

Corruption, Workers Remittances, Fdi and Economic Growth in Five South and South East Asian Countries: A Panel Data Approach

¹Muhammad Azam, ¹Sallahuddin Hassan and ²Khairuzzaman

¹Senior Lecturer and Associate Professor, School of Economics, Finance and Banking,
College of Business, University Utara Malaysia-Malaysia
²Professor and Director, COMSAT, Vehari Campus-Pakistan

Abstract: This study attempted to examine the impacts of corruption, foreign direct investment (FDI) and workers remittances on economic growth in a set of five South and South East Asian countries during the period ranging from 1985 to 2011. By using of panel data, fixed effects and random effects models, the study obtained evidence of the positive and statistically significant effects of FDI and workers remittances on economic growth. Empirical results also show negative and statistically significant impact of endemic corruption on economic growth during the study period.

Key words: FDI • Corruption • Workers Remittances • Economic Growth • Panel Data

INTRODUCTION

Achieving higher level of economic growth is on the top priority of every state macroeconomic policy to improve living standard and social welfare of the people. Economic development is a multidimensional process which requires many factors working efficiently in an interrelated system. Hence, this study focuses on the impacts of FDI, corruption and workers remittances on economic growth. Workers remittances are equally important and have become the most influential source of external finance like FDI to improve the socioeconomic condition of the people and vital to boost economic growth. It is important to explain that why a firm should go multinational or like to make direct investments abroad? There are two main reasons; The first is to better serve a local market as FDI designed to serve local markets is often called “horizontal” or “market seeking” FDI, since it typically involves duplicating parts of the production process as additional plants are established to supply different locations in order to economize on tariffs and transport costs. The second is FDI in search of low-cost inputs often called “vertical” or “production cost-minimizing” for example, assembling electronic goods in Asia even though component manufacture and final sales

might take place in the USA. The economized and inexpensive inputs might be labour of different skill levels, primary commodities and intermediate goods [1].

It has been observed that capital flows in the form of foreign aid or other commercial loan do not contribute to productive investment and their impact on overall economy performance will be limited and the contribution will be nothing except rise in debt burdens. It is understood that investors from rich countries come into poor countries as they know that the return on capital is comparatively lessen in their own countries similarly multinational companies (MNCs) intend to utilize cheaper labour and raw materials of the host country in order to minimize their production cost and maximize profit. Likewise, foreign investors are welcomed because of their perceived positive contribution towards economic development of host countries. It is assumed here that MNCs serve in the host countries with positive intention and neither creates any negative externalities nor involves and intervenes in any matters at political level. However, it has also been observed that many developing countries have neither yet exploited FDI, nor stern attempt has been made to enhance more FDI into their countries. More benefits can be taken from FDI, if attracted in abundance and utilized it more efficiently. [2] reported that

most developing countries have not appreciably exploited FDI as a source of external financing of the economy due to a non-conducive investment climate and the attitude of the host nations.

There are two schools of thought; one is in favour of FDI benefits, while, the other is against. The proponents of FDI are of the view, that it can make a positive contribution to the growth by supplying capital, technology and management resources that would otherwise not be available. In addition, bringing jobs to a recipient country that would otherwise not be created there [3]. While, the opponents of FDI benefits believe that FDI has no positive effect on economic growth. According to them, FDI receiving countries become more dependent on FDI, transferring over-priced technology by MNCs, exploiting natural resources for their own benefits, interfering in economic and political policies and encouraging negative externalities in the form of pollution [4]. Another study reported that investors search the globe for the highest return, they are often drawn to places endowed with bountiful natural resources but handicapped by weak or ineffective environmental laws. In developing countries for economic development one requirement is to increase in the nation's stock of capital, therefore, developing countries may increase the stock of capital by encouraging more FDI. Many developing economies have intent to restrict FDI because of nationalist sentiment and concerns about foreign economic and political influence. One reason for this sentiment is that several developing countries have operated as colonies of more developed economies and foreign companies. It is feared that investing countries investors might exploit the resources of the host country for their own benefits. Environmentalists are concerned that the FDI growth in developing economies may lead to a deterioration in the global environment because investment is expanding more quickly in countries that have relatively loose environmental standards [5].

