

## **FINANCIAL DEVELOPMENT, INTERNATIONAL FINANCIAL INTEGRATION AND INSTITUTIONAL QUALITY: COINTEGRATION ANALYSIS FOR EMERGING MARKET ECONOMIES**

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### **ABSTRACT**

*This paper investigates the dynamic relationship between financial development, international financial integration and institutional quality in emerging countries. We employ panel cointegration tests for a panel of 18 emerging economies over the period of 1985-2014 by controlling for cross sectional dependency and structural breaks. The results of this study show that there is a long run cointegration relationship between financial development, international financial integration and institutional quality. We also use the panel causality approach for determining the causal links between variables that are interested. Our results confirm the bidirectional causal relationship between financial development and international financial integration.*

**Keywords:** *Financial Development, International Financial Integration And Institutions, Panel Cointegration Analysis, Granger Causality.*

## **FINANSAL GELİŞMİŞLİK, ULUSLARARASI FINANSAL BÜTÜNLEŞME VE KURUMSAL KALİTE: YÜKSELEN PİYASA EKONOMİLERİ İÇİN BİR EŞBÜTÜNLEŞME ANALİZİ**

### **ÖZET**

*Bu çalışma, finansal gelişmişlik, uluslararası finansal bütünleşme ve kurumsal kalite arasındaki dinamik ilişkisini yükselen piyasa ekonomileri için incelemektedir. Bu çalışmada 18 yükselen piyasa ekonomisini ve 1985-2014 dönemini kapsayan veriler ile yatay kesit bağımlılığını ve yapısal kırılmaları dikkate alan panel eşbütünleşme testleri yapılmıştır. Çalışmanın sonuçları, finansal gelişmişlik, uluslararası finansal bütünleşme ve kurumsal kalite arasında uzun dönemli bir eşbütünleşme ilişkisinin olduğunu göstermektedir. Ayrıca çalışmada değişkenler arasındaki nedensellik ilişkilerine yer verilmektedir. Elde edilen sonuçlar finansal gelişmişlik ve uluslararası finansal bütünleşme arasında karşılıklı nedensellik ilişkisi olduğunu ortaya koymaktadır.*

**Anahtar Kelimeler:** *Finansal Gelişmişlik, Uluslararası Finansal Bütünleşme, Kurumsal Kalite, Panel Eşbütünleşme Analizi, Granger Nedensellik.*

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## **1. Introduction**

In recent years, there is a growing literature that explores the major role of financial development in the issue of encouraging the economic growth. The existing body of literature point out that deep and well developed financial markets improves the allocative efficiency in financial markets by risk diversification and promote long run growth (De Gregorio, 1999). Beck and Levine (2005) stress that financial development contributes to growth by providing information about potential projects, monitoring the implementation of investment, enhancing risk management and diversification, pooling savings and facilitating the exchange of goods and services. Therefore, policy makers consider that a well-functioning financial sector is crucial for directing savings to productive investments. A significant level of productive investment leads to increase in employment opportunities and supports the elimination of poverty (Law, Tan and Saini, 2014). For instance, Levine (1997) states that countries with better developed financial markets grow faster and as it grows, well-functioning financial systems helps poor countries to catch up considerable growth rates. Moreover, 2008 global financial crisis has revealed that the devastation in financial system lead to misallocation of resources and underinvestment by allocating saving inefficiently. Because these undesirable results of the global financial crisis in 2008 such as fall in economic performance, stagnation and increasing levels of unemployment may be resulted from malfunctioning of financial systems, the role of financial market development should be reviewed attentively (Law, Tan and Saini, 2014).

After the global financial crisis, especially for emerging market economies, it is important to understand the determinants of financial development because it enables the system to overcome distress in financial markets. In literature, the drivers of financial development can be classified as domestic and global factors. Domestic factors might be domestic financial reforms, structure of domestic banking system, legal procedures and political institutions. Besides, in recent years, researchers focus on the importance of global factors that determine the financial development. For instance, international financial integration and trade openness are thought as critical global factors that drive financial market development.

