economies of European Union including Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia during the period 1996-2012 by using panel cointegration test considering multiple structural breaks. We found that there was long relationship among the variables and both economic freedom and trade openness had positive impact on the economic growth, while financial openness had negative impact on the economic growth.

**Keywords: trade openness, financial openness, economic freedom, economic growth**
**JEL Classification: C32, F43, O10, 040**

## 1. Introduction

The countries began to remove the constraints on the movement of goods, services and capital with the increasing globalization as of Second World War. The trade and financial liberalization contributed to the increases in world trade volume and cross border capital flows. The world trade volume as a percent of GDP increased from 25.62% in 1960 to about 60% in 2013 (World Bank, 2015a). Also global capital flows including foreign direct investments, portfolio investment, reserves and other investments have increased substantially as of 1980s despite the significant contraction especially in Global financial crisis. Cross border capital flows increased to the about 20% of world GDP in 2007, but then decreased to the 5% of the world GDP in 2012 (James et al., 2014). In this regard, the new growth theories have emphasized that

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openness and institutional quality have positive impact on economic growth (see McKinnon (1973), Shaw (1973), Bencivenga & Smith (1991), King & Levine (1993), Fedderke (2002), Andersen & Babula (2008), Hye & Lau (2015)).

The transitional economies of the European Union (EU) implemented transition from centrally planned economies to market economies as of late 1980s and then participated to the EU in 2000s. During this transition process, they liberalized their trade and integrated to the global financial markets by opening their financial sectors to the external world and improved their quality of institutional infrastructure. This study will be one of the pioneering studies which investigate the impact of trade and financial liberalization and the economic freedom as an indicator of institutional quality on the economic growth in the transition economies of the EU. The rest of the paper is organized as follows. The next section overviews the theoretical and empirical literature on our topic. Section 3 presents data and the method and discusses major empirical findings. Finally the study is over with the Conclusion.

## 2. Literature Review

There have been a wide range of theoretical and empirical studies on the impact of trade openness, financial openness and economic freedom on economic growth in the literature. In this section, we will give a brief literature review in three subsections.

### 2.1. Trade Openness and Economic Growth

Trade openness is one of the important components in sustainable economic growth in the globalized world. Export-led growth hypothesis says that exports is a key role in the process of economic growth and this finding is also were supported by the growth miracles of Hong Kong, Taiwan, Singapore, the Republic of Korea in South-East Asia (see Balassa (1978) and Tyler (1981)). On the other hand import-led growth hypothesis states that import causes economic growth (see Thangavelu & Rajaguru (2004), Awokuse (2007), Awokuse (2008)). Also the endogenous growth theories provide a theoretical basis for the relationship between trade openness and economic growth by increasing spillover effects of information transmission (Romer 1990). Trade openness has impact on economic growth via knowledge spillovers, capital accumulation, factor price equalization (Hye & Lau, 2014)

There have been many empirical studies on the relationship between trade openness and economic growth in the literature and they have reached mixed findings on the nexus between two variables. Some studies such as Marelli and Signorelli (2011), Sakyi et al. (2012),

Mercan et al. (2013), Zakaria and Ahmed (2013) and Razmi and Refaei (2013) found that trade openness had positive impact on economic growth; while some studies such as Menyah et al. (2014) and Ulasan (2015) found that trade openness had no significant impact on economic growth. On the other hand some studies such as Kim (2011) and Hye and Lau (2014) found that the relationship between trade openness and economic growth could be positive or negative depending on level of development and duration.

## 2.2. Financial Openness and Economic Growth

There have been two major theoretical views on the relationship between financial openness and economic growth. One view stated that financial openness affects economic growth positively by allocating resources efficiently and providing more access to the foreign capital, improving risk sharing, contributing to the stabilization of the economy and development of financial sector. The other view says that the benefits of financial openness may not be realized or realized limitedly and also financial openness makes the national economy more vulnerable to the crises (Kim et al., 2014). In this process financial liberalization generally affects economic growth directly or indirectly by improving the financial development. But it should keep in mind that the frequency and severity of the financial crises have increased significantly together with financial integration.

