

# The Spread of Financial Development

John Dogbey

*Department of Economics, Ohio University*

## Abstract

This paper examines whether financial development is contagious using spatial econometric analysis. The growing literature on financial development stresses its importance in the growth of many countries, especially following the Schumpeterian theory of convergence. While financial development has received a lot of attention, no paper examines its spillover effects. The paper fills this gap by providing an empirical analysis of contagion in financial development both in levels and at first difference of financial development. The paper identifies FDI, trade and geography as the transmission mechanisms of financial development with FDI as the main channel, followed closely by trade and geography.

**Keywords:** Financial development, contagion, spatial econometric model, weight matrix.

**JEL Classification Codes:** E51, F34, G01, G15.

## 1. Introduction

The increased focus on financial development (a measure of credit advanced to the private sector in a country) in both the development and finance literature comes mainly from its believed role in promoting economic growth during the recent trend towards globalization. For example, high risks of expropriation and thus insecure property rights limit financial development and the ability of a country to take advantage of financial globalization. Moreover, financial development is one of the prerequisites for a country to realize the full growth potential of FDI. Domestic banking development has been discovered as one of the important requirements in exploiting growth opportunities. (Stulz, 2005; Hermes and Lensink, 1999; Bekaert, Harvey, Lundblad and Siegel, 2007).

There is an established positive relationship between private sector enforcement, financial development and investment and growth. It is also documented that the effect of liberalization on economic growth is greater if a country starts from above average level of financial development. Researchers have empirically shown evidence supporting the Schumpeterian theory of convergence that countries with a certain critical level of financial development have a likelihood of converging to the world–technology frontier and that other countries have far lower long-run growth. (Johnson, McMillan and Woodruff, 2002; Bekaert, Harvey, and Lundblad, 2005; Aghion, Howitt, and Mayer-Fulkes, 2003).

The foregoing literature has many implications, including but not limited to the following: as countries make every possible effort to converge to the world's technological frontier, for the convergence theory to hold, countries need to attain a certain threshold of financial development; governments of countries may need to booster domestic investment by encouraging both actual and potential entrepreneurs to secure the necessary funds needed for such ventures; globalization can lead to competition between domestic and foreign lenders for customers (potential and actual entrepreneurs and investors). The first two points listed above begs the question how do countries attain the

necessary level of financial development? While a few papers such as Koubi (2008) have addressed issues like the determinants of financial development, no paper has examined whether financial development is contagious.

This paper tests whether the amount of private credit being advanced to the private sector in one country depends on what is prevailing in the private credit markets of other countries. Second, it attempts to find out what the transmission mechanisms are and what the magnitude of the contagion is in each case. The paper therefore examines how countries attain the necessary level of financial development needed for growth convergence. It identifies three channels of contagion in financial development namely FDI, trade and geography.

My results suggest that each of these is a significant channel through which financial development can spread from one country to the other. Specifically, it finds which channel is more effective and more responsible for the spread and growth of financial development in countries. While no single channel seem to be the sole means of transmission, my results show that FDI is a more effective means followed closely by trade and geography. In section 2, I shortly explain each of these channels; section 3 expatiates on the methodology and data followed by the presentation of my results and conclusion in sections 4 and 5 respectively.

## **2. Transmission Mechanisms of Financial Development**

### **2.1. Geography as a Channel of Financial Development**

The geographic spread of financial development is fostered by several factors including Tiebout competition, economic unions and the activities of a common lender to a regional block.

Tiebout (1956) implies that countries compete among themselves for tax revenues by improving services they offer in their jurisdictions due to the potential for economic agents migrating to communities where their needs are best met. Tiebout competition can explain the geographic spread of financial development, especially when there are bad banking regulations in neighboring countries or interest rate differentials among them.

The implication of Tiebout competition is that a country whose neighbors have high financial development will have their financial sector more impacted than countries whose neighbors have low levels of financial development. This will be an indirect effect in the sense that such a country has the incentive to strengthen its legal system to enable financial development to thrive as well. This is because the country will see neighbor countries as competitors, since domestic entrepreneurs may migrate to such countries for “greener pastures” or credit facilities thereby reducing the domestic country’s tax base. For example, De Soto (2000) finds that it takes 13 to 25 years and 155 bureaucratic steps to obtain collateral necessary for obtaining credit in the Philippines. This could hardly be the case for countries whose neighbors have high levels of financial development.