International financial integration is an extensive and complex issue in academic research. Although there has been a vast debate on the issue of benefits and costs of financial integration, the evidence on which the debate is based has not been uniform and unambiguous. The degree of international financial integration increased significantly since late 1980s and 1990s. The crucial factor that underline the increasing levels of integration is the increasing globalization of investments and the opportunity of diversifying the risks internationally (Agenor, 2003). During 1990s many developing countries encouraged capital inflows by removing the restrictions in financial markets and liberalizing their financial systems in the form of opening the capital accounts. In developing countries financial openness is regarded as beneficial for increasing economic performance. Many studies have pointed out that financial integration through capital account liberalization can influence economic development through financial development. In this sense, more integrated financial markets might make contribution to allocate funds to productive investment opportunities. Besides, liberalizing the financial systems permits market participants to make portfolio diversification. Therefore, international financial integration helps to reduce cost of capital (Henry, 2000; Bekaert et al., 2005, Chinn and Ito, 2006). Also, international financial integration may promote the functioning of domestic financial systems by reinforcing the competition in financial services (Klein and Olivei, 2008; Edison et al. 2002; Rajan and Zingales, 2003). Devereux and Yu (2014) show that financial integration is likely to increase the value of existing asset holdings and increase borrowing capacity by increasing the collateral value of investors' portfolios and more critically, financial integration tends to reduce overall consumption risk, precautionary saving and leads to an increase in investor's desire to borrow.

Consequently, the international financial integration has an enhancing role on facilitating risk sharing and capital allocation and hence it may be essential for financial development of emerging countries.

There are many studies that examine the role of financial integration or financial openness in development of markets. Chin and Ito (2006) demonstrates that financial liberalization affects financial development contingent to the institutions. They reveal that countries which have sounder institutions in the form of bureaucratic and legal development, financial liberalization has a stimulating effect on financial development and also this relationship is more apparent among emerging markets. Baltagi et al. (2009) get evidence on trade and financial liberalization significantly influential on banking sector development.

International financial integration and globalization in forms of trade and financial openness are also related with the institutional quality of the countries. For instance, Boyd and Smith (1992) reveal that for countries with weak institutions and policies induce capital outflows and hence international financial integration become beneficial only if countries have sound institutions and good policies. In particular, Mishkin (2009) argue that sound institutions like strong property rights, effective legal systems and sound financial regulations, are essential in promoting financial development and economic growth in developing economies. Domestic institutions play a major role on financial markets by establishing and maintaining the well-functioning of financial services. Strong legal frameworks, low levels of corruption, higher transparency and good governance allow a frictionless and

efficient financial systems (Beck and Levine, 2005; Claessens, et al., 2002; Barth et al., 2004; and Rajan and Zingales, 1998). More recently, Le, Kim and Lee (2016) find out that better institutional quality encourages financial development in developing economies. Law et al (2014) argue that sound institutions are important drivers of financial development especially in banking sector development. Therefore, the ability of an emerging economy to provide economic benefits from international financial integration can be dependent on the quality of its institutions.

Furthermore, we contribute to the existing literature by investigating the dynamic relationship between financial development, international financial integration and institutional quality by using a larger and current data set for emerging economies and well developed panel cointegration tests that take into account the cross sectional dependency and structural breaks.

