Capital Inflows, Trade Openness and Financial Development in Developing Countries

Siong Hook Law[a]
Panicos Demetriades[♣]

Abstract

We employ cross-country and dynamic panel data techniques on a rich data set containing six financial development indicators, a number of alternative proxies for financial and trade openness and institutional quality indicators for 43 developing during 1980 - 2000. Our findings provide support to the Rajan and Zingales (2003) hypothesis which suggests that financial development is facilitated when a country's borders are opened to both capital flows and trade. We also find that institutional quality is a robust and statistically significant independent determinant of financial development, providing support to the case made by Arestis and Demetriades (1997, 1999). Our findings relate to all the indicators of financial development employed (both banking and capital market) and are robust to alternative measures of financial and trade openness, as well as estimation method and sample period.

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a Department of Economics, Universiti Putra Malaysia; Ph.D Student, Department of Economics, University of Leicester.
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1.0 Introduction

Financial markets and institutions perform an important function in the economic development process, particularly through their role in allocating finance to various productive activities, including investment in new plant and equipment, working capital for firms etc. This role has been well researched and documented in the empirical literature, using a variety of econometric techniques. By and large, empirical studies suggest that well-functioning financial institutions and markets promote long-run economic growth (King and Levine, 1993a, b; Levine, 1997; Demirgüç-Kunt and Maksimovic, 1998; Rajan and Zingales, 1998, Demetriades and Andrianova, 2004; and Goodhart, 2004). Levine (2003) provides an excellent overview of a large body of empirical literature that suggests that financial development can robustly explain differences in economic growth across countries. Nevertheless, an interesting question remains why, if financial development is so good for growth, have so many countries remained financially under-developed? More broadly, why have some economies developed well-functioning financial markets and institutions, while others have not?

Through arduous data collection from 49 countries and careful analysis, La Porta *et al*. (1997) substantially advance research into the legal determinants of financial development. Specifically, they explore the contribution of a country's legal origin in the formation of its financial structure and its corporate governance institutions. They find that legal origin – be it English common law, or French, German or Scandinavian civil law – partly determines the quality of investor protection and the relative size of the stock market vis-à-vis the banking system. They find that English common law systems generally have the strongest investor protection enforcement, followed by Germany, Scandinavian, and lastly, French civil systems. Another point of view that discusses the differences across countries financial development is the endowment theory of institutions proposed by Acemoglu et al. (2001). These authors argue that the disease environment encountered by colonizers influenced the formation of long-lasting institutions that helped to shape financial development. Beck et al. (2003) examine both the law and endowment historical determinants of financial development, and find that the empirical results provide support for both theories. Nevertheless, initial endowments tend to explain more of the cross-country variation in financial intermediary and stock market development.

Though the law and finance and endowment theory are the two leading explanations for the variance in the proficiency of financial depth across countries, a third rationale is, more recently, also gaining momentum. Rajan and Zingales (2003) analyse the importance of interest group politics in influencing financial development. According to them, politics, driven by special-interest groups representing established business, can explain this uneven evolution of capital markets. They propose an "interest group" theory of financial development

where incumbents oppose financial development because it produces fewer benefits for them than for potential competitors. The incumbents will shape policies and institutions to their own advantage when they gain power. Incumbents can finance investment opportunities mainly with retained earnings, whereas potential competitors need external capital to start up. Thus, when a country is open to trade and capital flows, it is more likely to deliver benefits to financial development because openness to both trade and finance breeds competition and threatens the rents of incumbents. In other words, open borders help to check the political and economic elites and preserve competitive markets. Globalisation forces countries to do what is necessary to make their economies productive, not what is best for incumbent elites.

Pagano and Volpin (2001) also highlight the importance of politics in influencing financial markets by illustrating a few historical examples from Europe and the US of how politics can affect the financial development policies. They survey the literature on corporate governance structures by examining the ability of political economy methodology to analyse the economic regulations and financial institutions that result from the balance of power between the constituents of society. The main insights of the political economy approach is that it explains international differences in financial policy by describing 'which constituencies are assuming a certain regulatory outcome, why they are currently dictating the rules, and how and why the balance of power can shift against them. Another study that takes into account political economy factors in influencing financial openness is Quinn and Inclan (1997), which points out that differences in both political institutional arrangements and type of political economy also account for part of the differences in international financial regulation. However, the influence of political determinants has also had its critics. Beck et al. (2001), for example, question the importance of politics in explaining financial structure. Using principal component analysis to measure political structure, which consists of competitiveness in elections, government openness, and inter-party competition, they find a weak link between politics and finance.

This paper provides empirical evidence pertaining to the Rajan and Zingales (2003) hypothesis, namely that openness to both trade and capital flows has a positive influence on financial development. If true, this hypothesis has very important policy implications, namely it calls for simultaneous trade and financial liberalisation. This would run contrary to the sequencing literature, which advocates that trade liberalisation should precede financial liberalisation and that capital account opening should be the last stage in the liberalisation process (e.g. McKinnon, 1991).

So far the evidence on the Rajan and Zingales (2003) hypothesis remains limited. The sample of countries used by Rajan and Zingales themselves, dictated by limited data availability in the pre-World War II period, means that their conclusions are, at best, very tentative. Other authors have examined related questions but have not examined the Rajan-

Zingales hypothesis directly. Levine (2001), for example, finds that liberalising restrictions on international portfolio flows tends to enhance stock market liquidity, and allowing greater foreign bank presence tends to enhance the efficiency of the domestic banking system. Chinn and Ito (2002) show that there is a strong relationship between capital controls and financial development. Their finding holds for less developed countries in terms of stock market value traded, and even more so for emerging market economies. Klein and Olivei (1999) point out that capital account liberalisation has a substantial impact on growth via the deepening of a country's financial system in highly industrialised countries, but there is little evidence of financial liberalisation promoting financial development outside members of the OECD. In terms of trade openness, Beck (2003) shows that countries with better-developed financial systems have higher shares of manufactured exports in GDP and in total merchandise exports. Svaleryd and Vlachos (2002) find that there is a positive interdependence between financial development and liberal trade policies.