Also, financial development can spread to neighboring countries trying to avoid losing domestic investors through interest rate differentials. Desai, Foley and Hines (2004) find that lenders in countries with higher levels of financial development charge lower interest rates. This implies that a country whose neighbors have high financial development would have the incentive to promote it to avoid losing investors to neighboring countries. This creates competition among neighboring countries over financial development and thus spreads it geographically.

Another way financial development can spread by geography is through economic unions. Through economic unions like the EU or NAFTA, financial development can spread to member countries which join such unions. Cvetanovic (2006) shows how the EU can, for example, contribute to the financial development of the eight former-Socialist European accession (EU-8) countries that joined it. He argues that through the activities of institutional investors (domestic and foreign) such as insurance companies, mutual funds and private pension funds there will be liquidity boost in terms of share of turnover in the market and a reduction in the cost of capital, which would make it easier for liquidity-constrained firms in the union to obtain fresh capital infusion.

Finally, a regional block having a common lender can experience similar financial development, especially changes in financial development in their geographical location. Kaminsky and Reinhart (2000) explain that when a common creditor country has nonperforming loans in one of its customer countries in a regional block it may choose to reduce or withdraw its credit advances to the country involved as well as all customer countries in the entire block. This was what happened during the Asian crisis with Japan as a common lender to most of the Asian countries.

## **2.2. Trade as a Channel of Financial Development**

Trade is another major way financial development can spread. Rajan and Zingales (2003a, 2003b) show that financial development is associated with trade liberalization. They document that “periods when and countries where borders were open to foreign trade and capital coincided with periods of intense financial development. This is true even controlling for endogeneity of the decision to open up borders”. According to their findings, even though special interest groups could have strong motives to hinder the development of a good financial sector, openness to international trade and capital flows could mitigate these incentives.

Second, trade openness leads to increased competition from foreigners. To be able to compete with foreign countries (especially more developed countries) poorer countries need to attain a certain critical level of financial development and would enforce financial development. Firms and entrepreneurs will put pressure on their governments to make legislations that will make financial development thrive to enable them compete in the global marketplace.

## **2.3. FDI as a Channel of Financial Development**

FDI can also have spillover effects on countries' level of financial development. In other words, a country that receives FDI from other countries with different levels of financial development will have its financial sector affected differently by each of those countries.

For example, the spillover effects of FDI have been explored by many researchers, including Lipsey (2000) who shows that there has been an increased capital formation in Canada as a result of FDI inflows.

The FDI channel can either be direct or indirect. Directly, it can be in the form of private credit unions or financial institutions established by foreign firms (primarily for their employees), which can eventually help in establishing financial development in the domestic countries. Indirectly, it could also go beyond this point to have a ripple effect through competition, learning, and motivation. First, domestic private lenders would compete with foreign credit unions or financial institutions that have better credit risk and monitoring expertise. In order not to lose customers (borrowers) or their operation to these firms they would seek a better system that will enable them efficiently advance credit.

Second, domestic lenders also have the opportunity to learn the expertise (such as the ability to distinguish good credit risks from bad credit risks) from these foreign lenders and hence be in a better position to advance more credit to the private sector.

# **3. Data and Methodology**

## **3.1. Dependent Variables**

For the purpose of this paper, I consider three measures of financial development namely domestic credit to the private sector as a percentage of GDP, private credit by the banking sector as a percentage of GDP, and stock market total value traded as a percentage of GDP.

The first two measure domestic banking development and banking development respectively. Domestic credit to the private sector includes credit from all domestic sources (private and public) to the private sector. Private credit to the banking sector includes credit from all commercial banks. The last one relates to stock market liquidity and measures stock market development. Domestic banking

development is used for the main analysis while banking development and stock market liquidity are employed for robustness checks.

In addition to a specification estimating the level of financial development level, I will also consider a specification using change of financial development. This change specification examines whether credit freezes or other shocks are also contagious. Data is from 1985-2000. The data for financial development comes from World Development Indicator (WDI). Data descriptions and statistics are found in appendix 1.

### 3.2. Independent Variables

The independent variables used in this study include initial GDP per-capita, the lagged level of financial development, spatial weight matrixes and regional or continent dummies. Lagged levels of countries' financial development are included to examine if there is any evidence of institutional dependence; that is if previous levels of financial development affect the present. Data for these variables is also taken from the World Development Indicator Series Data (WDI).

