

Remittances, Institutional Innovations and Economic Development: Evidence from Malaysia

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1

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Abstract

Institutional quality and remittances have separated emerging as the main fundamental determinants of economic performance in recent literature (Catrinescu et al., 2009). They provide empirical evidence that non-financial institutions such as law and order, corruption, and bureaucratic accountability, affect the remittances-growth nexus. However, recent studies do not come to a consensus whether remittance has a positive or negative effect on economic development. Indeed, a number of studies argued that contradictory findings have emerged as a result of omitting the “correct” macroeconomic environment such as well-development domestic financial system, and good quality political and economic policies. Despite the increasing number of studies on the relationship between remittances and economic growth in a group of countries, the study focuses on a single small open developing country such as Malaysia has not been sufficiently studied. This study, therefore, examines the role of institutions in influencing Malaysia’s capacity to take advantage of remittances in its long-run economic growth for the period of 1984-2011. Using autoregressive distributed lag (ARDL) model, we find that institutional quality and remittance exhibit a positive and statistically significant impact on economic growth. Remittance and economic growth is enhanced by a well-developed domestic institutional framework that may further heighten the country’s capability in absorbing the positive effect of remittance on the economic growth. The policy implication is clear. That is, making domestic institutions more effective and well-structured would lead to better use of remittances, thus stimulating Malaysian economic growth.

Keywords: Institutional quality, remittances, economic growth, corruption, bureaucracy, democracy, law, ethnic tension, Malaysia

1. Introduction

It is recognized that human capital accumulation, technological change, trade openness and investment cannot adequately explain differences in economic growth across countries if other institutions are weak (Dollar and Kraay, 2003). Empirical evidences suggest that remittances contribute significantly on economic growth in a developing economy (Pradhan et al., 2008). The growing prominence of remittances to developing countries is accelerating globally. South Asia and East Asia representing a 67% and 114% increase in remittances respectively over the 2001-2005 periods (World Bank, 2006). However, the extant empirical evidence on the remittances-economic growth nexus reached different conclusions. Substantial literatures document positive welfare-enhancing of remittances for the recipients on economic growth (eg. Catrinescu et al., 2009; Taylor, 1992; Stark and Lucas, 1988; Stahl and Arnold, 1986; Glytsos, 2002; Leon-Ledesma and Piracha, 2004; Chami, 2003; IMF, 2005; World Bank, 2006), particularly on the alleviation of poverty by providing capital to fund household investments and savings, and ultimately increase national disposable income. However, others found no direct impact on economic growth (eg. Rao and Hassan, 2011; IMF, 2005). Another strand of literature supports the notion that remittances bring destructive effects on economic growth (Eg., Chami et al, 2003; Barajas et al., 2009), in which the inflow of remittances causes inflation that disadvantages the tradable sector. This may cause a real

appreciation of the exchange rate (Catrinescu et al., 2009), and this income incites moral hazard and reduces labour market participation rates among the migrant's family members (Chami et al., 2003).

The other effect is Dutch disease effects (Acosta et al., 2007; Sala i-martin and Subramanian, 2003). These effects generate adverse outcomes on the quality of institutions particularly on countries with abundance of resource endowments. The reason being the government can substitute these windfalls for taxes to finance the huge public sector expenditure, result in greater corruption opportunities, and ultimately reduce the attractiveness on investment. However since remittances flows are not directly taxed, remittances may avoid the adverse effects of resource windfalls on institutional quality (World Bank, 2006; Abdih et al., 2012).

The effectiveness of remittances on economic growth is highly dependent on institutional quality. The role of institutions quality in stimulating economic growth has sparked renewed interest in recent years. Institutional quality and remittances are separately emerging as the main fundamental determinants of economic performance in recent growth literature (Knack and Keefer, 1995; Hall and Jones, 1999; Glytsos, 2002; Pradhan et al., 2008; Catrinescu et al., 2009). Institutional frameworks influence economic growth via two channels, namely directly (Glytsos, 2002; Pradhan et al., 2008) and indirectly by facilitating of remittances which, in turn, stimulates economic performance (Catrinescu et al., 2009). The impact can be magnified if the contributing institutional factors within the country are sound and complementing instead of contradictory as that may aggravate negativity or deteriorate positivity on an economy.