This paper represents an advance over previous empirical literature in a number of important respects. First, it provides a direct test of the Rajan and Zingales hypothesis using appropriately specified financial development equations. These equations control not only for the conventional determinants of financial development (real GDP and real interest rate) but also for institutional quality, an emerging important variable in recent studies (See, for example, Demetriades and Andrianova, 2004). Second, it uses data set that is sufficiently large to enable robust conclusions to be drawn from the econometric results; specifically, the sample utilised in this paper consists of annual data from 43 developing countries, covering the period 1980 – 2000. Third, the time dimension of our data set allows us to examine whether the estimation results are sensitive to the period under consideration, since the 1990s period were characterised by increasing degrees of liberalisation of domestic financial markets compared to the 1980s[1]. Fourth, the paper utilises a variety of financial development and capital inflows measures, which purport to capture various aspects of financial deepening and capital mobility. Finally, besides using cross-country estimation methods, the paper also employs dynamic panel data analysis - namely the pooled mean group (PMG) estimator - which has a number of econometric advantages compared to traditional panel data estimation.

The paper is organised as follows. Section 2 explains the empirical model and econometric methodology. Section 3 explains the data employed in the analysis and Section 4 reports and discusses the econometric results. Finally, Section 5 summarises and concludes.

[1] Total private capital flows to developing countries increased more than sixfold to reach US$200 billion per year during 1995-97 from around US$30 billion per year during 1984-86 (World Bank, 1997).

2.0 The Empirical Model and Methodology

The theoretical literature predicts financial development to be a positive function of real income and the real interest rate. This is based on McKinnon-Shaw type models and the endogenous growth literature. In the model of McKinnon (1973), the positive relationship between financial development and the level of output results from the complementarity between money and capital. It is assumed that investment is lumpy and self-financed and hence cannot be materialised unless adequate savings are accumulated in the form of bank deposits. In the model of Shaw (1973), financial markets, through debt intermediation, promote investment which, in turn, raises the level of output. A positive real interest rate, in these models, promotes financial development through the increased volume of financial saving mobilisation and stimulates growth through increasing the volume and productivity of capital. Higher real interest rates exert a positive effect on the average productivity of physical capital by discouraging investors from investing in low return projects (Fry, 1997). The endogenous growth literature also predicts a positive relationship between financial development, real income and the real interest rate (King and Levine, 1993a,b). Based on these theoretical postulates, a financial development relationship can be specified as:

$$FD = f(RGDPC, R) \quad (1)$$

where FD is financial development, RGDPC is the real GDP per capita, and R is the real interest rate.

Recently, the role of institutions in influencing financial development has also received attention in the literature. Arestis and Demetriades (1997) suggest that differences between finance-growth causal patterns may reflect institutional differences. Demetriades and Andrianova (2004) argue that the strength of institutions, such as financial regulation and the rule of law, may determine the success or failure of financial reforms. Chinn and Ito (2002) find that financial systems with a higher degree of legal/institutional development on average benefit more from financial liberalisation than those with a lower one.

Therefore, Equation (1) is extended to incorporate institutions. Capital inflows and trade openness are also included in order to examine the possible separate influence of trade and capital account openness. Thus, the basic financial development equation is extended as follows:

$$FD = f(RGDPC, R, INS, CIF, TO) \quad (2)$$

where INS is institutions, CIF is capital inflows and TO is trade openness. In order to examine directly the hypothesis proposed by Rajan and Zingales (2003) an interaction term between the last two variables is also included in the model as follows:

$$FD = f(RGDPC, R, INS, CIF, TO, CIFxTO) \quad (3)$$

Equations (2) and (3) provide the basis for the empirical models that are estimated in this paper.

Two econometrics methods are employed to estimate the two equations, namely (i) cross-country ordinary least squares (OLS), and (ii) dynamic panel data methods.

Cross Country Analysis

The pure cross-sectional, OLS analysis uses data averaged over 1980 – 2000, such that there is one observation per country. We focus on these time periods because we have complete data for the 43 developing countries over this period. In addition, the data of capital inflows for these economies are only available since the 1980s. The OLS regression takes the form:

$$\ln FD_i = \beta_0 + \beta_1 \ln RGDPC_i + \beta_2 R_i + \beta_3 \ln INS_i + \beta_4 \ln CIF_i + \beta_5 \ln TO_i + \varepsilon_i \quad (4)$$

where the dependent variable, *FD* is financial development indicator, *RGDPC* is real GDP per capita, *R* is the real interest rate (deflated by inflation), *CIF* is the capital inflows, *TO* is trade openness and ε_i is a random error.

The model that includes the interaction term between capital inflows and trade openness is as follows:

$$\ln FD_i = \beta_0 + \beta_1 \ln RGDPC_i + \beta_2 R_i + \beta_3 \ln INS_i + \beta_4 \ln CIF_i + \beta_5 \ln TO_i + \beta_6 \ln(CIFxTO)_i + \varepsilon_i \quad (5)$$

If β_6 is found to be positive and statistically significant, then this implies that the combination of financial and trade openness exerts an influence on financial development, over and above any separate influence each of these two variables may independently have on financial development. Thus, $\beta_6 > 0$ provides support to the Rajan and Zingales (2003) hypothesis. Three diagnostic checking tests are presented in order to check the robustness of cross-

sectional analysis, namely the Jarque-Bera normality test, the Breusch-Pagan heteroscedasticity test and the Ramsey RESET test of functional form.