The empirical studies have generally concentrated on the relationship between financial development and economic growth and most of these studies have shown that financial development had positive impact on economic growth (see Schumpeter (1911), King & Levine (1993), Levine (1997), Bayar (2014), Ben Jedidia et al. (2015)). On the other hand the empirical studies on the relationship between financial openness and economic growth have reached mixed findings. Some studies such as Bekaert et al. (2005), Ranciere et al. (2006), Garita (2009), Levchenko et al. (2009), Kim et al. (2014) found that financial openness had positive impact on economic growth, while relatively few studies such as Gine and Townsend (2004), Fratzscher and Bussiere (2004), Tswamuno et al. (2007) found that financial openness had negative or no significant impact on economic growth. On the other some studies have investigated the causality between financial openness and economic growth. Some studies such as Yapraklı (2007) found that there was unidirectional causality from financial openness to economic growth, some studies such as Kar and Pentecos (2000), Bas-Dinar et al. (2015) found that there was unidirectional causality from economic growth to financial openness.

## 2.3. Economic Freedom and Economic Growth

Economic freedom is a quality indicator of which the countries have institutions and legal structure. Institutional and legal structure becomes very important both for creating an investment environment and also attracting the foreign investment and capital in the globalized world. The discussions on the economic freedom extended to Adam Smith, but the concept of economic freedom has different meanings in according to the different economic thoughts. In this study, we used the economic freedom index calculated by Heritage Foundation. This index is based on four pillars which includes rule of law (property rights, freedom from corruption), limited government (fiscal freedom, government spending), regulatory efficiency (business freedom, labor freedom, monetary freedom) and open markets (trade freedom, investment freedom, financial freedom) (Heritage Foundation, 2015).

There have been a large number of empirical studies on the relationship between economic freedom and economic growth especially in two recent decades. Most of the studies have found that economic freedom has been generally had positive impact on economic growth (see Nelson & Singh (1998), Gwartney et al. (2004), Yun-Peng & Tuan-Yuen (2009), Paakkonen (2010), Peev & Mueller (2012), Piątek et al. (2013), Razmi & Refaei (2013) and Akıncı et al. (2014)).

## 3. Data, Method and Econometric Application

### 3.1. Data

We used the real GDP per capita growth as proxy for economic growth (dependent variable). On the other we used the sum of export and import as a percent of GDP as trade openness and Chinn-Ito index (KAOPEN) as financial openness and economic freedom index calculated by Heritage Foundation (2015) in the study. The data of economic growth and trade openness were obtained World Bank (2015a & 2015b), the data of financial openness was obtained from Chinn and Ito (2015) and the data of economic freedom was obtained from Heritage Foundation 2015. Our study period was dictated by data availability. The variables used in the econometric analysis and their symbols were presented in Table 1.

**Table 1. Variables used in the study**

| Variable | Symbol | Source |
|---|---|---|
| Real GDP per capita growth | GROWTH | World Bank (2015b) |
| Trade openness (exports and import of goods and services as a percent of GDP) | TRAOP | World Bank (2015a) |
| Financial openness | FINOP | Chinn & Ito (2015) |
| Economic freedom index | EFR | Heritage Foundation (2015) |

E-views 8.0, WinRATS Pro. 8.0 and Gauss 11.0 software packages were used for the analysis in the study.

## 3.2. Method

In this study, we investigated the impact of trade openness, financial openness and economic freedom on economic growth in the transition economies of the EU. Firstly we tested the cross-sectional dependence with bias-adjusted LM test of error cross-section independence developed by Pesaran et al. (2008) and conducted the stationarity of the series with PANKPSS (Panel Kwiatkowski, Phillips, Schmidt & Shin) test developed by Carrion-i-Silvestre et al. (2005). Then we analyzed the long run relationship among the variables with cointegration test developed by Basher and Westerlund (2009) and the cointegrating coefficients were estimated with panel Augmented Mean Group (AMG) analysis developed by Eberhardt and Bond (2009).