## **2. Data**

In this study, our data consists of annual panel observations of 28 emerging economies for the period of 1985-2014. We use the percentage of domestic credits given to private sector in GDP as an indicator of financial development (FD), in particular to represent banking sector development. The data is obtained from World Development Indicators Data set of World Bank. We employed percentage of total external liabilities in GDP in order to reflect the international financial integration (FI). The data is taken from the updated Lane and Milesi-Ferreti (2007) dataset. Our measure of institutional quality (IQ) is a composite index that is obtained from the ICRG data set which is reported by the Political Risk Services Group. The composite index includes the Rule of Law, Control of Corruption and Bureaucratic Quality measures. This indicator ranges between 0-1 and higher value of the index represents higher levels of institutional quality. To explore the effect of economic development level and market size of domestic country, we employed real GDP per capita (RGDPPC) based on 2010 constant US prices and we obtained data from Penn World Tables. We also utilized trade openness (TO) measure to capture the effects of opening the trade sector on financial development by using the indicator of the percentage of total exports and imports in GDP. In order to show the impact of macroeconomic policies and macroeconomic stability (MS) we took the measure of inflation (measured as log difference of consumer price index). The data for trade openness and consumer price indexes are taken from World Bank's World Development Indicators dataset.

## **3. Methodology and empirical results**

To explore the dynamics of the relationships among financial development, international financial integration and institutions, we follow a four step procedure. First, null of the cross sectional independence is tested to control for a possible cross sectional dependence among the members of the panel. We take into account the cross sectional dependency because of the fact that a specific shock to a country may influence other countries due to financial and trade linkages along with globalization. Spatial and financial spillovers, socio economic integrations or common factors across countries may generate cross sectional dependence in the panel. If the panel exhibits cross sectional dependence and the relationship is being investigated with first generation stationarity tests that do not take into account for this dependence, estimation results may be misleading. In our panel setting we have included countries from different economic, social and cultural backgrounds. Therefore, we give priority to investigate the cross sectional dependency properties of the series before examining the long run relationships among variables.

In the second step we examine the stationarity properties of each variable after revealing the existence of cross sectional dependence. If the results of the stationarity tests show that the variables contain unit roots, the long-run cointegration relationship between the variables can be analyzed. In the case that variables are cointegrated, the next step is to detect the direction and magnitude of the relationship by applying an estimation method that accounts for cross sectional dependence provided above. Finally, the fourth step is the detection of the direction of causality between the variables by applying the panel Granger causality test.

To investigate the presence of cross-section dependence, we employed Pesaran (2004) test in addition to Breusch-Pagan LM (1980) test. Both tests reveal that the null hypothesis of cross sectional independence is rejected at the %1 significance level.<sup>2</sup> The results indicate that the regression error terms among countries also affect each other. This evidence suggests that the countries in our sample are highly integrated economies and a possible shock can be transmitted to other countries. Thus, the long term relationships among the variables has to be investigated by the methods which concern cross sectional dependency.

Second, in order to be able to apply the panel cointegration test, we should first employ unit root tests that investigate the stationary properties of the series. We perform Pesaran (2007) test that allows for cross sectional dependence including cross sectional means of lagged values of the variable in the estimation regression. The Pesaran (2007) model has the following form:

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<sup>2</sup> The test statistics for Breusch-Pagan (1980) and Pesaran (2004) are 734.66 and 2.96 respectively.

$$\Delta y_{it} = a_i + b_i y_{i,t-1} + c_i \bar{y}_{i,t-1} + d_i \Delta \bar{y}_{i,t-1} + e_{it} \quad (1)$$

where  $\bar{y}_{t-1} = \frac{1}{N} \sum_{i=1}^N y_{i,t}$ .

In the Pesaran (2007) test procedure, the null hypothesis of “no one of the cross sections is stationary” is tested against the alternative hypothesis of “Some of the cross sections are stationary” such as

$$H_0: \hat{b}_i = 0, i = 1, 2, \dots, N,$$

$$H_1: \hat{b}_i \neq 0, i = 1, 2, \dots, N_1; \hat{b}_i = 0, i = N_1 + 1, N_2 + 2, \dots, N.$$

The test statistics is given follows:

$$CIPS = \frac{1}{N} \sum_{i=1}^N t_i(N, T) \quad (2)$$

where  $t_i(N, T)$  represents the t ratio of the OLS estimate of  $\hat{b}_i$ .

Table 1 reports the results of the panel unit root test of Pesaran (2007). The results suggest that all the series are not stationary, they follow a I(1) process.<sup>3</sup> Consequently, the results of unit root test provide support for the existence of a cointegration relationship among variables.