Other variables are the indexes of bureaucratic quality, the risk of expropriation of private investment, the risk of repudiation of contracts by governments and legal environment (which is the summation of the last two indexes). Higher values of the bureaucratic quality index indicate that bureaucratic delays are low or the bureaucratic structure of the country is high. High values of the risk of expropriation index, the risk of repudiation of contracts and hence the legal environment means that it is safer to transact business in such a country. In other words, governments are not likely to confiscate private investment or inadvertently alter contracts or arbitrarily change business agreements with foreign investors. Data for these measures are taken from the ICRG dataset.

For the measures of geography I collect data on nearest neighbors from the World Fact Book. The trade data is taken from the IFS Direction of Trade databases. FDI data comes from the OECD data base on the bilateral FDI inflows from countries. The FDI data comprises of only data on the OECD countries due to unavailability of data; only the OECD countries provide data on FDI inflows from other countries and hence the weight matrix can only be constructed for these countries. The full sample however comprises of a panel of 98 countries for the geography regression and the trade regression and a panel of 30 countries for the FDI regression. Five years averages are computed and used for panel regressions.

### 3.3. Methodology

This study uses spatial econometric methods to examine the spread of financial development. I employ both a spatial autoregressive model (SAR) and spatial error model (SEM). SAR specifies a country's financial development as a function of the weighted value of the financial development of its geographic neighbors, trade partners, and FDI partners. SEM models the error term of a country's financial development as a function of the weighted value of its geographic neighbors' errors, trade partners' errors, and FDI partners' errors. The regression uses five year averages for a panel regression.

These models are specified below:

*SAR:*

$$Y_t = \alpha + \rho WY_t + \beta X_t + \nu_t \quad (1)$$

*SEM:*

$$Y_t = \alpha + \beta X_t + \varepsilon_t, \quad \varepsilon_t = \lambda W\varepsilon_t + \eta_t \quad (2)$$

where  $W$  is an  $N \times N$  weight matrix with respect trade or geography;  $X_t$  is a vector of controls variables,  $Y_t$  is an  $N \times 1$  vector of measures of the dependent variables;  $\rho$  and  $\lambda$  are the spatial autoregressive and spatial error coefficients respectively (which represent how much is the magnitude of the spillover of financial development to a country from its FDI partners, trade partners or geographic neighbors), and  $\nu_t$  and  $\varepsilon_t$  are  $N \times 1$  matrixes of iid random errors.

To use this approach, I test for the presence of spatial dependence using the Lagrangian Multiplier (LM) test which shows whether OLS estimates would be biased and also helps chose the best spatial model (the one with the largest LM t-statistic). Based on my test, SEM is the best model for the analysis. While I ran both regressions only the SEM results are reported.

### 3.4. Weight Matrixes

I construct a spatial weight matrix for geographic neighbors, FDI and trade partners as in Leeson and Sobel (2006). For FDI, the weight country  $i$  assigns to each country in the sample is calculated as each country's FDI inflows to country  $i$  as a ratio of country  $i$ 's total FDI inflows. The same applies to the trade weight matrix, only that the trade weight matrix uses import ratios of each country in the sample. In matrix notation this is represented below:

$$W_1 = \begin{bmatrix} \frac{X_{11}}{\sum X_{1j}} & \cdot & \cdot & \cdot & \frac{X_{1j}}{\sum X_{1j}} \\ \cdot & \cdot & & & \cdot \\ \cdot & & \cdot & & \cdot \\ \cdot & & & \cdot & \cdot \\ \frac{X_{nj}}{\sum X_{nj}} & \cdot & \cdot & \cdot & \frac{X_{nn}}{\sum X_{nj}} \end{bmatrix} \text{ for } j=1, 2, \dots, n. \quad (3)$$

where  $X_{i,j}$  represents imports or FDI inflows from country  $j$  to country  $i$ .