What is corruption and how corruption affects economic growth? The term corruption is not new and exists in every society since time immemorial in one or in another form. Currently, corruption is a hot issue when thinking about improving social welfare. The act of corruption as a major preventive to economic growth and development has been recorded in academic literature by many researchers. It is very difficult to define corruption which is a multidimensional factor and its meaning depends upon the perception of the viewers. However, the most

popular simple definition of corruption is that "it is the abuse of public power for private benefit" presented by the World Bank, as corruption refers to the misuse of public power (office) for private benefit, is most likely to occur where public and private sectors meet. In other words, it occurs where public officials have a direct responsibility for the provision of a public service or application of specific regulations [6].

Mr. J. D. Wolfensohn, the President of the World Bank, addressed to the Board of Governors at the 1996 Annual Meetings about the problem of fraud and corruption in the following words [7]:

We need to address transparency, accountability and institutional capacity. And let's not mince words: we need to deal with the cancer of corruption.

About the pessimistic role of corruption, [8] concluded that egalitarian ideals adopted by several developing countries often lead to an inefficient allocation of resources because productive and unproductive agents are given equal access to public facilities. Productive agents then find it worthwhile to bribe their way into obtaining differential access to such public facilities e.g. the telephone system. As long as bureaucrats look upon such bribes as windfall gains, the efficiency of the economic system can be improved. In practice, however, developing countries bureaucracies often come to look upon such incomes as a systematic part of their remuneration and this leads them to pursue bribes rather than carry out their appointed duties; as a result, the system as a whole becomes increasingly inefficient. The World Bank identifies fraud and corruption as great obstacles to economic and social development. Corruption makes sluggish development by distorting the rule of law and weakening the institutional foundation on which economic growth depends. The harmful effects of corruption are especially severe on the world's poorest people, who are most reliant on the provision of public services and are least capable of paying the extra costs associated with fraud and corruption [9, 10].

This study makes an effort to explore the impacts of FDI, corruption and workers remittances on economic growth. Unfortunately, a very little attention has been given to a very important factor in the academic literature that is the problem of corruption (according to the [11] the Corruption Perceptions Index (CPI) in the year 2011 indicates that no region or country in the world is immune

to the damages of corruption, the vast majority of the 183 countries and territories assessed score below 5 on a scale of 0 (highly corrupt) to 10 (very clean). New Zealand, Denmark and Finland found on top of the list, while Myanmar, North Korea and Somalia are at the bottom), particularly in the developing world. Therefore, this study makes important contributions to the empirical literature. The focus of this study is five South and South East Asian countries namely Bangladesh, Pakistan, Malaysia, Philippines and Thailand. As per the World Bank classification on the basis of GNI per capita these are low and middle income countries. High incoming FDI and workers remittances flows encourages economic growth, while, corruption slowdowns the process of economic development and it is hereby assume that in the absence of corruption, even greater and sustained levels of economic growth can be achieved.

This study is organized as follows. Section 1 above dedicated to introduction. Section 2 deals with survey of empirical evidence consist of linkage among corruption, FDI, worker remittances and economic growth. Section 3 presents materials and methods with model specification, variables definition and data sources. Section 4 discusses empirical results. Section 5 summarize and conclude the study.

Survey of Empirical Evidences

Fdi and Economic Growth: A growing number of studies proved empirically the positive effect of FDI on recipient country's economic growth. FDI through transfer of technology improves the host firms' performance, which contributes to the host countries growth of GDP [12, 13]. [14] empirically analyzed FDI-growth linkage based on three step procedures by using data from 11 economies of East Asia and Latin America. The results suggested that FDI encourages more economic growth in East Asia as compared to Latin America. Particularly FDI was found to augment economic growth in 5 host countries (i.e. Hong Kong, Indonesia, Singapore, Taiwan and Mexico) out of 11 countries. However, the study found no positive impacts of FDI on economic growth in Malaysia and Thailand. [15] examined the effect of FDI on economic growth for the period from 1970-1996 on ASEAN-5. The results revealed that FDI has stimulated economic growth most effectively through human factors and knowledge/technological learning-by-doing effects. Moreover, recently [13] analyzed the impact of FDI inflows on economic growth in Barbados in the long and

short run using data from 1979-2008, employing the Engle-Granger two-step procedure. The study found higher positive impact of FDI on economic growth in the long run if compared with the short run.

Corruption and Economic Growth: Previous studies investigated the negative relationship between corruption and the long-term economic growth because all forms of corruption are inimical to long term and sustainable economic development and growth. There are two different approaches about the act of corruption i.e. efficiency enhancing and efficiency reducing approaches. According to the efficiency-enhancing approach, [16, 17] suggested that corruption might enhance economic growth through two channels. First, corrupt practices like "speed money" would allow individuals to avoid bureaucratic delay. Second, government employees who are allowed to charge bribes would work harder, especially in the case where bribes act as a piece rate. Likewise, [18] argued that corruption greases the wheels of business and commerce and facilitates economic growth and investment.