**Table 1: Results of Pesaran (2007) Panel Unit Root Test**

Variable	L	No trend		Trend	
		Zt - bar	P value	Zt-bar	P value
FD	3	-0.877	0.190	1.772	0.962
RGDPPC	3	-1.321***	0.093	-0.765	0.222
IQ	3	0.428	0.666	0.590	0.723
FI	3	-1.269	0.102	1.354	0.912
TO	3	-0.055	0.478	3.784	1.000
MS	6	0.018	0.507	0.550	0.709

Note: “\*\*\*”, “\*\*” and “\*” represent the rejection of the null hypothesis at 1%, 5% and 10% levels of significance respectively.

In the next step, we implement a panel cointegration methodology which allows for cross sectional dependence. We perform Westerlund (2006) LM type panel cointegration approach which allows for multiple structural breaks and cross sectional dependence to test the null of cointegration. Test allows for unknown number of breaks which can be occurred in different dates for different countries. The test is based on following model:

$$FD_{it} = d_{it}' \alpha_{ij} + \beta_{1i} RGDPPC_t + \beta_{2i} fFI_t + \beta_{3i} IQ_t + \beta_{4i} TO_t + \beta_{5i} MS_t + u_{it} \quad (3)$$

$$u_{it} = r_{it} + v_{it}$$

$$r_{it} = r_{i,t-1} + \theta v_{it}$$

Where  $j = 1, 2, \dots, mi + 1$  and  $\alpha_{ij}$  represent structural breaks and corresponding deterministic components vector respectively. The null and alternative hypothesis are given as follows:

$$H_0: \theta_{it} = 0, i = 1, 2, \dots, N,$$

$$H_1: \theta_{it} \neq 0, i = 1, 2, \dots, N_1; \theta_{it} = 0, i = N_1 + 1, N_2 + 2, \dots, N.$$

<sup>3</sup> Except for macroeconomic stability the results are presented for three lags. Macroeconomic stability variable in level is stationary up to 6th lag.

The null hypothesis is that all of the units in the panel are cointegrated so that non-rejection of the null hypothesis reflects that there is a long run relationship among the variables of financial development, international financial integration, institutional quality, real GDP per capita, trade openness and macroeconomic stability.

**Table 2: Results of Westerlund (2006) Cointegration Test**

Panel A: Breaks in Constant			Panel B: Breaks in constant and trend		
Country	Breaks <sup>a</sup>	Break Dates	Country	Breaks	Break Dates
Argentina	1	2001	Argentina	1	2001
Brazil	1	1990	Brazil	0	-
Chile	2	1990, 1998	Chile	0	-
China	0	-	China	2	1991, 2008
Egypt	2	1994, 1999	Egypt	2	1991, 1999
India	2	1994, 2004	India	2	1994, 1999
Indonesia	2	1998, 2007	Indonesia	2	1997, 2002
Israel	2	1992, 2000	Israel	2	1997, 2002
Jordan	2	1993, 2005	Jordan	2	1993, 2005
Korea	2	2000, 2009	Korea	2	1994, 2000
Malaysia	2	1991, 2000	Malaysia	1	1999
Mexico	2	1990, 1995	Mexico	2	1991, 2001
Pakistan	2	2002, 2008	Pakistan	2	1990, 2003
Peru	2	1995, 2003	Peru	2	1994, 2003
Philippines	2	1993, 2001	Philippines	2	1997, 2007
Singapore	0	-	Singapore	2	1996, 2006
Thailand	1	1998	Thailand	2	1998, 2008
Turkey	2	1999, 2007	Turkey	2	1992, 1997
LM statistics <sup>b</sup>	91.426 (0.441)		LM statistics	358.943 (0.089)*	
Panel C: Constant (no break model)			Panel D: Constant and trend (no break model)		

<b>LM statistics</b>	6.592 (0.994)	<b>LM statistics</b>	7.197 (0.651)
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a: Structural breaks are estimated by using Bai and Perron (2003). The maximum number of breaks is confined to 2.

b: In the calculation of critical levels that are sensitive to cross section dependency, the number of bootstraps are taken as 1000.