For the geography weight matrix, I employ the “queen” case of first order contiguity. Thus a country gives a weight of one to every country it shares a border with (whether vertically, horizontally or at vertex contacts) and zero otherwise. As with the other weight matrices above, the geography weight matrix is row standardized. In other words, the weight given by each country to geographic neighbors is calculated as a ratio of 1 to the total number of the countries that each country shares neighbors with. For example, if country  $i$  has 4 neighbors, then each of these countries is assigned a weight of  $\frac{1}{4}$  by country  $i$ . This shown in matrix notations below:

$$W_2 = \begin{bmatrix} \frac{\mu_{1j}}{\sum \mu_{1j}} & \cdot & \cdot & \cdot & \frac{\mu_{1j}}{\sum \mu_{1j}} \\ \cdot & \cdot & & & \cdot \\ \cdot & & \cdot & & \cdot \\ \cdot & & & \cdot & \cdot \\ \frac{\mu_{nj}}{\sum \mu_{nj}} & \cdot & \cdot & \cdot & \frac{\mu_{nj}}{\sum \mu_{nj}} \end{bmatrix} \text{ for } j=1, 2, \dots, n. \quad (4)$$

$$\text{where } \mu_{ij} = \begin{cases} 1 & \text{if country } i \text{ and } j \text{ are neighbors} \\ 0 & \text{otherwise} \end{cases} \quad (5)$$

This makes the weights given by each country to all others sum up to 1.

The problem with geography though is that countries which are islands may not be assigned any weights. To deal with this problem, I assigned a dummy which takes a value one if a country is an island and zero otherwise. If the island dummy is insignificant it will be dropped, otherwise this will necessitate running the regression without islands.

## 4. Results

Table 1 shows the result for geography while Table 2 and Table 3 show results for trade and FDI respectively. Column 4 of all tables show the results for financial development (measured as domestic

credit to the private sector as a percentage of GDP) when all control variables are used, including the lagged level of financial development. The Financial linkages results do not include lagged levels due to insufficient data. Column 8 of Table 1 and Table 2 and column 3 of Table 3 show the results for change in financial development.

The result shows that there is contagion both in levels and first differences of financial development. That is, countries linked to others (by geography, trade or FDI) with high levels of financial development tend to “catch” high levels of financial development. This is also true when countries are linked to others experiencing changes in financial development (such as credit freezes or other shocks). Also, the results also show that FDI are the dominant channel of contagion followed by trade and geography. The SEM regression results are the ones reported for analysis based on the LM tests.

The value of lambda shows contagion in financial development. At levels this is 0.184, 0.19 and 0.272 for geography, trade and FDI respectively. In other words, countries catch 0.184, 0.19 and 0.272 of their neighbors’ levels of financial development, their trade partners’ levels of financial development and their financial linkage countries’ levels of financial development respectively. Since the FDI regression does not have a lagged term as the other regressions, for robustness checks, I run the regression using other dependent variables. Column 2 of Table 3 shows that the contagion at levels of financial development (measured as stock market total value traded as a percentage of GDP) is 0.44. All results are significant at the 1 percent level.

Contagion in changes in financial development is 0.185, and 0.187 for geography and trade respectively. Since the FDI regression does not have a lagged term as the other regressions, I have no results for the contagion in the changes in financial development measured as domestic credit to the private sector through FDI. However, Table 3 shows that contagion through FDI, using change in private credit by the banking sector (banking development) as the dependent variable, is 0.289. These results are significant at the 5 percent, 5 percent and 10 percent levels for geography, trade and FDI respectively.

The paper also finds lagged levels of financial development to account significantly and positively for the level of financial development, but negatively for the changes of financial development. The coefficient on lagged FD shows that lagged levels of financial development accounts for 89 percent of the level of financial development in a country. The results are all significant at 1 percent level. This means that there is evidence of institutional dependence at levels of financial development. Thus countries with previous high levels of financial development would tend to have higher levels of financial development than countries with lower levels of financial development.

However, changes in financial development tend to inversely correlate with lagged levels of financial development, implying convergence. The results show that lagged levels of financial development inversely accounts for 11 percent of the change in financial development in a country. These are all significant at the 1 percent levels.

The paper also finds bureaucratic quality important for financial development. This is especially true in the trade and geography regressions where bureaucratic quality accounts for about 3.6 percent and 2.7 percent respectively. These can be found in Table 1 and Table 2. Legal environment is found to matter only for change of financial development, measured as domestic banking development. This is found Table 3 in the FDI regression. The results indicate that legal environment is negatively related to changes of private credit by the banking sector and this accounts for about 10.5 percent. In other words the lower the level of legal uncertainty in a country, the higher the change of financial development. This finding supports Koubi (2008). Separately, the risk of expropriation and the risk of repudiation of contracts do not seem to matter in all regressions.