Recent studies provide strong evidence in confirming the significance of institutional quality for economic growth. Countries that establish better institutional frameworks should be more attractive for domestic and foreign investors. Institutions are the rules of the game in a society by which the members of a society interact and shape the economic behaviour of agents (Demetriades and Law, 2006, p. 245). Institutions encompass a wide range of measures, such as political instability (riots, coups, civil wars), institutional quality (the enforcement of property rights), social capital (the extent of civic activity and organizations), characteristics of political regimes (elections, constitutions, executive powers), and social characteristics (differences in income and in ethnic, religious, and historical background) (Aron, 2000). The institutions affect economic growth via transaction and transformation costs in the production process. Transaction costs are higher if the rules of law or property rights are not well enforced and reliable, or when corruption is widespread. In such situations, private firms usually operate on a small scale, or even worse operate illegally in an underground economy, and may rely on bribery and corruption to facilitate their operations. On the other hand, transformation costs can be increased substantially due to unenforceable contracts mean using inexpensive technology and operating less competitively on a short-term horizon (Aron, 2000). Hence, markets are ill function when the rules are not respected or change frequently, and this leads to inefficiency of resources allocation.

While there have been explorations of the role of remittances in the development process of recipient countries, to our best knowledge, research is still lacking on the relation between institutional quality and remittances. A more recent study on this area is Abdih et al. (2012). They examines the relationship between remittances and institutional quality using 111 countries, and find that an increase in the ratio of remittance is a curse to GDP as it leads to deterioration of institutional quality. To close the research gap, a comprehensive aspect of institutional quality covers bureaucracy quality, corruption, ethnic tensions, law and order, socio-economic conditions, and democratic factors need to be considered to examine the relationship between institutional framework and economic progression within developing countries. Strong institutions are expected to closely link with bureaucracy quality. High quality institutional include the quality of receiving country's appropriate operation of the law enforcement, democratic accountability, bureaucracy quality, low levels of corruption, and ethnic tension that protect all interactions rather than small elite group (IMF, 2003). High quality institutional promotes higher level of economic growth, per capita income, and shape better investment position and foster economic growth.

The present study aims to examine the relation between institutional quality, remittances and economic growth for Malaysia over the period 1984-2010. The objectives of this study are two folds. First, we examine the direct linkages between remittances, institutional quality and economic growth. The development of domestic institutional framework help capture the absorptive capacity of host countries toward real output expansion. We hypothesised that the estimation of the long run growth effect of remittances is determined, at least in part, by institutional factors. Furthermore, we also test the indirect links between remittances and economic growth via institutional quality. We explore how institutional quality influences a country's capacity to take advantage of remittances. Second, this paper differs significantly from previous studies in that we investigate the interaction between remittances and institutional quality, an aspect quite limited in the literature. We test the extent to which institutions facilitate the interactions with remittances. Single country estimation is necessary in this study to capture the deeper insights into the role of institutions in promoting economic performance, and to apprehend the transitory growth effects in the short-run and long-run, as well as examine both the indirect and direct growth effects of remittances. Moreover, Malaysia is the world second largest palm oil producer in the world. If the Dutch disease holds, it will bring adverse effect of oil windfalls on institutional quality.

The outline of this paper is as follows. Section 2 is the literature review on the relationship between institutional quality and economic growth. Section 3 examines methodological issues on the specification and estimation of the growth effects of remittances using the institutional factors, and data. Empirical results are presented in Section 4, and Section 5 concludes.

2. Background and framework for analysis

In a neoclassical growth framework, the effects of remittances and institutional growth can be transient. The effect of remittances could be channeled to economic growth via different ways, with institutions being one of the most important ones (Catrinescu et al., 2009). Glaeser et al. (2004) point out that as a society grows richer, people demand for better bureaucratic qualities, regulations, more security, and law and order. Barros (1996) finds that as countries become richer, people become more democratic, compromise more political freedoms to their citizens. Countries with sound political, legal and structural framework are most likely to reap the long run economic development sown by the contribution of remittances (Catrinescu et al., 2009), and countries with better quality of bureaucracy, protection of property rights and political stability contribute positively to economic growth (Knack and Keefer, 1995).