## 3.3. Cross-sectional Dependence Test

The cross-sectional dependence among the variables is very important for the determination of the tests used in the study. Therefore, we should test whether there is cross-sectional dependence in the series and the cointegrating equation. $CD\ LM_{adj}$ test by Pesaran et al. (2008) was used for the determination of cross-sectional dependence and the results were presented in Table 2. The results showed that the null hypothesis (cross-sectional independence) was rejected. Therefore, we should use the tests considering the cross sectional dependence.

**Table 2. Results of adjusted $CD\ LM_{adj}$ test**

| Variable | Test Statistics | Prob. |
|---|---|---|
| GROWTH | 6.334 | 0.000 |
| FINOP | 4.268 | 0.019 |
| TRAOP | 3.782 | 0.004 |
| EFR | 5.331 | 0.000 |

## 3.4. PANKPSS Unit Root Test

*CD* $LM_{adj}$ test showed that there was cross-sectional dependence. On the other hand there were possibly structure breaks during study period. Therefore we tested the stationarity of the series with PANKPSS unit root test developed by Carrion-i-Silvestre et al. (2005) which considers the cross-sectional dependence and multiple structural breaks. We selected the model which allows the structural breaks both in constant term and trend. The critical values were obtained by Monte Carlo simulations with 1,000 simulations. The results of the PANKPSS unit root test were presented in Table 3. The results indicated that the variables were not stationary at their level, but became stationary after first differencing. The findings showed that the test also determined the structural breaks successfully. Russian crisis, global financial crisis and the Eurozone sovereign debt crisis respectively emerged in 1998, 2008 and 2009.

**Table 3. Results of PANKPSS unit root test**

| Countries | DGROWTH | | DFINOP | | DTRAOP | | DEFR | |
|---|---|---|---|---|---|---|---|---|
| | p-value | Structural Break | p-value | Structural Break | p-value | Structural Break | p-value | Structural Break |
| Bulgaria | 0.157* | 1999, 2008 | 0.132* | 1998, 2008 | 0.231* | 1999, 2009 | 0.136 | 1998, 2009 |
| Croatia | 0.162* | 1998, 2009 | 0.238* | 1998, 2009 | 0.134* | 1999 2009 | 0.182 | 1998, 2009 |
| Czech Republic | 0.216* | 1998, 2009 | 0.261* | 1999, 2009 | 0.119* | 1999, 2009 | 0.109 | 1999, 2009 |
| Estonia | 0.194* | 2008 | 0.205* | 2009 | 0.226* | 2009 | 0.231 | 2008 |
| Hungary | 0.289* | 2009 | 0.266* | 2008 | 0.137* | 2009 | 0.226 | 2008 |
| Latvia | 0.215* | 2008 | 0.392* | 2009 | 0.141* | 2009 | 0.248 | 2009 |
| Lithuania | 0.138* | 2009 | 0.246 | 2008 | 0.102* | 2009 | 0.159 | 2009 |
| Romania | 0.275* | 1997, 1998, 2009 | 0.207 * | 1998, 2009 | 0.173* | 1999, 2008 | 0.144 | 1998, 2009 |
| Slovak Republic | 0.119* | 2009 | 0.178* | 2008, 2009 | 0.168* | 2009 | 0.152 | 2009 |
| Slovenia | 0.185* | 2009 | 0.108 | 2009 | 0.217* | 2009 | 0.180 | 2009 |
| Panel | 0.235* | | 0.268* | | 0.195* | | 0.163* | |

* Stationary at 5% significance level

## 3.5. Panel Cointegration Test of Basher and Westerlund (2009)

We analyzed the long run relationship among the variables with the cointegration test developed by Basher and Westerlund (2009). Because this approach can test cointegrating relationship among the variables in case there is cross-sectional dependence and multiple

structural breaks and it allows maximum three structural breaks. We selected the model which allows structural breaks both in constant term and trend for the cointegration test by Basher and Westerlund (2009) and the results were presented in Table 4. The critical values were obtained by Monte Carlo simulations with 1,000 simulations. The results showed that there was cointegration relationship among the variables when the structural breaks were considered.