Finally, in all regressions, the paper finds per capita GDP as only statistically significant but not economically significant for financial development. The coefficient on per capita GDP in all tables indicates that per capita GDP is only statistically significant at 1 per

## 5. Conclusion

This paper examines whether financial development is contagious and finds evidence of contagion through geography, trade and FDI. While none of these channels seem to be solely responsible for the spread of financial development, the paper finds FDI as the dominant channel both at levels and at first difference followed by trade and geography, which seem to have similar magnitudes of contagion. The result for contagion for change in financial development and levels of financial development are very close, suggesting that changes in financial development, such as credit freezes, are almost as contagious as levels of financial development.

The paper also finds evidence of institutional dependence at levels of financial development. This implies that countries with previous high levels of financial development tend to have higher levels of financial development than countries with lower previous levels of financial development. The findings of this paper also suggest a positive relationship between financial development and bureaucratic quality and a negative relationship between financial development and the legal environment.

Based on the findings of this paper, a suggestion to developing countries as well as multilateral corporations would be to establish more FDI and trade links between developing countries and the developed world especially in the area of stock market development. This would be more effective in an environment of bureaucratic efficiency and low legal uncertainty.

**Table 1:** Geographic Contagion

Independent Variables	Dependent Variables							
	Level of Financial Development				Change in Financial Development			
	1	2	3	4	5	6	7	8
Lambda	0.088 (1.377)	0.107* (1.664)	0.102 (1.584)	0.184*** (2.948)	0.265*** (4.452)	0.189*** (3.035)	0.104 (1.616)	0.185*** (2.965)
Constant	0.475*** (4.083)	0.127* (1.795)	0.127* (1.79)	-0.034 (-1.235)	0.085 (1.217)	0.004 (0.114)	0.128* (1.793)	-0.033 (-0.987)
Island	0.090* (1.68)	0.035 (1.14)	0.034 (1.112)	0.075* (2.684)	0.044 (1.341)		0.035 (1.118)	0.075*** (2.646)
Per Capita Income		0.010** (2.27)	0.010*** (2.263)	0.010*** (2.496)		0.010*** (2.844)	0.010** (2.259)	0.010*** (2.489)
Lagged Financial Dev.		0.868*** (17.624)	0.867*** (17.613)	0.891*** (18.677)		-0.130*** (-2.687)	-0.132*** (-2.682)	-0.108*** (-2.270)
Bureaucratic Quality		0.026*** (2.901)	0.027** (2.083)	0.027*** (3.065)		0.029** (2.286)	0.027** (2.082)	0.0278*** (2.197)
Risk of Expropriation						-0.02 (-1.610)		
Risk of repudiation of contracts						0.018 (1.371)		
Legal Environment			-0.00003 (-0.109)	-0.003 (-0.095)			-0.0004 (-0.121)	-0.00003 (-0.09)
Regional Dummies	YES	YES	YES	NO	YES	NO	YES	NO
R-Squared	0.345	0.800	0.800	0.241	0.160	0.196	0.242	0.207
Log-likelihood	28.562	202.904	202.908	204.462	179.506	192.743	202.914	195.027
No. of Observations	294	294	294	294	294	294	294	294

**Notes:** t-statistics in parentheses; asterisks indicate significance as follows: \*\*\*=1%, \*\*=5%, \*=10%. Variable description, descriptive statistics, and sources can be found in Appendix 1

**Table 2:** Trade Contagion

Independent Variables	Dependent Variables							
	Level of Financial Development				Change in Financial Development			
	1	2	3	4	5	6	7	8
Lambda	0.163* (1.660)	0.202** (2.104)	0.171* (1.750)	0.190** (1.965)	0.426*** (5.303)	0.201** (5.231)	0.174* (1.795)	0.187** (1.961)
Constant	0.43*** (3.719)	0.135* (1.889)	0.129* (1.798)	-0.027 (-0.848)	0.066 (0.925)	0.135* (1.889)	0.127* (1.798)	-0.027 (-0.847)
Island	0.087* (1.667)	0.023 (0.781)	0.029 (0.925)		0.036 (1.162)	0.024 (0.781)	0.028 (0.920)	
Per Capita Income		0.004 (1.619)	0.004* (1.820)	0.01*** (2.713)		0.004 (1.622)	0.004* (1.807)	0.01*** (2.715)
Lagged Financial Dev		0.852*** (17.270)	0.866*** (17.681)	0.888*** (18.388)		-0.148*** (-2.991)	-0.133*** (-2.719)	-0.111*** (-2.297)
Bureaucratic Quality		0.033*** (2.597)	0.034*** (2.597)	0.036*** (2.880)		0.033*** (2.594)	0.033** (2.611)	0.036*** (2.876)
Risk of Expropriation		-0.024** (-2.042)				-0.024** (-2.039)		
Risk of repudiation of contracts		0.021 (1.639)				0.021 (1.638)		
Legal Environment			-0.002 (-0.632)	-0.0003 (-0.777)			-0.002 (-0.652)	-0.0003 (-0.770)
Regional Dummies	YES	YES	YES	NO	YES	YES	YES	NO
R-Squared	0.352	0.804	0.801	0.782	0.161	0.257	0.247	0.172
Log-likelihood	29.924	205.604	203.857	189.761	179.555	205.605	203.861	194.149
No. of Observations	294	294	294	294	294	294	294	294