Remittances may either serve as a tool for mitigating corruption, aggravating corruption or have no impact on the society at all. According to Tyburski (2014), corruption within a developing nation has a huge impact on the effectiveness of remittances. Some argue that remittances deter development by aggravating corruption problems (Gapen et al., 2009), similarly Tyburski (2012) argues that remittances mitigate corruption. When remittances to a nation increase, countries with unstable political situations particularly countries with authoritarian regime tend to face higher corruption level as they reduce expenditure on public services to the lower income groups; whereas democracy nations tend to use remittances as a tool for bettering the life of public to boost economic growth. In addition, Ahmed (2010) shows that remittances foster government corruption particularly in poor countries with weak democratic institutions. A one standard deviation increase in remittances raises corruption by 1.5 index points (on a 6-point scale, and equivalent to a \$600 decrease in GDP per-capita). The results suggest that political institutions may mediate the beneficial socio-economic effects of remittance inflows. Concomitantly, remittances enable a government to reduce its provision of welfare goods and engage in greater patronage through remittances inflow; and this may enhance conducive corruption situation and enlarge political institutional decay. Similarly, using both fixed-effects and random-effects approaches with a panel data for 39 developing countries from 1980-2004, Pradhan et al. (2008) found more democratic (or less autocratic) countries increase economic growth after a period.

Studies have proven that financial instruments and accommodative bureaucratic policies for financial stability have a tremendous impact on country's remittances. Somalia and Afghanistan earn a significant proportion of income from remittances; however even though the financial institutions are restructuring after prolonged periods of desperate pecuniary positions, they are still incapable of maximizing benefits and improving standard of living through remittances due to the escalating level of civil conflicts and ethnic tensions within the nations (Maimbo, 2006). Large number of internally dispersed populations with the absence of physical collateral and land-tenure systems complicates further the usual problems often found in India, Nepal, Mexico and Indonesia even in the absence of conflict (Julca, 2013). Based on the outflow of remittances from the Kingdom of Saudi Arabia, it has been recorded that the jurisdiction of the country from which the foreign worker is, will have an impact on the amount that is remitted back to the country. When a worker believes that the law of the country is not in order and that remittances will be unnecessarily taxed thereby hindering households from obtaining maximum usage the amount remitted back home is likely to be better than what it would have been if the legislative system of the country was sound (Abdel-Rehman, 2006).

3. Methodology

Bounds testing approach

Since the number of observations is small, the study uses autoregressive distributed lag (ARDL) model developed by Pesaran, et al. (2001) for examining a long-run relationship between the variables concerned. The bound testing approach within the ARDL framework has several advantages: (i) it allows testing for the existence of a cointegrating relationship between variables in levels irrespective of whether the underlying regressors are I(0) or I(1) (Pesaran and Shin, 1999; Pesaran et al., 2001); (ii) it is considered more appropriate than the Johansen-Juselius multivariate approach for testing the long run relationship amongst variables when the data are of a small sample size (Mah, 1995)¹; and (iii) Pesaran and Shin (1999) have shown that estimators of the short-run parameters are consistent and the estimators of long-run parameters are super-consistent in small sample sizes.

Following Pesaran, et al. (2001), we constructed the vector autoregression (VAR) of order p (VAR(p)) for the following model:

$$Z_t = \mu + \sum_{i=1}^p \beta_i Z_{t-i} + \varepsilon_t \quad (1)$$

where Z_t is the vector of both X_t and Y_t , where Y_t is the dependent variable (RGDP) and X_t is the vector matrix represents a set of explanatory variables (REM, OPEN, INV and IQ). $\mu = [\mu_y, \mu_x]'$, t is a time or trend variable, and β_i is a matrix of VAR parameters for lag i .

The definitions of the variables involved are defined as follows:

RGDP=GDP per capita (constant 2005, US\$) (Source: World Development Indicator, WDI)

OPEN = Export of goods and services (% of GDP) plus Imports of goods and services (% of GDP) (Source: WDI)

INV= Gross fixed capital formation (% of GDP)(Source: WDI)

IQ = Institutional quality measures, which consist of Bureaucracy quality (BE), Corruption (CORR), and Law and order (LAW).

¹Some previous studies have used ARDL model to relatively small sample sizes with as few as 20 observations in their research. For example, Pattichis (1999) apply the ARDL model to estimate an import demand function for Cyprus from 1975 to 1994 (20 observations). Tang (2001) applies the ARDL framework to study inflation in Malaysia for the period of 1973-1997 (25 observations) while Tang and Nair (2002) apply the ARDL technique to estimate an import demand functions for Malaysia from 1970 to 1998 (29 observations).