**Table 4. Results of cointegration test**

| | Test Statistics | Prob. | Decision |
|---|---|---|---|
| Exclusion of structural breaks in the constant term and trend | 3.887 | 0.021 | There is no cointegration |
| Consideration of structural breaks in the constant term and trend | 34.678 | 0.349 | There is cointegration |

## 3.6. Estimation of Cointegrating Coefficients

Panel AMG method considers the cross-sectional dependence and also calculates the average group effect by weighting the overall panel results and individual coefficients. Therefore it is more reliable than common correlated effects method developed by Pesaran (2006) in estimation of cointegrating coefficients (Eberhardt & Bond, 2009). So we estimated the cointegrating coefficients with panel AMG developed by Eberhardt and Bond (2009). We applied panel AMG method for the estimation of coefficients and the results of estimation were presented in Table 5. The findings demonstrated that trade openness and economic freedom had positive impact on the economic growth, while financial openness had negative impact on the economic growth.

**Table 5. Estimation of cointegrating coefficients**

| Variables | Coefficient | Prob. |
|---|---|---|
| FINOP | -0.214 | 0.015* |
| TRAOP | 0.326 | 0.002* |
| EFR | 0.289 | 0.017* |

* statistically significant at 5% level.

The endogeneous growth theories proposed that trade openness has positive impact on economic growth via knowledge spillovers, capital accumulation, factor price equalization (Hye & Lau, 2014). On the other hand institutional structure is one of the key factors of the economic growth (Acemoglu et al., 2004). So our finding supported these propositions of the new growth theories. But the negative impact of the financial openness on the economic growth is not

consistent with the propositions of the endogenous growth theories. Kim et al. (2014) asserted that impact of financial openness on the economic growth depends on country specific factors including level of economic development, macroeconomic development and stability. So our finding could be arisen from the underdeveloped financial structures and institutional structure and insufficient and instable economic performance of the transition countries.

### 3.7. Short-Run Analysis

Short run relations among the variables were estimated by panel AMG and we found that the coefficients of error correction terms were negative and statistically significant. This demonstrated that the deviations among the series in the short run were eliminated and the series converged to their long term equilibrium values. This finding also verified that our variables were cointegrated. On the other hand the small coefficients of error correction terms showed that the equilibrating velocity of the variables was low.

**Table 6. Short run analysis**

| Variables | Coefficient | Prob. | Coefficient of Error Correction Terms |
|---|---|---|---|
| FINOP | -0.193* | 0.031 | -0.083* |
| TRAOP | 0.294* | 0.004 | -0.107* |
| EFR | 0.286* | 0.007 | -0.091* |

* statistically significant at 5% level.

## 4. Conclusion

The transitional economies of the EU transited from centrally planned economies to market economies together with the fall of the Berlin Wall in 1989 and then these countries have integrated to the EU. These countries liberalized their economies and improved their quality of institutional infrastructures during this process. This study examines the impact of openness and economic freedom on economic growth in the transition economies of European Union including Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia during the period 1996-2012.

In the context of the study the cross-sectional dependence among the series were tested by *CD* $LM_{adj}$ test and the stationarity of the series was tested by PANKPSS unit root test. Then we analyzed the long run relationship among the variables with cointegration test developed by Basher and Westerlund (2009) and the cointegrating coefficients were estimated with panel AMG. The

coefficients indicated that trade openness and economic freedom had positive impact on the economic growth in the long run, while financial openness had negative impact on the economic growth in the long run. Our finding about the positive impact of trade openness and economic freedom on the economic growth supported the propositions of the endogenous growth theories.

On the other hand the impact of financial openness on the economic growth could be changed depending on the factors such as economic development, macroeconomic stability and institutional infrastructure. Therefore, the negative impact of financial openness on the economic growth in the transition economies of the EU can be arisen from underdeveloped institutional and financial structures and insufficient and instable economic performance of the countries in our study.

The findings of the study imply that trade openness and economic freedom foster the economic growth, while financial openness slows down the economic growth. Therefore it is important for the less developed countries to liberalize their trade gradually and increase their economic freedom by improving the four pillars of the economic freedom which are rule of law, limited government, regulatory efficiency and open markets.

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