Recent literature has discussed the possibility of bi-directional causal effect between financial development and economic growth (Demetriades and Hussein, 1996; Luintel and Khan, 1999). In econometric terms, what we need to address this problem is good instruments for economic performance that are uncorrelated with other plausible determinants of financial development. Therefore, two-stage least squares (2SLS) instrumental variable estimator is employed to control for potential endogeneity problems in estimating Equations (4) and (5). As shown in these equations, the real GDP per capita (*RGDPC*) and financial development (*FD*) might contain simultaneity bias, thus, we attempt to address this issue by using lagged income (Real GDP per capita in year 1965, $RGDPC_{1965}$) as an instrumental variable[2] for *RGDPC*. The 2SLS estimations are carried out not only to correct endogeneity, but also to check the robustness of the findings.

Dynamic Panel Data Analysis

While cross-sectional estimation methods may, in principle, capture the long-run relationship between the variables concerned, they do not take advantage of the time-series variation in the data, which could increase the efficiency of estimation. In addition, Rajan and Zingales (2003) point out that their theory can go some way in accounting for both the cross-country differences in, and the time series variation of, financial development. It is, therefore, preferable to estimate Equations (2) and (3) using panel data techniques.

The parameter estimate of both equations are obtained by employing recently developed methods for the statistically analysis of dynamic panel data, namely the pooled mean group (PMG) estimation proposed by Pesaran et al. (1999). This method is well suited to the analysis of dynamic panels that have both large time and cross-section data fields. In addition, this type of estimation has the advantage of being able to accommodate both the long run equilibrium and the possibly heterogeneous dynamic adjustment process.

Following Pesaran et al. (1999), the unrestricted specification for the autoregressive distributed lag (ARDL) model for the dependent variable y is

$$\Delta y_{it} = \phi_i y_{i,t-1} + \beta_i' x_{i,t-1} + \sum_{j=1}^{p-1} \lambda_{ij} \Delta y_{i,t-j} + \sum_{j=0}^{q-1} \gamma_{ij}' \Delta x_{i,t-j} + \mu_i + u_{it} \qquad (6)$$

$i = 1,2, \ldots N; t = 1,2, \ldots T.$

[2] The initial income of year 1970 ($RGDPC_{1970}$) is also used as an instrumental variable and the results are similar with year 1965.

where y_{it} is a scalar dependent variable, x_{it} is the k x 1 vector of regressors for group *i*, μ_i represent the fixed effects, ϕ_i is a scalar coefficient on the lagged dependent variable, $\beta_i^{'}$'s is the k x 1 vector of coefficients on explanatory variables, λ_{ij}'s are scalar coefficients on lagged first-differences of dependent variables, and γ_{ij}'s are k x 1 coefficient vectors on first-difference of explanatory variables and their lagged values. We assume that the disturbances u_{it}'s are independently distributed across *i* and *t*, with zero means and variances $\sigma_i^2 > 0$. Further assuming that $\phi_i < 0$ for all *i* and therefore there exists a long-run relationship between y_{it} and x_{it} :

$$y_{it} = \theta_i^{'} x_{it} + \eta_{it} \qquad i = 1,2, \ldots N; t = 1,2, \ldots T. \tag{7}$$

where $\theta_i^{'} = -\beta_i^{'} / \phi_i$ is the k x 1 vector of the long-run coefficients, and η_{it}'s are stationary with possibly non-zero means (including fixed effects). Since Equation (6) can be rewritten as

$$\Delta y_{it} = \phi_i \eta_{i,t-1} + \sum_{j=1}^{p-1} \lambda_{ij} \Delta y_{i,t-j} + \sum_{j=0}^{q-1} \gamma_{ij}^{'} \Delta x_{i,t-j} + \mu_i + u_{it} \tag{8}$$

where $\eta_{i,t-1}$ is the error correction term given by (7), hence ϕ_i is the error correction coefficient measuring the speed of adjustment towards the long-run equilibrium.

The Pooled Mean Group (PMG) estimator proposed by Pesaran et al. (1999) restricts the long-run coefficients to be equal over the cross-section, but allows for the short-run coefficients and error variances to differ across groups on the cross-section; that is, $\theta_i = \theta$ for all *i*. The hypothesis of homogeneity of the long-run policy parameters cannot be assumed a priori and is tested empirically in all specifications by a Hausman-type test (Hausman, 1978). The group-specific short-run coefficients and the common long-run coefficients are computed by pooled maximum likelihood estimation. These estimators are denoted by

$$\hat{\phi}_{PMG} = \frac{\sum_{i=1}^{N} \tilde{\phi}_i}{N}, \ \hat{\beta}_{PMG} = \frac{\sum_{i=1}^{N} \tilde{\beta}_i}{N}, \ \hat{\lambda}_{j\,PMG} = \frac{\sum_{i=1}^{N} \tilde{\lambda}_{ij}}{N}, \text{ j = 1, …, } p-1, \tag{9}$$

$$\hat{\delta}_{j\,PMG} = \frac{\sum_{i=1}^{N} \tilde{\delta}_{ij}}{N}, \text{ j = 0, …, q – 1, } \hat{\theta}_{PMG} = \tilde{\theta}$$

3.0 The Data

The data set consists of a panel of observations for a group of developing countries for the period 1980 – 2000. Two groups of financial development indicator are employed in the analysis, namely banking sector development and capital market development. The three conventional variables to measure the banking sector development are liquid liabilities, private sector credit and domestic credit provided by banking sector, whereas the three variables to represent capital market development are stock market capitalisation, total share value traded and number of companies listed[3]. All these financial development variables are expressed as ratios to GDP except the number of companies listed, which is divided by total population. The main sources of these annual data are the World Development Indicators (World Bank CD-ROM 2002) and Beck et al. (1999). The banking sector development indicators are employed in the cross-country estimation as well as the panel data analysis; whereas the capital market development indicators are only utilised in the panel data analysis due to these indicators are only available for 22 developing countries.