Following the alternative approach that is the efficiency-reducing approach, studies like [19, 20] claim that corruption slows down the wheels of business and commerce. Consequently, it makes sluggish economic growth and distorts the allocation of resources. Meanwhile, they have shown the negative effect of corruption on economic growth, business development, public expenditures, domestic and foreign investment. Corruption hurts the process of economic development [21-23] found that corruption lowers private investment, thereby lowering economic growth. The negative association between corruption and investment, as well as growth, is significant, both in a statistical and in an economic sense. For example, if Bangladesh was to enhance the integrity and efficiency of its bureaucracy to the level of that of Uruguayits investment rate would rise by almost five percent points and its yearly GDP growth rate would rise by over half a percentage points. [24] asserted that corruption decreases economic growth, impedes long-term foreign and domestic investments, rise inflation, depreciates national currency, reduces expenditures for education and health, misallocates talent to rent-seeking activities, pushes firms underground, distorts markets and the allocation of resources, increases income inequality and poverty, educes tax revenue, distorts the fundamental role of the

government and undermines the legitimacy of government and of the market economy. [25] found that corruption has direct negative impact on per capita GDP i.e. economic development of Bangladesh.

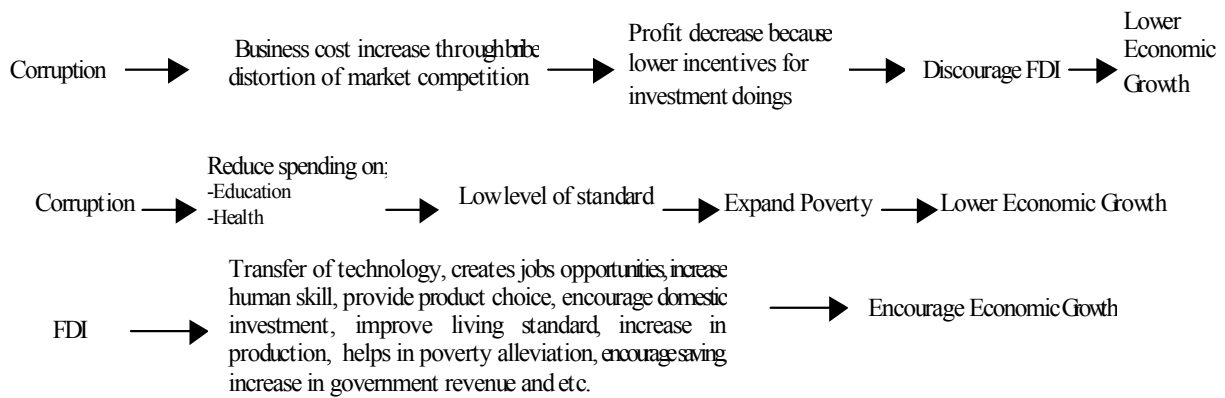
Workers remittances and Economic Growth:

Presumably, workers’ remittances seem to have become as large as FDI flows to developing countries. It serves twofold role in the host countries as by increasing the productive capacity of the economy and creating larger demand. Erstwhile studies provided evidences that workers remittances are used for investing in goods. For instance, [26] reported that at the macroeconomic level, worker remittances are a substantial source of foreign exchange as they boost the level of national income. [27] explained that generally money received through remittances is spent on children schooling, health care and to run micro business. [28] analyzed the relationship between remittance and economic growth in South and South East Asian economies by utilizing simultaneous equations model. Their findings reveled an inverse relationship between remittances and real GDP in the perspective of Thailand, Sri Lanka, India and Indonesia, while found positive impact of remittances on real

investment for Bangladesh, Pakistan and Philippine respectively. [29] investigated the relationship between poverty and workers’ remittances for the period of 1973-2006. Findings of their study supported hypothesis that remittances bring a decline in poverty in Pakistan. [30] analyzed 36 African countries and concluded that remittances positively affect economic growth. [31] empirically investigated that worker remittances are significant and have positive impacts on economic growth of Azerbaijan and Armenia during the period from 1995 -2010. However, some studies have argued that there is inverse relationship between worker remittances and economic growth because most of the remittance income is spent on consumption goods and to construct houses, buy land or purchase jewelry [32, 33].