“\*” represents the rejection of the null hypothesis at 1% significance level.

Panel A and B of Table 2 present Westerlund (2006) test results for break dates for every country and panel LM statistics for models with constant and constant and trend. Panel C and D of Table 2 report LM statistics for constant and constant and trend model, but no break case. The sample period for every country is bounded by 29 years. Due to the limited time dimension, we set maximum number of breaks to 2. As can be seen from the Table 2, the break numbers differ across countries between 0 and two. This finding shows that sensitivity to the structural breaks differ among countries. On the other hand, LM type tests reveals non-rejection of the null of cointegration except for model with trend that allows for break (Panel B).

Given the variables are cointegrated, we need to determine the direction and magnitude of the relationship. In order to estimate the long run relationship, the mean group (MG) estimation approach of Pesaran and Smith (1995) allows all slope coefficients and error variances to vary across countries. However, MG does not consider time specific effects that are common across countries. In an integrated world, the possibility of unobservable common factors among economies leads researchers to suspect the validity of traditional approaches like MG. If we do not take into account for cross sectional dependence, our estimates can be severely affected. To determine the most suitable estimator Eberhardt and Teal (2010) propose an augmented mean group estimator by including a common dynamic process in the country regression. In Eberhardt and Teal (2010) procedure, the set of unobservable common factors is treated as a common dynamic processes.

As seen in Table 3, there is a significant positive relationship between real GDP per capita and financial development. This result reveals that the increase in economic development levels of a country leads to an increase in well-functioning of the financial markets. With regards to the main variables of our discussion, the empirical results show that the international financial integration negatively and significantly influences financial development implying that greater level of financial openness deters the financial development. This can be resulted from uncertainty related with the increased competition and price shocks due to increasing levels of financial integration. In that case, higher levels of uncertainty might reduce the investments and slow down the development of financial markets. However, trade openness has a significant and positive impact on development of financial markets indicating the trade linkages are more effective than financial integration on financial development levels. In our analysis, we do not find any significant relationship between institutional quality. A possible explanation for the insignificance of institutional quality is that the institutional quality indicator has not changed significantly over the period. Finally, there is no a significant link between macroeconomic stability and financial development for our sample.

Furthermore, it is important to carry out causality tests to detect the direction of causality among variables. For this purpose, we apply Dimitrescu and Hurlin (2012) panel Granger causality approach. This test is based on following regression model:

$$y_{i,t} = \alpha_{0,i} + \alpha_{1,i}y_{i,t-1} + \dots + \alpha_{k,i}y_{i,t-k} + \beta_{1,i}x_{i,t-1} + \dots + \beta_{k,i}x_{i,t-k} + \varepsilon_{i,t} \quad (4)$$

$$x_{i,t} = \alpha_{0,i} + \alpha_{1,i}x_{i,t-1} + \dots + \alpha_{k,i}x_{i,t-k} + \beta_{1,i}y_{i,t-1} + \dots + \beta_{k,i}y_{i,t-k} + \varepsilon_{i,t} \quad (5)$$

Where  $t$  and  $i$  represent time and cross section dimensions of the panel respectively. Dimitrescu-Hurlin (2012) allows coefficients to differ across cross sections:

$$\alpha_{0,i} \neq \alpha_{0,j}, \alpha_{1,i} \neq \alpha_{1,j}, \dots, \alpha_{l,i} \neq \alpha_{l,j}, \quad \text{for all } i \text{ and } j'$$

$$\beta_{0,i} \neq \beta_{0,j}, \beta_{1,i} \neq \beta_{1,j}, \dots, \beta_{l,i} \neq \beta_{l,j}, \quad \text{for all } i \text{ and } j'$$

The mean of the test statistics is obtained after estimating individual Granger causality regressions for all cross sections. The null and alternative hypothesis are as follows:

$$H_0: \beta_{i,1} = \beta_{i,k} = 0, \quad i = 1, \dots, N_1$$

$$H_1: \beta_{i,1} \neq 0, \quad \text{or ... or } \beta_{i,k} \neq 0, \quad i = N_1 + 1, \dots, N$$

If  $N_1 = 0$  it is concluded that Granger causality holds for all units of panel. Otherwise, the conclusion is in support of non Granger causality for all units.