Annual data on real GDP per capita and real deposit interest rate (deflated by inflation) are obtained from the World Development Indicators (World Bank CD-ROM 2002) and International Financial Statistics (IFS). The real GDP per capita is converted to US dollars based on 1995 constant prices.

The institutions data set employed in this study was assembled by the IRIS Center of the University Maryland from the International Country Risk Guide (ICRG) – a monthly publication of Political Risk Services (PRS). Following Knack and Keefer (1995), five PRS indicators are used to measure the overall institutional environment, namely: (i) *Corruption* (ii) *Rule of Law* (iii) *Bureaucratic Quality* (iv) *Government Repudiation of Contracts* and (v) *Risk of Expropriation*. The above first three variables are scaled from 0 to 6, whereas the last two variables are scaled from 0 to 10. Higher values imply better institutional quality and vice versa. The institutions indicator is obtained by summing the above five indicators[4].

Three capital inflows proxies are employed to assess whether capital inflows have any impact on financial development, namely private capital inflows, inflows of capital and capital account liberalisation indicator constructed by Chinn and Ito (2002)[5]. The former two indicators are obtained from the World Development Indicators. Among these three proxies, the capital account liberalisation indicator is employed solely in the cross country analysis due to this data set has no variation over time for most of the developing countries, which

[3] The sample period of the number of companies listed is only covering from 1988 – 2000.

[4] The scale of corruption, bureaucratic quality and rule of law was first converted to 0 to 10 (multiplying them by 5/3) to make them comparable to the other indicators. For robustness checks, we also used different weights for each indicator to construct the aggregate index. The estimates are similar and are available on request.

[5] The index on capital account openness from Chinn and Ito (2002) is based on the four binary dummy variables reported in the IMF's *Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER).* These variables are to provide information on the extent and nature of the restrictions on external accounts for a wide cross-section of countries.

indicates that the sample developing countries do not embark on programs of capital account liberalisation; whereas the inflows of capital indicator, which is obtained from the International Financial statistics (IFS) is only employed in the panel data analysis because of the data set is available for 16 countries. Nevertheless, the private capital inflows indicator is employed in both cross-country estimation and panel data analysis,

The following two trade openness proxies are employed in the analysis: total trade as a ratio of GDP and import duties as a ratio of total imports (ID); both are available from World Development Indicators. Due to the import duties indicator is only available for 15 developing countries, this variable is employed in the panel data analysis. Rajan and Zingales (2003) suggest that openness fosters financial development. Therefore, higher import duties would discourage financial development or there is a negative relationship between both variables. As such, the import duties indicator was first converted to (1 – ID/100) in order to have consistent positive relationship with trade openness. In other words, the inverse import duties indicator measures trade openness or low trade barriers, thus the interaction term between capital inflows and trade openness can be quantified since this term has positive impact on financial development as highlighted in the theory.

The definitions of the financial development, capital inflows and trade openness indicators above data are presented in Table AI (see Appendix I).

Table 1 reports the summary statistics results of banking sector development indicators (N = 43), capital market development indicators (N = 22) and other variables that employed in the analysis, where the sample period is covering from 1980 – 2000. The list of these countries is presented in Table AII and Table AIII (See Appendix II). There is considerable variation among these variables especially the financial development indicators, real GDP per capita and institutions. Malaysia, one of the developing countries in this group, has the highest private sector credit, domestic credit, market capitalisation, total share value traded, number of companies listed, trade openness and institutions, whereas it ranks second highest in terms of liquid liabilities (after Jordan) and capital inflows (after Chile). These observations indicate that capital inflows and trade openness may be positively correlated with financial development. Table 2 reports the correlation results and this table reveals that capital inflows and trade openness are indeed positively correlated with the financial development indicators. For example, the private capital inflows and trade openness have the highest correlation with stock market capitalisation, with 0.76 and 0.74, respectively.

4.0 Estimation Results

OLS Cross-Country Results

We first estimate equations (4) and (5) on the full sample and two sub-samples on averaged annual data for the 43 developing countries using the OLS cross-country estimator. Two capital inflows proxies are employed namely private capital inflows and capital account liberalisation. The results are reported in Table 3 and Table 4, respectively. Models 1 – 3 are estimates of Equation (4), utilising alternative proxies for financial development, where Models 4 – 6 are estimates of Equation (5), which includes the interaction term between capital inflows and trade openness.

To start with, it is important to note that the signs of the estimated coefficients on real GDP per capita and the real interest rate are consistent with theory. As shown in Table 3 and Table 4, both variables have a positive relationship with financial development, in all models. It is worth noting that the Jarque-Bera statistic suggests that the residuals of the regressions are normally distributed in all models. The Breusch-Pagan heteroscedasticity test indicates that the residuals are homoskedastic and independent of the regressors in all models. The Ramsey RESET test reveals that there is no mis-specification error, again, in all models. Thus, the diagnostic checking results suggests that the models are relatively well specified.

Examining first Models 1 – 3 in Table 3, where private capital inflows is the proxy for capital account openness and the interaction term is absent, the results reveal that real GDP per capita is a statistically significant determinant of financial development when the full sample is utilised. This continues to be the case in Models 1 and 2 in both sub-samples, but not so in Model 3 (where the financial indicator is domestic credit) where it is significant only at the 10% level. This result seems to demonstrate that economic performance matters for financial development. Interestingly, the real interest rate is insignificant in all the specifications, a result which is in line with previous findings by Demetriades and Luintel (1997) and Arestis and Demetriades (1997). The institutions variable is statistically significant only in sub-sample period II, which may indicate that institutions began to influence financial development in the 1990s. The impact of capital inflows is also more apparent in the second sub-sample, while the trade openness variable is not significant at conventional levels.