After thorough review of literature, it has been concluded that workers remittances and FDI positively contributes to economic growth of the host country, while corruption reduces investment and impedes economic growth. The following flow chart 1 briefly reveals that how corruption affects FDI and economic growth and also the impact of FDI on economic growth.

Flow Chart 1: Linkage in Corruption, FDI and Economics Growth



Source: Author compilation based on previous empirical surveys

MATERIALS AND METHODS

Model Specification: The fixed effects model and the random effects model are used in order to investigate empirically the effects of corruption, workers remittances and FDI on economic growth (G) in a set of five South and South East Asian economies. The fixed effects model and

the random effects model are shown in Equation [1] and Equation [2], respectively.

$$G_{it} = \alpha_i + \beta_1 FDI_{it} + \beta_2 CP_{it} + \beta_3 R_{it} + \varepsilon_{it} \quad (1)$$

$i = 1, 2, \dots, N; t = 1, 2, \dots, T$

$$G_{it} = \alpha + \beta_1 FDI_{it} + \beta_2 CP_{it} + \beta_3 R_{it} + \mu_{it} + w_{it} \quad (2)$$

Table 1: Variable Definitions and Data Sources

Abbreviations	Variable definition	Sources
G	GDP per capita (current US\$ million) represents economic growth in log form	[34]
FDI	Foreign direct investment net inflows (current US\$ million) in log form	[34]
R	Workers' remittances and compensation of employees (current US\$ million) in log form	[34]
CP	Corruption is in index, as per the ICRG, corruption index is one of the component of political risk rating system with 6 points out of 100, where toward 0 indicates high level corruption and toward 6 indicates low level corruption [35]	

In Equation [1], the term α_i refers to the intercept parameter that varies across countries and not over time. All behavioural differences between individual countries and over time are captured by the intercept. Individual intercepts are included to control for these countries specific differences. Error terms (ϵ_{it}) are assumed independent, with mean zero and constant variance (σ_ϵ^2) for all countries and in all time periods.

In Equation [2], the intercept parameter is assumed constant. The term μ_{it} is the country-specific random effect that captures the variation across countries. It is assumed to be random and uncorrelated with the independent variables included in the model. Meanwhile, the term w_{it} is the country-specific error.

The expected signs of the variables for Equations [1] and Equation [2] are as follows:

- The FDI and workers remittances (R) are postulated to be positively related to the GDP per capita (G) represent economic growth.
- The corruption (CP) is postulated to be negatively related to the GDP per capita.

For empirical analysis, panel data set over the period from 1985 to 2011 are used. Variable definitions and data sources are reported in Table 1.

RESULTS AND DISCUSSION

This study empirically investigates the impacts of FDI, corruption and workers remittances on economic growth in a set of five South and South East Asian economies. For empirical investigation panel data set of 27 years is balanced consist of five countries, which provides total 135 observations are used. Therefore, panel method which is relatively appropriate, because it provides a large number of observations to the investigators and improves the efficiency of econometric estimates by increasing the degrees of freedom and mitigating the collinearity among regressors are used. The Hausman test is used to decide that whether fixed or

Table 2: Panel Data Estimates (Fixed Effects and Random Effects Model)

Variable	Dependent Variable: GDP per capita (G)	
	Method: Panel EGLS (Cross-section weights)	Method: Panel EGLS (Cross-section random effects)
	Coefficient	Coefficient
WR	0.297* (11.511)	0.245* (7.879)
FDI	0.065* (3.762)	0.107* (5.723)
CP	-0.053** (-2.008)	-0.093* (-3.203)
C	-9.310 (-59.919)	-9.109 (-31.072)
R-squared	0.959	0.681
Adjusted R-squared	0.957	0.674
S.E. of regression	0.223	0.240
F-statistic	427.620	93.149
Prob(F-statistic)	0.000	0.000
Hausman Test (p-value)	19.096 (0.0003)	

Note: t-stat values are in parentheses Asterisks *, ** shows statistically significant at 1 and 5 percent level of significance

random effects models are appropriate for estimation. In this study, the Hausman's test indicates that the fixed effects model is preferable to the random effects model. The utilization of the fixed effects model is more consistent because it does not entail the assumption of no correlation between the country specific effects [36-38]. However, both fixed effects model and random effects model have been used and the results are presented in Table 2 (fixed effects model) and (random effects model).