- i) BE= Bureaucracy quality (maximum 4 points) - a shock absorber that tends to minimize revisions of policy when governments change. Countries that lack the cushioning effect of a strong bureaucracy receive low points because a change in government tends to be traumatic in terms of policy formulation and day-to-day administrative functions. High rating indicates good bureaucracy quality. Low-risk country, the bureaucracy is somewhat autonomous from political pressure.
- ii) CORR= Corruption (maximum 6 points) - an assessment of corruption within the political system. High corruption is a threat to foreign investment, and may inherent instability into the political process. High risk in corruption may result in an overthrow of the government, a restructuring of the country's political institutions, or, a breakdown in law and order, rendering the country ungovernable. High rating indicates high corruption level.
- iii) LAW=Law and order (maximum 6 points) - Law component is an assessment of the strength and impartiality of the legal judicial system, while the Order component is an assessment of popular observance of the law (crime rate, illegal strikes). High rating indicates good law and order.

We can further develop a Vector Error Correction Model (VECM) as follows:

$$\Delta Z_t = \mu + \alpha t + \lambda Z_{t-1} + \sum_{i=1}^{p-1} \gamma_i Y_{t-i} + \sum_{i=0}^{p-1} \gamma_i X_{t-i} + \varepsilon_t \quad (2)$$

where $\Delta = 1 - L$ and $\alpha = [\alpha_Y, \alpha_X]$. We partition the long-run multiplier matrix as follows:

$$\lambda = \begin{bmatrix} \lambda_{YY} & \lambda_{YX} \\ \lambda_{XY} & \lambda_{XX} \end{bmatrix}$$

The diagonal elements of the matrix are unrestricted, so the selected series can be either I(0) or I(1). If $\lambda_{YY} = 0$, then Y is I(1). In contrast, if $\lambda_{YY} < 0$, then Y is I(0).

The VECM procedures described above are important in testing of at most, one cointegrating vector between dependent variable (Y_t) and a set of regressors (X_t). Further, following the assumptions made (unrestricted intercepts and no trends) and restrictions imposed ($\lambda_{XY} = 0, \mu \neq 0$ and $\alpha = 0$) by Pesaran, et al. (2001) in Case III, therefore, we re-formulate Equation (2) to derive the following Unrestricted Error Correction Model (UECM) to examine the long run relationship between real GDP and remittances.

$$\begin{aligned} \Delta RGDP_t = & \beta_0 + \beta_1 RGDP_{t-1} + \beta_2 REM_{t-1} + \beta_3 OPEN_{t-1} + \beta_4 INV_{t-1} + \beta_5 IQ_{t-1} + \sum_{i=1}^p \alpha_{1i} \Delta RGDP_{t-i} \\ & + \sum_{i=0}^p \alpha_{2i} \Delta REM_{t-i} + \sum_{i=0}^p \alpha_{3i} \Delta OPEN_{t-i} + \sum_{i=0}^p \alpha_{4i} \Delta INV_{t-i} + \sum_{i=0}^p \alpha_{5i} \Delta IQ_{t-i} + \varepsilon_t \end{aligned} \quad (3)$$

where u_t is the white noise error term; Δ is the first difference operator; and p is lag structure, which determined by Akaike's information criterion. All variables except institutional quality measures are transformed into natural logarithms.

There are two steps in investigating the relationship between economic development ($RGDP$), remittance (REM), openness ($OPEN$), domestic investment (INV) and institutional quality measures (IQ). First, we regress Equations (1) and (2) by ordinary least square (OLS) techniques. Second, we impose a restriction on all estimated coefficients of lagged level variables equal to zero to examine the presence of a long-run relationship between the variables. This can be performed by using F-statistics (or Wald statistics) with the null hypothesis of no cointegration against its alternative hypothesis of a long-run cointegration relationship. If the calculated F-statistic is higher than the upper critical bounds

value, then the null hypothesis is rejected. In contrast, if the calculated F-statistic is less than lower critical bounds value, it suggests that there is no long-run relationship between variables. If the calculated F-statistic falls between lower and upper bounds values, then the result becomes inconclusive.