In Models 4 – 6 which include the interaction term, real GDP per capita continues to enter as a positive and significant determinant of financial development, except perhaps in Model 6 in Sub-Sample Period II, where it is significant only at the 10% level. The real interest rate remains insignificant throughout and the institutional quality proxy is, once again, significant only in the 1990's period. Trade openness is, if anything, even less significant in these regressions. Interestingly, the coefficient on the interaction term is positive and statistically significant in all the specifications in sub-sample period II and in one of the

specifications in the full sample (Model 1). These findings provide limited support to the Rajan and Zingales hypothesis, in that they are only robust for the 1990's.

Table 4 repeats the analysis using, however, the capital account liberalisation indicator constructed by Chinn and Ito (2002) as a proxy for capital inflows. The results are broadly similar to those reported in Table 3. The only notable difference is that the interaction term appears significant in two out of three cases when the full sample is utilised and the same is also true of sub-sample period II. It is clearly the case that the interaction terms works better in explaining the variation of financial development across countries than either of its separate constituents.

Two-Stage Least Squares (2SLS) Results

The 2SLS results are reported in Tables 5 and 6. Table 5 utilises private capital inflows as a proxy for capital account openness and we discuss those results first. The first-stage regression results indicate that initial income is a statistically significant determinant of real GDP per capita (RGDP). This implies that RGDP in year 1965 is a valid instrument in the analysis[6]. As shown in this table, the results are similar to the OLS results reported in Table 3. With just one exception, real GDP per capita remains a statistically significant determinant of financial development in both the full sample and the two sub-samples in all specifications; the exception is Model 1 in the full sample, where it is only significant at the 10% level. The real interest rate remains insignificant throughout. The impact of institutions on financial development remains more apparent during the 1990s. The coefficients on the interaction term are similar to those obtained with the OLS regression, and they are larger than those on capital inflows and trade liberalization. The Hausman test results reveal that the null hypothesis is not rejected, which indicates that there is no difference between the estimates from OLS and 2SLS instrumental variable, and real GDP per capita can be treated as exogenous. This finding also strengthens the argument that the interaction between capital inflows and trade openness is positive and statistically significant, highlighting that capital and trade openness has larger effects on financial development. Overall, the 2SLS results demonstrate that the OLS results are robust since both estimations indicate similar findings.

Table 6 reports the 2SLS when the capital account liberalization is employed as a proxy for capital inflows. Again, the Hausman test results indicate that there is no different between the estimates from OLS and 2SLS instrumental variable. The results are similar to that obtained with the OLS regression, with the only notable difference being that the interaction terms is statistically significant in all except two specifications. The exceptions are Model 2 in the full sample and the first sub-sample; note however, that in the full sample it is

[6] These results, however, are not reported but available upon request.

significant at the 10% level, probably reflecting the strength of the relationship in the 1990s. Thus, if anything, the 2SLS results provide somewhat greater support to the Rajan-Zingales hypothesis.

Pooled Mean Group Estimations Results

Table 7 reports estimates of Models (2) and (3) that utilize the pooled mean group estimator, which imposes common long-run effects. This table presents estimates of the long-run coefficients, the adjustment coefficients and Hausman test statistics. The lag order is first chosen in each country on the unrestricted model by the Akaike information criterion (AIC), subject to a maximum lag of 1. Then, using these AIC-determined lag orders, homogeneity is imposed. The results indicate that the joint Hausman test statistic fails to reject the null hypothesis and this reveals that the data do not reject the restriction of common long-run coefficients. Besides, the Hausman test also indicates that the pooling restrictions cannot be rejected for five independent variables. The coefficients of real GDP per capita and institutions are positive and statistically significant throughout. The private capital inflows variable also enters significantly in Models 2 and 3. On the other hand, in Models 4 –6 when the interaction term is included in the model, the capital inflows variable loses significance at conventional levels. Note, however, that the interaction term enters with a large and highly significant positive coefficient in Models 4 – 6. These results, therefore, provide strong support for the Rajan-Zingales hypothesis. The joint Hausman test of these models also indicates that the data do not reject the restriction of common long-run coefficients, but the poolability of real interest rate coefficient is rejected.

Table 8 repeats the pooled mean group estimator analysis with three capital market development indicators, namely stock market capitalization, total share value traded and number of companies listed. These indicators are only available for 22 developing countries[7] and the sample period spans the period 1980 – 2000, except for the number of companies listed, for which data is only available for the period 1988 – 2000. Both the real GDP per capita and real interest rate retain their positive sign, but only real GDP per capita is statistically significant in all models. The institutional quality variable is statistically significant in determining market capitalization and total share value traded, but is significant only at the 10% in the regression that explains total number of companies listed. The capital inflows variable is a statistically significant determinant of stock market capitalization and total share value traded. In contrast, trade openness has a significant influence on market capitalization and number of companies listed. In Models 4 – 6, the interaction term is statistically significant at the 1% level in two out of three models and significant at the 10% level in the third.

[7] The cross-country analysis is not conducted for these capital market development indicators - stock market capitalisation, total share value traded and number of companies listed due to small sample size (N = 22).

Interestingly, trade openness and capital inflows each have an independent statistically significant influence in two out of three specifications. These findings suggest that the Rajan-Zingales hypothesis applies not only to the development of the banking system, but also to the development of the capital market.

Table 9 repeats the analysis carried out in Table 7, using a different capital inflows proxy, namely inflows of capital that consists of foreign direct investment and portfolio investment[8]. This variable is only available for 16 developing countries. The lag order of AIC is restricted to a maximum lag of 1 and the Hausman test statistic fails to reject the null hypothesis of common long-run coefficients. Real GDP per capita and institutions retain their positive sign and are both statistically significant. The inflows of capital is significant at the 10% level in Models 2 and 3. The estimated coefficients of the interaction term in Model 4 – 6 are both large and highly significant. These findings suggest that the results obtained in Table 7 are robust to changes in the measurement of capital account openness.