The R², F-stat, t-stat values are desirable and coefficients carries expected signs indicates that overall the model is technically and statistically acceptable. The R² explains 96 percent (Table 2, fixed effects model) and 67 percent (random effects model) variations by the incorporated explanatory variables in the dependent variable that is economic growth. It is evident from Table 2 that the empirical results show that FDI has positive and statistically significant effect on economic growth at 1 percent level of significance. The coefficient of FDI is

found 0.064 (fixed effects model); meaning that one unit change in incoming FDI will encourage 0.064 percent economic growth. The coefficient of FDI is found 0.106 (random effects model); indicates that one unit change in FDI flows will increase 0.106 percent economic growth. Results of this study are consistent with the other studies like [15].

Corruption index is one of the component of political risk rate of system is found statistically significant at 5 percent level (fixed effects model) and 1 percent level (random effects model) and carries negative expected signs. The coefficient size is found -0.052 (fixed effects model); indicates that one unit change in the corruption will discourage -0.052 units in the economic growth. While, the coefficient of corruption index is found -0.093 (random effects model); indicates that one unit change in the corruption index will discourage -0.093 units in the economic growth. Empirical results found here are consistent with earlier studies like [25]. Likewise, the other important explanatory variable workers remittances also shows positive and highly statistically significant relationship with economic growth at 1 percent level in both fixed effects and random effects model. The coefficient of workers remittances found is 0.297 (fixed effects model); demonstrates that one unit change in workers remittances will enhance 0.297 percent economic growth. Such as the coefficient of workers remittance found is 0.245 (random effects model); demonstrates that one unit change in workers remittance will enhance 0.245 percent economic growth. The results on the relationship between worker remittances and economic growth are consistent with the findings of [30, 31].

Concluding Remarks: The present study is an attempt to investigate whether corruption, FDI and workers remittances affect economic growth, in a set of five South and South East Asian economies during the period from 1985 to 2011. Seemingly, achieving higher level of economic growth is relatively on the top priority of both the developed and developing countries. FDI is among the most beneficial and vigorous means for the encouragement of economic growth and development. The available literature shows that FDI and as well as workers remittances are positively contributes to economic growth. It is also generally perceived that corruption is a bad curse in the way of FDI and consequently makes the process of economic growth sluggish. Several studies reveal that high level of corruption deters investment and economic growth

respectively. By means of panel data, fixed effects model and random effects model, empirical results found are statistically significant and in accordance with the study hypotheses. Empirical results demonstrate that a strong positive effects of FDI and workers remittances on economic growth exists in five South and South East Asian countries, meaning that incoming FDI and workers remittances flows stimulates economic growth. Similarly, the impact of corruption on economic growth is found negative and statistically significant. It is concluded that during the study period FDI and workers remittances encourages economic growth, while corruption discourages economic growth in the area under study.

REFERENCES

1. Shatz, H. and A.J. Venables, 2000. The Geography of International Investment. World Bank Policy Research Working, pp: 2338.
2. Asideu, E., 2002. On the Determinants of Foreign Direct Investment to Developing Countries: Is Africa Different?. *World Development*, 30(1): 107-119.
3. Hill, C.W.L., 2003. *Global Business*, McGraw-Hill Irwin.
4. Jocelyn, A. and K. Saggi, 1998. International Technology Transfer and the Technology Gap. *Journal of Development Economic*, 55(2): 369-398.
5. French, H., 1998. Capital Flows and the Environment. Washington, DC: Foreign Policy in Focus, August 1.
6. Rose-Ackerman, S., 1997. The Political Economy of Corruption. In K. A. Elliot (ed.) *Corruption and the Global Economy*, 31-0 Washington: Institute for International Economics.
7. The World Bank, 2004. Fighting Global Fraud and Corruption in World Bank Financed Projects. Presentation by Mr. David R. Rivero, Chief Counsel, Corporate Administration, Legal Department, at the meeting of the Committee of Juridical and Political Affairs.
8. Rashid, S., 1981. Public Utilities in Egalitarian LDC's: The Role of Bribery in achieving Pareto Efficiency. *Kyklos*, 34(3): 448-460.
9. Al-Sadig, A., 2009. The Effects of Corruption on FDI Inflows. *Cato Journal*, 29(2): 267-294.
10. Wang, Y. and J. You, 2012. Corruption and Firm Growth: Evidence from China. *Economics WP No.118*, UCL School of Slavonic and East European Studies Gower St. London.
11. Transparency International, 2012. Available from <http://www.transparency.org/>.