Data

The data on remittances, comprise of workers' personal remittances received, were collected from the World Bank's World Development Indicators (WDI) database. The data are reported in the country's balance of payments. We employ the political risk rating from the International Country Risk Guide (ICRG) provided by the Political Risk Services (PRS) group. In recent years, these indicators have been used, for instance, by Busse and Hefeker (2007) to measure the relationship between political risk, institutions and foreign direct investment, Catrinescu et al. (2009) to examine remittances, institutions and economic growth, and by Rodrik et al. (2004) to investigate institutions rule in economic development. This composite indicator assesses the political stability of a country and comprises institutional measures. We have tested five objectives institutional measures which comprise of corruption, law and order, ethnic tensions, democratic accountability and bureaucracy quality.

4. Results

4.1 Bounds testing approach

This section discusses the main analyses of the study. We first run the simple regression between GDP and remittance, using autoregressive distributed lag (ARDL) model. Equation M1, Table 1 exhibits regression of the real output on remittance, without other country-specific factors. It is shown that remittance has a positive and statistically significant effect on real output in Malaysia. Nevertheless, this equation is subject to argument because the simple regression has often been criticized due to the omission of the important explanatory variables. Therefore, in order to ensure the sensitivity of the results, we experiment with few conditioning information sets. We have included openness level (OPEN) and domestic investment (INV) as the first conditioning information set, as follows:

$$\begin{aligned} \Delta RGDP_t = & \beta_0 + \beta_1 RGDP_{t-1} + \beta_2 REM_{t-1} + \beta_3 OPEN_{t-1} + \beta_4 INV_{t-1} + \sum_{i=1}^p \alpha_{1i} \Delta RGDP_{t-i} \\ & + \sum_{i=0}^p \alpha_{2i} \Delta REM_{t-i} + \sum_{i=0}^p \alpha_{3i} \Delta OPEN_{t-i} + \sum_{i=0}^p \alpha_{4i} \Delta INV_{t-i} + \varepsilon_t \end{aligned} \quad (5)$$

The results of the regressions are reported in M2, Table 1. All the explanatory variables have a significant positive impact on the real output. It is interesting to note that the coefficient of domestic investment (0.9403) is higher than remittance (0.1282), which suggesting that domestic investment is more productive than remittance inflow. This suggests that domestic investment should not be neglected in the process of economic development as both domestic investment and remittance matter for economic performance.

Recently, there is an increasing number of studies find that the effect of remittance on the economic growth is contingent on the country-specific characteristics, or absorptive capacity. For instance, Giuliano and Ruiz-Arranz (2009) find that domestic financial system enhances the relationship between remittance and economic development for a panel of 100 developing countries. Indeed, they show that remittances promote economic growth in those countries with less developed financial systems by providing an alternative source to finance investment. Catrinescu et al. (2009) conclude that a country can benefit more from the presence of remittances if domestic institution system has reached a certain minimum level. These studies suggest that FDI promoting economic growth is contingent on the country-specific characteristics, or absorptive capacity.

We then examine, again using ARDL model, whether remittance depends on the country's absorptive capacity such as Bureaucracy quality (BE), Corruption (CORR), and Law and order (LAW); so we have:

$$\beta_k = \beta_{k0} + \beta_{k1}BE_t \quad (6)$$

$$\beta_k = \beta_{k0} + \beta_{k1}CORR_t \quad (7)$$

$$\beta_k = \beta_{k0} + \beta_{k1}LAW_t \quad (8)$$

where $k = 1, 2, 3$. By substituting either Equation (6), (7), or (8) into Equation (5), we derive the model:

$$\begin{aligned} \Delta RGDP_t = & \beta_0 + \beta_1 RGDP_{t-1} + \beta_2 REM_{t-1} + \beta_3 OPEN_{t-1} + \beta_4 INV_{t-1} + \beta_5 IQ_{t-1} \\ & + \beta_6 INTER_{t-1} + \sum_{i=1}^p \alpha_{1i} \Delta RGDP_{t-i} + \sum_{i=0}^p \alpha_{2i} \Delta REM_{t-i} \\ & + \sum_{i=0}^p \alpha_{3i} \Delta OPEN_{t-i} + \sum_{i=0}^p \alpha_{4i} \Delta INV_{t-i} + \sum_{i=0}^p \alpha_{5i} \Delta IQ_{t-i} + \sum_{i=0}^p \alpha_{6i} \Delta INTER_{t-i} + \varepsilon_t \quad (11) \end{aligned}$$

where $\beta_5 = \beta_{k1}$ and *INTER* is the interaction term (or multiplication) of remittance (REM) with different measures of institutions (BE, CORR and LAW). To better test the hypothesis that institutions affect the impact of remittances on economic growth, we interact remittances' variable with various indexes of institutional quality of a country and test the significance of the interacted coefficient. These interaction terms are denoted by REMBE, REMCORR, REMLAW and REMCI, respectively.