Table 10 repeats the analysis of Table 8 with the alternative proxy for capital inflows. Again, real GDP per capita remains statistically significant in all specifications, while institutional quality is now significant in all but one models (the exception being Model 6 where it is significant at the 10% level). Interestingly, the new capital inflows proxy, which consists of foreign direct investment and portfolio investment, is positive and highly significant in all specifications. In addition, the interaction term is highly significant in all three models. These findings suggest that support for the Rajan-Zingales hypothesis is, if anything, even stronger when the alternative proxy for capital account openness is utilised.

The estimated pooled mean group results when import duties indicator[9] is employed as an alternative proxy for trade openness are reported in Table 11. This indicator is found to be statistically insignificant while real GDP per capita, institutions and capital inflows are statistically significant in all models. However, models containing the interaction term demonstrate that the interaction between capital inflows and import duties has a positive and highly significant influence on financial development. Table 12 reports the analysis of Table 11 with the alternative proxy for financial development, namely capital market development indicators. The import duties and institutions are statistically significant for three models, whereas real GDP per capita and capital inflows are significant in two out of three models. Again, the estimated coefficients of the interaction term are both large and significant in Models 4 and 6. Thus, the main finding of our paper, namely that the trade openness has an independent influence on financial development is robust to changes in the measurement of both capital and trade account openness.

[8] The capital account liberalization proxy constructed by Chinn and Ito (2002) is not employed in the panel data analysis even though the data is available from 1977 - 1999. This indicator is computed using the principal component analysis and most of the countries have no variation of capital account liberalization measurement throughout the year except in the mid 1990s.

[9] The import duties/total imports (ID) indicator was first converted using this formula: (1 – ID/100).

5.0 Conclusions

The evidence presented utilising cross-country regressions and panel data analysis in a group of developing countries, provides varying degrees of support to the Rajan and Zingales (2003) hypothesis – that simultaneous opening of both the capital and trade accounts will promote financial development. The evidence is at its strongest when we utilise dynamic panel estimation techniques, and is robust to alternative measures of both trade account and capital account openness. The evidence remains valid for a variety of financial development indicators, including 3 indicators of banking system development and 3 indicators of capital market development.

Our findings also suggest that among the conventional determinants of financial development real GDP per capita is the most robust one, while as suspected by several authors in the past, the influence of the real interest rate is, at best, very weak and statistically insignificant. We also find that institutional quality is a robust and statistically significant determinant of financial development, providing support to the case made by Arestis and Demetriades (1997, 1999). There is also some evidence to suggest that capital inflows have an independent positive influence on financial development, independently of their influence through the interaction term, especially so in the case of capital market development. Finally, trade openness is not found to have a separate independent influence on financial development, irrespective of which measure is employed. In terms of policy implications, our findings suggest that simultaneously stimulating foreign capital inflows and trade openness, improving institutions and economic development will encourage financial development.

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Table 1: Descriptive Statistics

N = 43	LL	PRI	DOC	RGDPC	R	INS	CIF	TO

Mean	40.62	31.25	45.44	1812.94	-2.00	27.18	2.47	62.61
Std Dev	20.17	19.55	25.18	1810.59	5.94	4.79	1.77	26.52
Maximum	102.06	91.80	109.33	7723.25	8.21	36.06	7.70	144.56
Minimum	14.88	3.83	-32.27	153.27	-20.50	18.53	0.18	16.89

N = 22	MC	VT	NC	RGDPC	R	INS	CIF	TL
Mean	21.95	9.08	0.00093	2215.59	-0.43	28.75	2.79	66.21
Std Dev	26.39	14.42	0.00087	1940.39	5.07	4.26	1.81	29.43
Maximum	121.87	54.80	0.00296	8082.44	7.31	36.95	7.53	149.14
Minimum	0.79	0.04	0.00010	250.94	-13.97	20.43	0.58	19.57

Note: LL = Liquid Liabilities/GDP; PRI = Private Sector Credit/GDP; DOC = Domestic Credit/GDP; RGDPC = Real GDP Per Capita; R = Real Interest Rate; INS = Institutions; CIF = Private Capital Flows; TO = Trade Openness; MC = Stock Market Capitalisation/GDP; VT = Total Share Value Traded/GDP; NC = Number of Companies Listed/Population

Table 2: Correlation Results

N = 43	LL	PRI	DOC	RGDPC	R	INS	CIF	TO
LL	1.00							
PRI	0.70	1.00						
DOC	0.89	0.74	1.00					
RGDPC	0.37	0.55	0.46	1.00				
R	-0.07	0.07	0.12	0.31	1.00			
INS	0.26	0.37	0.35	0.46	0.34	1.00		
CIF	0.23	0.42	0.29	0.51	0.05	0.28	1.00	
TO	0.36	0.23	0.13	0.10	0.45	0.04	0.07	1.00

N = 22	MC	VT	NC	RGDPC	R	INS	CIF	TO
MC	1.00							
VT	0.72	1.00						
NC	0.46	0.10	1.00					
RGDPC	0.21	0.49	0.42	1.00				
R	0.37	0.27	0.17	0.11	1.00			
INS	0.53	0.64	0.53	0.63	0.43	1.00		
CIF	0.76	0.40	0.47	0.30	0.21	0.51	1.00	
TO	0.74	0.43	0.60	0.10	0.25	0.27	0.54	1.00

Note: LL = Liquid Liabilities/GDP; PRI = Private Sector Credit/GDP; DOC = Domestic Credit/GDP; RGDPC = Real GDP Per Capita; R = Real Interest Rate; INS = Institutions; CIF = Private Capital Flows; TO = Trade Openness; MC = Stock Market Capitalisation/GDP; VT = Total Share Value Traded/GDP; NC = Number of Companies Listed/Population

Table 3: Results of OLS Regressions
(Dependent Variable: Financial Development)
Openness Proxy: Total Trade/GDP
Capital Inflows Proxy: Private Capital Flows