**Table 3: Mean Group Estimates of the Long Run Effects**

Countries	Variables					
	Constant	RGDPPC	IQ	FI	TO	MS
<b>Argentina</b>	-6.075*** (1.180)	0.735*** (0.095)	- 1.108** (0.515)	- 1.381*** (0.436)	0.117 (0.104)	-0.514 (1.388)
<b>Brazil</b>	- 11.447*** (2.408)	1.028*** (0.196)	2.050* ** (0.510)	- 0.551*** (0.196)	-0.093 (0.060)	0.229** * (0.032)
<b>Chile</b>	- 38.721*** (10.762)	2.899*** (0.717)	0.642 (1.784)	0.571 (0.941)	0.010 (0.279)	0.464** * (0.105)
<b>China</b>	-2.559** (1.075)	0.439*** (0.104)	0.438* * (0.223)	- 0.396*** (0.085)	0.113 (0.082)	-0.031 (0.406)
<b>Egypt</b>	0.265 (0.587)	0.267*** (0.041)	-0.070 (0.236)	-0.772** (0.297)	0.054 (0.035)	- 1.224*** (0.250)
<b>India</b>	11.356** * (4.149)	-0.803** (0.326)	3.052* * (1.553)	-0.428 (0.838)	0.192 (0.241)	- 5.341*** (1.772)
<b>Indonesia</b>	0.744 (1.759)	0.103 (0.151)	- 0.509*** (0.195)	-0.726** (0.391)	0.220* * (0.103)	-0.025 (0.615)
<b>Israel</b>	-4.882 (3.744)	0.524* (0.304)	-0.891 (1.250)	1.924*** (0.609)	0.421 (0.309)	2.342 (1.426)
<b>Jordan</b>	-0.333 (1.688)	0.339*** (0.116)	0.071 (0.196)	- 0.465*** (0.117)	0.058 (0.063)	- 0.593** (0.248)
<b>Korea</b>	-1.299 (1.599)	0.346*** (0.088)	- 0.454* (0.252)	-0.129 (0.125)	0.245* (0.133)	-0.539 (0.372)
<b>Malaysia</b>	-1.907*** (0.485)	0.542*** (0.045)	0.551 (0.527)	- 0.490*** (0.126)	-0.054 (0.050)	-1.757 (1.099)
<b>Mexico</b>	-2.952 (11.740)	0.541 (0.901)	-0.772 (2.148)	-2.242** (0.920)	- 0.322* (0.179)	- 1.258*** (0.483)
<b>Pakistan</b>	13.808** * (2.393)	-0.990*** (0.200)	2.853* ** (0.745)	0.822 (0.715)	0.211 (0.133)	1.091 (0.901)
<b>Peru</b>	- 12.434*** (2.969)	1.141*** (0.266)	2.333* ** (0.299)	-0.871** (0.425)	0.017 (0.144)	0.068* (0.037)
<b>Philippines</b>	-8.725*** (2.268)	0.656*** (0.201)	1.741* * (0.798)	0.628** (0.312)	0.364* ** (0.041)	-0.135 (0.682)
<b>Singapore</b>	3.351* (1.945)	0.307*** (0.071)	- 0.868*** (0.254)	-0.137** (0.056)	-0.169 (0.141)	-2.155 (1.407)

<b>Thailand</b>	-4.936*** (0.961)	0.732*** (0.117)	-0.062 (0.101)	- 0.480*** (0.170)	-0.033 (0.094)	2.358** * (0.845)
<b>Turkey</b>	-5.797 (5.269)	0.628 (0.484)	- 2.294* (1.188)	-0.987 (0.854)	0.233 (0.268)	-0.606 (0.650)
<b>Panel</b>	-3.129** (1.540)	0.542*** (0.077)	0.279 (0.400)	- 0.444*** (0.171)	0.092* * (0.046)	-0.247 (0.300)

Note: “\*\*\*”, “\*\*” and “\*” represent the rejection of the null hypothesis at 1%, 5% and 10% levels of significance respectively. The standard errors are presented in parenthesis.