Table 1, Equations M3 to M6, exhibits the regressions from checking for each of these possible long-run relationships between remittance and the interaction terms. It is revealed that the coefficient of *REM*, *OPEN* and *INV* are remain the same as shown in Equation M2, that is, these explanatory variables have a positive and significant effect on the economic development at 10% significance level or better.

The interaction terms between *REM* and Malaysia's absorptive capacity exhibit a significant positive sign, which indicating the growth impact of remittances are further enhanced in better domestic institution system and suggesting a strong complementarity between Malaysia's remittance and the domestic absorptive capacity in promoting economic development (Table 2). In addition, it is worth noting that after including these absorptive capacity variables, the coefficient of *REM* is negative and significant, which is suggesting that the country may benefit more from remittance inflow if it has met a minimum level of institutional development.

Further analysis of the relationship between remittance, institutions and economic development

The analysis of the relationship between remittance, institutional quality and economic development may be further investigated by using alternative institutional quality measures. Hence, this part examines whether the findings reported from Equations M3 to M10 of Tables 1 and 2 also valid when using alternative measures of institutions. In this study, we use Ethnic tension (ETHNIC) and Democratic accountability (DEMO). Ethnic tension (ETHNIC, maximum 6 points) is an assessment of the degree of tension within a country attributable to racial, nationality, or language divisions. Higher rating indicates racial and nationality tensions are minimal, opposing groups are tolerant and willing to compromise. Democratic accountability (DEMO, maximum 6 points) measures of how responsive government is to its people. Higher rating is assigned to Alternating Democracies.

The results of the regressions by using these alternative institutional quality measures are reported in Table 3, with and without interaction terms. Firstly, based on the results shown from M11 to M14, openness and investment are positively and significantly related to economic development regardless of inclusion of interaction term. For the remittance variable, it is positive and significant without inclusion of interaction term. However, the sign of the variable is negative after including the interaction term. In particular, ethnic tension and democratic accountability measures exhibit a positive effect on the impact of remittances on growth without including the interaction term. However, the sign of these institutional quality measures have changed to negative and significant, as expected. This finding is in line with the argument given by Catrinescu et al. (2009) that the impact of remittances on growth depends on whether countries' institutions are conducive to a productive use of remittances (p. 90).

Obviously, low level of ethnic tensions and democratic accountability are preconditions for a successful use of remittances inflow. The findings again provide evidence to support the hypothesis that remittance only has a positive impact on economic development if the development of the domestic institution system has reached a certain minimum level.

5. Conclusion and policy implications

What is the macroeconomic impact of remittances on economic growth? Is there evidence that remittances foster economic growth? How does institutional quality influence the effect of remittances? To shed some light on these questions, in this paper, we analysed the relationship between remittances and growth and its interaction with the institutional quality in Malaysia over the period 1984-2011. The results of the paper are summarised as follows: First, using autoregressive distributed lag (ARDL) model, we find that institutional quality and remittance exhibit a positive and statistically significant impact on economic growth. Remittance and economic growth is enhanced by a well-developed domestic institutional framework that may further heighten the country's capability in absorbing the positive effect of remittance on the economic growth.

The results obtained in this paper have significant policy implications. Remittances contribute to positive economic growth with better quality of institutions.

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Table 1. Regression of the real output on remittance.