**Notes:** t-statistics in parentheses; asterisks indicate significance as follows: \*\*\*=1%, \*\*=5%, \*=10%. Variable description, descriptive statistics, and sources can be found in Appendix 1.

**Table 3:** FDI Contagion

Independent Variables	Dependent Variables			
	Stock Market Total Value Traded (% GDP)	Stock Market Total Value Traded (% GDP)	Change in Private Credit by the Banking Sector (% GDP)	Domestic Credit to the Private Sector (% GDP)
Lambda	0.458*** (3.971)	0.440*** (3.734)	0.289** (2.122)	0.272** (1.980)
Constant	-0.064 (-0.222)	0.204 (0.702)	-1.952*** (-3.308)	0.099 (0.289)
Island	0.395*** (2.725)	-0.012 (-0.185)	0.053 (0.334)	
Per Capita Income	0.010*** (2.972)	0.010*** (2.643)	0.010 (1.054)	0.020*** (6.506)
Lagged Financial Dev.				
Bureaucratic Quality	0.053 (1.331)	0.052 (1.257)	-0.022 (-0.284)	0.023 (0.476)
Risk of Expropriation				
Risk of repudiation of contracts				
Legal Environment	-0.033 (-1.528)	-0.025 (-1.076)	0.105** (2.324)	0.002 (0.009)
Regional Dummies	YES	NO	YES	NO
R-Squared	0.193	0.316	0.193	0.374
Log-likelihood	-30.257	-148.298	-30.257	5.588
Number of Observations	90	90	90	90

**Notes:** t-statistics in parentheses; asterisks indicate significance as follows: \*\*\*=1%, \*\*=5%, \*=10%. Variable description, descriptive statistics, and sources can be found in Appendix 1.



**Appendix 1:** Variable Description, Descriptive Statistics, and Sources

Variable Name (source)	Description	Mean (Std.Dev.)
<b>Dependent Variables:</b>		
Financial Development – Private Credit to the Private Sector (1)	Domestic Credit to the Private Sector (% GDP)	0.473(0.384)
	Stock Market Total Value Traded (% GDP)	0.250(0.330)
	Private Credit by the Banking Sector (% GDP)	0.805(3.140)
<b>Independent Variables:</b>		
Per Capita Income (1)	GDP per capita (constant 2000 US\$ - thousands)	7.034(8.956)
Bureaucratic Quality (5)	Index of bureaucratic (1-10): The higher the better.	3.304(1.743)
Risk of Expropriation (5)	Index of the risk of outright confiscation of private investment (1-10). The higher the better.	7.239(2.796)
Risk of repudiation of contracts (5)	Index of changes in government and or its behavior (1-10). The higher the better.	6.602(2.778)
Legal Environment (5)	Index of legal uncertainty. Sum of the risks of expropriation and repudiation of contracts (2- 20). The higher the lower the legal uncertainty.	13.841(5.502)
Geographic Neighbors(4)	A country's neighbor based on queen first order contiguity criteria	
Trade Partners (2)	Countries that engage in bilateral trade	
FDI Partners (3)	Countries that receive FDI inflows from each other	

1. World Development Indicator; *The World Bank Databases*
2. Direction Of Trade; *IMF Databases*
3. OECD *Databases*
4. CIA, *The World Fact Book*
5. International Country Risk Guide; *ICRG Dataset*