	Full Sample Period: 1980 – 2000			Sub-Sample Period I: 1980 - 1989			Sub-Sample Period II: 1990 – 2000		
	Dependent Variable			Dependent Variable			Dependent Variable		
	LL	PRI	DOC	LL	PRI	DOC	LL	PRI	DOC
	Without Interaction Term								
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Constant	0.88 (0.67)	-0.04 (-0.02)	0.55 (0.39)	1.43 (1.26)	-0.42 (-0.29)	1.59 (1.29)	-2.31 (-1.45)	-3.34 (-1.52)	-1.72 (-0.84)
RGDPC	0.16 (2.07)**	0.26 (2.37)**	0.17 (2.05)**	0.13 (2.22)**	0.23 (2.06)**	0.17 (1.89)*	0.20 (2.06)**	0.28 (2.29)**	0.19 (1.70)*
R	0.01 (0.17)	0.01 (0.18)	0.01 (0.19)	0.02 (0.62)	0.01 (0.20)	0.02 (0.69)	0.02 (0.52)	0.06 (0.98)	0.05 (1.03)
INS	0.06 (0.15)	0.07 (0.14)	0.38 (0.85)	0.07 (0.25)	0.33 (0.91)	0.09 (0.32)	0.40 (2.04)**	0.35 (2.22)**	0.36 (2.13)**
CIF	-0.01 (-0.09)	0.11 (0.87)	0.03 (0.26)	-0.01 (-0.13)	0.11 (0.79)	0.04 (0.39)	0.14 (2.05)**	0.22 (2.16)**	0.11 (1.90)*
TO	0.32 (2.02)*	0.28 (1.37)	0.18 (1.06)	0.35 (2.02)*	0.24 (1.06)	0.18 (1.00)	0.36 (1.75)*	0.41 (1.86)*	0.22 (1.12)
Adj R^2	0.28	0.36	0.30	0.24	0.37	0.21	0.42	0.48	0.33
Normality	1.52 (0.46)	6.20 (0.06) *	2.41 (0.29)	2.95 (0.23)	0.73 (0.69)	0.04 (0.98)	1.90 (0.38)	4.26 (0.11)	5.15 (0.07)*
B-P	0.45 (0.50)	0.06 (0.81)	0.03 (0.86)	0.27 (0.60)	0.38 (0.53)	0.19 (0.66)	0.12 (0.72)	0.04 (0.83)	0.16 (0.68)
Ramsey	2.10 (0.12)	1.71 (0.18)	0.55 (0.65)	2.27 (0.10)	1.34 (0.27)	1.39 (0.26)	0.84 (0.48)	1.36 (0.27)	0.60 (0.61)
	With Interaction Term								
	Model 4	Model 5	Model 6	Model 4	Model 5	Model 6	Model 4	Model 5	Model 6
Constant	2.53 (1.86)	0.97 (0.51)	1.64 (1.08)	2.14 (1.73)	-1.56 (-0.99)	1.74 (1.29)	-1.97 (-1.23)	-3.18 (-1.41)	-0.86 (-0.42)
RGDPC	0.22 (2.73)**	0.29 (2.60)**	0.21 (2.37)**	0.16 (2.14)**	0.18 (2.26)**	0.17 (2.18)**	0.19 (2.09)**	0.21 (2.38)**	0.18 (1.79)*
R	0.02 (0.46)	0.03 (0.46)	0.03 (0.59)	0.03 (0.87)	0.01 (0.11)	0.02 (0.73)	0.03 (0.66)	0.06 (1.01)	0.07 (1.27)
INS	0.08 (0.21)	0.02 (0.03)	0.29 (0.65)	0.16 (0.56)	0.48 (1.30)	0.07 (0.25)	0.46 (2.22)**	0.39 (2.27)**	0.37 (2.14)**
CIF	-0.18 (-1.85)*	-0.22 (-1.11)	-0.43 (-1.67)	-0.27 (-1.36)	-0.25 (1.80)*	-0.28 (-0.36)	-0.24 (-1.25)	-0.22 (-1.20)	-0.20 (-1.91)*
TO	0.02 (0.14)	0.07 (0.25)	0.06 (0.29)	0.19 (0.91)	0.39 (1.86)*	0.14 (0.65)	0.14 (0.61)	0.32 (0.94)	0.19 (0.65)
CIF x TO	0.50 (2.76)***	0.31 (1.22)	0.34 (1.72)*	0.24 (1.76)*	0.50 (1.70)*	0.06 (0.30)	0.42 (2.26)**	0.40 (2.41)**	0.41 (2.18)**
Adj R^2	0.42	0.38	0.36	0.29	0.43	0.22	0.46	0.51	0.40
Normality	1.86 (0.39)	5.21 (0.07)*	0.00 (0.99)	0.89 (0.64)	1.83 (0.40)	0.84 (0.65)	0.99 (0.61)	3.85 (0.15)	2.28 (0.32)
B-P	0.01 (0.92)	0.19 (0.67)	0.00 (0.97)	0.11 (0.73)	2.45 (0.12)	0.11 (0.74)	0.05 (0.82)	0.00 (0.98)	0.10 (0.29)
Ramsey	0.11 (0.95)	0.27 (0.84)	0.33 (0.80)	2.14 (0.12)	2.09 (0.12)	0.63 (0.60)	0.71 (0.55)	1.25 (0.31)	0.28 (0.84)
N	43	43	43	43	43	43	43	43	43

Notes: Figures in the parentheses are the t-statistics except for the normality test, Breausch-Pagan heteroscedasticity test and Ramsey RESET tests, which are p-value. ***, ** and * denote significant at 1%, 5% and 10%, respectively.