Variable	M1	M2	M3	M4	M5	M6
REM	0.1282** (2.290)	0.3069*** (5.432)	0.2238*** (4.070)	0.2709*** (5.932)	0.2098** (2.671)	0.2708*** (4.427)
OPEN		0.4195*** (3.644)	0.2466*** (3.968)	0.4785*** (4.880)	0.6942*** (4.390)	0.3460** (2.536)
INV		0.9403*** (5.262)	0.6607** (3.177)	1.2626*** (8.047)	0.5493** (2.669)	0.8936*** (4.489)
BE			0.1946* (2.172)			
CORR				-0.1552*** (-4.761)		
LAW					0.1010** (3.518)	
LCI						0.8117** (2.559)
Intercept	6.0455*** (4.160)	-2.7022*** (-3.507)	0.1445 (0.219)	-2.7944** (-3.005)	-1.1039 (-1.148)	-2.6855* (-2.109)
DIAGNOSTIC CHECKING						
Breusch-Godfrey test	2.579 [0.1428]	2.935 [0.143]	0.172 [0.695]	7.900 [0.260]	2.552 [0.434]	0.343 [0.583]
ARCH test	0.329 [0.573]	0.052 [0.821]	0.046 [0.832]	1.832 [0.192]	0.001 [0.971]	0.132 [0.720]
JB Normality test	0.522 [0.770]	0.111 [0.945]	1.529 [0.465]	0.144 [0.930]	2.342 [0.310]	0.611 [0.736]
CUSUM (within 5% significance)	Yes	Yes	Yes	Yes	Yes	Yes
CUSUM2 (within 5% significance)	Yes	Yes	Yes	Yes	Yes	Yes

Notes: *, ** and *** indicate significance at 10%, 5% and 1% levels, respectively. Figures in parentheses are t-statistics.

TABLE 2. Regression results on remittance and the domestic absorptive capacity in promoting economic development.

Variable	M7	M8	M9	M10
REM	-0.6765* (-2.163)	-0.2602* (-2.357)	-0.4674* (-2.511)	-1.6141* (-2.731)
OPEN	0.2778** (3.703)	0.2634** (2.831)	0.7214*** (8.915)	0.5133** (3.129)
INV	0.6897** (3.457)	0.7411*** (4.512)	0.4204** (5.060)	1.1684*** (7.777)
BE	-5.9456** (-2.867)			
CORR		-2.2111** (-2.929)		
LAW			-2.7937** (-3.857)	
LCI				-17.6379** (-3.179)
REMBE	0.3159** (2.894)			
REMCORR		0.0987* (2.582)		
REMLAW			0.1575** (4.085)	
REMLCI				0.9769** (3.263)
C	17.3713** (2.697)	10.9040** (3.077)	11.9160** (4.022)	31.6769** (2.959)
DIAGNOSTIC NORMALITY				
AUTO	2.068 [0.209]	0.877 [0.532]	1.377 [0.361]	2.391 [0.262]
HETERO	0.536 [0.472]	0.074 [0.788]	0.033 [0.857]	2.010 [0.172]
JB TEST	3.444 [0.178]	4.724 [0.094]	0.977 [0.613]	0.447 [0.799]
CUSUM (within 5% significance)	Yes	Yes	Yes	Yes
CUSUM2 (within	Yes	Yes	Yes	Yes

5% significance)				
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Notes: *, ** and *** indicate significance at 10%, 5% and 1% levels, respectively. Figures in parentheses are t-statistics.

Table 3: Stability test: FDI and economic growth: using alternative measure of financial development and country region dummies

Variable	M11	M12	M13	M14
REM	0.3075** (3.285)	0.2347*** (4.231)	-0.2127* (-2.642)	-0.1773*** (-4.031)
OPEN	0.5675** (2.932)	0.1919* (2.336)	0.1835* (2.891)	0.3167*** (7.172)
INV	0.5485** (2.647)	0.4996** (3.914)	0.2336* (2.277)	0.4594*** (9.062)
DEMO	-0.0898* (-2.130)		-2.1048** (-4.521)	
ETHNIC		0.0419* (2.401)		-1.8709*** (-6.471)
REMDemo			0.1035** (4.472)	
REMEthnic				0.1013*** (6.477)
C	-1.8808 (-1.282)	1.1417 (1.301)	11.2580** (4.270)	8.4187*** (5.287)
DIAGNOSTIC NORMALITY				

AUTO	3.213 [0.179]	3.576 [0.131]	0.192 [0.703]	0.151 [0.717]
HETERO	1.613 [0.221]	0.003 [0.952]	3.277 [0.087]	0.058 [0.811]
JB TEST	0.798 [0.670]	1.073 [0.584]	0.745 [0.688]	1.176 [0.555]
CUSUM (within 5% significance)	Yes	Yes	Yes	Yes
CUSUM2 (within 5% significance)	Yes	Yes	Yes	Yes