**Appendix 2:** List of Countries

Algeria	Germany	Niger
Argentina	Ghana	Nigeria
Australia	Greece	Norway
Austria	Guatemala	Pakistan
Bahamas, The	Haiti	Panama
Bahrain	Honduras	Paraguay
Bangladesh	Hong Kong, China	Peru
Barbados	Hungary	Philippines
Belgium	Iceland	Portugal
Belize	India	Senegal
Benin	Indonesia	Sierra Leone
Bolivia	Iran, Islamic Rep.	Singapore
Brazil	Ireland	Slovakia
Burundi	Israel	South Africa
Cameroon	Italy	Spain
Canada	Jamaica	Sri Lanka
Chile	Japan	Sweden
China	Jordan	Switzerland
Czech Republic	Kenya	Tanzania
Colombia	Korea, Rep.	Thailand
Congo, Dem. Rep.	Kuwait	Togo
Congo, Rep.	Luxemburg	Trinidad and Tobago
Costa Rica	Madagascar	Tunisia
Cote d'Ivoire	Malawi	Turkey
Cyprus	Malaysia	Uganda
Denmark	Mali	United Kingdom
Dominican Republic	Malta	United Arab Emirates
Ecuador	Mauritius	Uruguay
Egypt, Arab Rep.	Mexico	United States
El Salvador	Morocco	Venezuela, RB
Fiji	Myanmar	Zambia

Finland France Gabon	Nepal Netherlands New Zealand Nicaragua	Zimbabwe
----------------------------	--	----------

## Acknowledgement

I wish to express my sincere gratitude to Russell S. Sobel, Chris Coyne, Alexi Egorov, and Stratford Douglas, for useful comments.

## References

- [1] Aghion, Philippe, Howitt, Peter and Mayer-Foulkes, David (2004), "The Effect of Financial Development on Convergence: Theory and Evidence," *NBER Working Paper* No. W10358.
- [2] Becker, Bo and Sivadasan, Jagadeesh (2006), "The Effect of Financial Development on the Investment Cash Flow Relationship: Cross-Country Evidence from Europe," *ECB Working Paper* No. 689.
- [3] Bekaert, G., Harvey, C., and Lundblad, C., (2005), "Does Financial Liberalization Spur Growth?," *Journal of Financial Economics*, 77, 3-55.
- [4] Bekaert, G., Harvey, C., Lundblad, C., and Siegel, S., (2007), "Global Growth Opportunities and Market Integration", *Journal of Finance*, 62, 3, 1081-1135.
- [5] Cvetanovic, Slobodan (2006), "The Role of institutional investors in Financial Development of European Accession Countries," *Economics and Organization*, 3, 1, 1 – 11.
- [6] Desai, Mihir A., Foley, C. Fritz and Hines Jr., James R. (2004), "Capital Controls, Liberalizations, and Foreign Direct Investment," *NBER Working Paper* No. W10337.
- [7] de Soto, Hernando (2000), "The Mystery of Capital: Why Capitalism Triumphs in the West and Fails Everywhere Else," *New York: Basic Books*.
- [8] Johnson, Simon, John McMillan, and Christopher Woodruff (2002), "Property Rights and Finance," *American Economic Review*, 92, 1335-1356.
- [9] Kaminsky, Graciela L. and Reinhart, Carmen M. (2000), "On Crises, Contagion and Confusion," *Journal of International Economics*, Elsevier, vol. 51(1), 145-168.
- [10] Leeson, Peter T. and Sobel, Russell (2006), "Contagious Capitalism," *West Virginia University Working Paper*, No. 06-04.
- [11] Luigi Zingales, Raghuram G. Rajan, ( 2003a), "Banks and Markets: The Changing of European Finance," *NBER Working Papers* 9595, National Bureau of Economic Research, Inc.
- [12] Niels Hermes; Robert Lensink (2003), "Foreign Direct Investment, Financial Development and Economic Growth," *Journal of Development Studies*, 40, 142-163.
- [13] Rajan R. G., and Zingales, L. (2003b), "The Great Reversals: The Politics of Financial Development in the 20th Century," *Journal of Financial Economics*, forthcoming.
- [14] Stulz, Rene M. (2005), "The Limits of Financial Globalization," *Journal of Finance*, 60(4), 1595-1638.
- [15] Tiebout, Charles (1956): "A Pure Theory of Local Expenditures," *Journal of Political Economy*, 64, 416-424.
- [16] Vally Koubi (2008), "On the Determinants of Financial Development and Stock Returns," *Journal of Money, Investment and Banking*, ISSN 1450-288X Issue 1.