12. Lim, Ewe-Ghee, 2001. Determinants of FDI and the Relations between FDI and Growth: A Summary of the Recent Literature." IMF Working Paper No. 175, Washington, DC.
13. Campbell, T., 2012. The Impact of FDI Inflows on Economic Growth in Barbados: An Engle-Granger Approach. *International Journal of Public Administration*, 35(4): 241-247.
14. Zhang, K.H., 2001. Does Foreign Direct Investment Promote Economic Growth? Evidence from East Asia and Latina America. *Contemporary Economic Policy*, 9(2): 175-185.
15. Bende-Nabende, A., J. Ford and J. Slater, 2001. FDI, Regional Economic Integration and Endogenous Growth: Some Evidence from Southeast Asia. *Pacific Economic Review*, 6(3): 383-399.
16. Leff, N.H., 1964. Economic Development through Bureaucratic Corruption. *American Behavioral Scientist*, 8(3): 8-14.
17. Huntington, S.P., 1968. *Political Order in Changing Societies*. New Haven: Yale Uni. Press
18. Aidt, T.S., 2003. Economic Analysis of Corruption: A Survey. *The Economic Journal*, 113: F632-F652.
19. Shleifer, A. and R.W. Vishny, 1993. Corruption. *The Quarterly Journal of Economics*, 8(3): 599-617.
20. Rose-Ackerman, S., 1999. *Corruption and Government: Causes, Consequences and Reform*. Cambridge UK: Cambridge University Press.
21. Ehrlich, I. and F.T. Lui, 1999. Bureaucratic Corruption and Endogenous Economic Growth. *Journal of Political Economy*, 107(6): S270-S293.
22. Meon, P.G. and K. Sekkat, 2005. Does Corruption Grease or Sand the Wheels of Growth? *Public Choice*, 122(1-2): 69-97.
23. Mauro, P., 1995. Corruption and Growth. *The Quarterly Journal of Economics*, 110(3): 681-712.
24. Akcay, S., 2006. Corruption and Human Development. *Cato Journal*, 26(1): 26-48.
25. Habibullah, P.M., 2010. The Impact of Corruption on Economic Development of Bangladesh: Evidence on the Basis of an Extended Solow Model. Online at <http://mpira.ub.uni-muenchen.de/28755/> MPRA Paper No. 28755.
26. Martin, F.S., 2001. Remittance Flows and Impact, speech given at 'Remittances as a Development Tool: A Regional Conference' organized by the Multi-lateral Investment Fund, Inter-American Development Bank, May 2001.
27. Jones, B. and R. Skeldon, 2007. Migration and Poverty Reduction in Tajikistan. Working Paper C11, Institute for Developmental Studies.
28. Habib and Nourin, 2006. Remittances and real investment: An Appraisal on South and South East Asian economies. Faculty of Economics, Chulalongkorn University, Asian Institute of Technology, Bangkok
29. Rukhsana, K. and M. Shahbaz, 2008. Remittances and poverty nexus: Evidence from Pakistan. Oxford Business and Economics Conference Program, June 22-24, 2008, pp: 1-15.
30. Fayissa, B. and C. Nsiah, 2010. The impact of remittances on economic growth and development in Africa. *The American Economist*, 55(2): 92-103.
31. Azam, M. and A. Khan, 2011. Workers' Remittances and Economic Growth: Evidence from Azerbaijan and Armenia. *Global Journal of Human Social Science*, XI(VII): 41-46.
32. Chami, R., F.K. Connel and S. Jahja, 2003. Are Immigrants Remittances Flows a Source of Capital for Development? IMF Working Paper, WP/03/189.
33. Gjini, A., 2013. The Role of Remittances on Economic Growth: An Empirical Investigation of 12 CEE Countries. *International Business and Economics Research Journal*, 12(2): 193-204.
34. World Development Indicator, (various issues) The World Bank
35. International Country Risk Guide, 2012. The Political Risk Service. <http://www.prsgroup.com/>.
36. Baltagi, B.H., 2005. *Econometric Analysis of Panel Data 3rd Edition*, New York: John Wiley and Sons Ltd.
37. Kimino, S., D.S. Saal and N. Driffield, 2007. Macro Determinants of FDI inflows to Japan: An Analysis of Source Country Characteristics. *The World Economy*, pp: 446-469.
38. Stock, J.H. and M.W. Watson, 2010. *Introduction to econometrics, 3rd Edition*, Addison-Wesley.