**Table 4: Results of Dimitrescu-Hurlin (2012) Panel Granger Causality**

Null Hypothesis	Z-bar	P-value
<b>RGDPPC does not Granger cause FD</b>	16.2592	0.0000***
<b>FD does not Granger cause RGDPPC</b>	3.6063	0.0003***
<b>FI does not Granger cause FD</b>	6.6074	4.E-11***
<b>FD does not Granger cause FI</b>	3.9969	6.E-05***
<b>IQ does not Granger cause FD</b>	0.5268	0.5983
<b>FD does not Granger cause IQ</b>	3.9903	7.E-05***
<b>MS does not Granger cause FD</b>	9.8280	0.0000***
<b>FD does not Granger cause MS</b>	6.8964	5.E-12***
<b>TO does not Granger cause FD</b>	4.9362	8.E-07***
<b>FD does not Granger cause TO</b>	3.3316	0.0009***

Note: “\*\*\*” represents the rejection of the null hypothesis at 1% level of significance.

The results of the panel Granger causality test of Dimitrescu and Hurlin (2012) is presented in Table 4. It can be seen from the table that except for institutional quality, all the variables except institutional quality have bidirectional causality relationship with financial development. We find that institutional quality does not Granger cause financial development, however; the relationship is valid for opposite direction. These results are in line with Rajan and Zingales (2003) and Mishkin (2009) hypothesis that points out that financial and trade openness in form of economic globalization lead to improve in financial development. Bidirectional causality between real GDP per capita and financial development supports evidence on reciprocal relationship that in order to increase economic growth, a country should improve financial institutions and instruments and as a result development in finance promotes economic growth in turn (Quartey and Prah, 2008).

#### 4. Concluding remarks

This study investigates the role of international financial integration and institutions of financial development for 18 emerging markets over the period 1095-2014 using Westerlund (2006) cointegration test to find out the long run relationship between among variables. To determine the link between financial development and its main drivers we first control for cross sectional dependency and find that the countries in our sample is cross sectionally dependent. In order to achieve more efficient and valid results we perform Pesaran (2007) unit



root tests to show the stationarity characteristics of variables. After we get evidence on the variables are nonstationary, we employ Westerlund (2006) cointegration test that allows for structural breaks in our panel regressions. The results of cointegration test including the structural breaks provides information about differing breaks across countries and our findings reveal that there is long run cointegration relationship between financial development, international financial integration and institutional quality. For the estimation of long run coefficients, our results suggest that while international financial integration has a significant negative effect on financial development, trade openness have a significant positive effect indicating that the impact of trade linkages across countries are more significant on financial development. We also examine the effects of economic development and macroeconomic stability measures and find that increases in real GDP per capita helps to improve the development of financial markets. We do not find any significant relationship between macroeconomic stability and financial development. Additionally, we test for causality among variables and Granger causality tests demonstrate that there is bidirectional causality across variables except institutional quality.

Our results have some policy implications for emerging market economies. For the policymakers in emerging economies, it is important to be aware of the importance of global integration through opening capital accounts and trade openness. Liberalizing the financial sector should be well programmed and developed in order to prevent creating uncertainties. The findings of this study suggest that there exists much room for further research to determine the link between financial development and international integration and institutions. Beneficial effects of financial integration and institutions for a country may depend on prior developments in other economic variables. Therefore, further research may consider the conditions for improving financial development by taking account the existence of some threshold levels for international financial integration and institutional quality.

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