Table 4: Results of OLS Regressions
(Dependent Variable: Financial Development)
Openness Proxy: Total Trade/GDP
Capital Inflows Proxy: Capital Account Liberalisation (Chinn and Ito, 2002)

	Full Sample Period: 1980 – 1999			Sub-Sample Period I: 1980 - 1989			Sub-Sample Period II: 1990 – 1999		
	Dependent Variable			Dependent Variable			Dependent Variable		
	LL	PRI	DOC	LL	PRI	DOC	LL	PRI	DOC
	Without Interaction Term								
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Constant	0.24 (0.19)	-1.21 (-0.69)	0.14 (0.11)	0.97 (1.04)	-0.97 (-0.74)	1.10 (1.12)	-2.34 (-1.52)	-4.45 (-2.02)	-1.01 (-0.54)
RGDPC	0.21 (2.67)**	0.32 (2.95)***	0.22 (2.85)***	0.17 (2.32)**	0.30 (3.05)***	0.20 (2.74)***	0.18 (2.04)**	0.31 (2.47)**	0.24 (2.04)**
R	0.02 (0.45)	0.01 (0.13)	0.01 (0.19)	0.01 (0.40)	0.02 (0.43)	0.01 (0.37)	0.02 (0.49)	0.07 (1.18)	0.03 (0.58)
INS	0.11 (0.27)	0.28 (0.48)	0.35 (0.81)	0.04 (0.14)	0.22 (0.63)	0.12 (0.46)	0.31 (2.19)**	0.42 (2.27)**	0.57 (1.83)*
CIF	-0.09 (-1.13)	0.05 (0.47)	-0.13 (-1.68)	-0.09 (-1.24)	0.05 (0.49)	-0.16 (1.79)*	0.11 (2.09)**	0.17 (2.15)**	0.14 (1.53)
TO	0.36 (2.25)**	0.31 (1.40)	0.21 (1.33)	0.37 (2.24)**	0.35 (1.76)*	0.21 (1.45)	0.37 (2.26)**	0.44 (1.88)*	0.25 (1.25)
Adj R^2	0.32	0.37	0.33	0.28	0.36	0.29	0.53	0.50	0.35
Normality	1.50 (0.47)	5.29 (0.07)	1.83 (0.40)	3.21 (0.20)	2.30 (0.32)	0.52 (0.77)	1.78 (0.41)	2.68 (0.26)	0.18 (0.91)
B-P	0.06 (0.80)	0.42 (0.52)	0.00 (0.95)	0.25 (0.62)	2.57 (0.11)	0.00 (0.96)	0.14 (0.71)	0.02 (0.89)	3.68 (0.05)
Ramsey	1.96 (0.14)	1.62 (0.20)	0.93 (0.43)	2.41 (0.08)	1.49 (0.23)	1.96 (0.14)	0.77 (0.52)	1.98 (0.13)	0.62 (0.61)
	With Interaction Term								
	Model 4	Model 5	Model 6	Model 4	Model 5	Model 6	Model 4	Model 5	Model 6
Constant	0.52 (0.43)	-0.92 (-0.53)	0.54 (0.44)	0.50 (0.51)	-1.11 (-0.78)	0.57 (0.57)	-1.65 (-1.02)	-4.25 (-1.79)	-0.51 (-0.25)
RGDPC	0.24 (3.19)***	0.35 (3.24)***	0.26 (3.50)***	0.17 (2.47)**	0.31 (3.02)***	0.21 (2.92)***	0.22 (2.42)**	0.32 (2.37)**	0.24 (2.15)**
R	0.05 (1.06)	0.02 (0.30)	0.04 (0.90)	0.01 (0.36)	0.02 (0.42)	0.01 (0.34)	0.03 (-0.50)	0.06 (0.67)	0.01 (0.09)
INS	0.16 (0.38)	0.01 (0.01)	0.02 (0.04)	0.13 (0.51)	0.20 (0.53)	0.02 (0.05)	0.26 (2.15)**	0.34 (2.31)**	0.41 (1.56)
CIF	-0.28 (-2.23)**	-0.23 (-1.39)	-0.60 (-1.66)	-0.24 (-1.54)	-0.19 (-0.22)	-0.08 (-1.78)*	-0.16 (-1.27)	-0.22 (-0.20)	-0.23 (-0.89)
TO	0.32 (2.10)**	0.40 (1.74)*	0.30 (1.97)*	0.54 (2.93)***	0.39 (1.49)	0.23 (1.54)	0.22 (1.27)	0.26 (0.64)	0.21 (1.00)
CIF x TO	0.45 (2.80)***	0.31 (1.46)	0.36 (2.45)**	0.21 (1.40)	0.51 (1.78)*	0.39 (2.12)**	0.35 (2.46)**	0.42 (2.28)**	0.32 (1.74)*
Adj R^2	0.40	0.41	0.33	0.32	0.36	0.34	0.43	0.45	0.35
Normality	1.33 (0.51)	5.41 (0.07)	0.44 (0.80)	2.87 (0.23)	9.43 (0.01)**	2.29 (0.31)	1.54 (0.46)	2.63 (0.26)	0.09 (0.95)
B-P	0.21 (0.64)	0.85 (0.35)	0.18 (0.67)	0.25 (0.62)	2.68 (0.10)	0.01 (0.91)	0.25 (0.62)	0.02 (0.88)	3.24 (0.07)
Ramsey	0.09 (0.96)	0.33 (0.80)	1.16 (0.34)	5.10 (0.01)**	1.80 (0.17)	0.40 (0.75)	0.63 (0.59)	2.01 (0.13)	0.67 (0.57)
N	43	43	43	43	43	43	43	43	43

Notes: Figures in the parentheses are the t-statistics except for the normality test, Breausch-Pagan (B-P) heteroscedasticity test and Ramsey RESET tests, which are p-value. ***, ** and * denote significant at 1%, 5% and 10%, respectively.

Table 5: Results of Instrumental 2SLS Regressions
(Dependent Variable: Financial Development)
Openness Proxy: Total Trade/GDP
Capital Inflows Proxy: Private Capital Inflows/GDP

	Full Sample Period: 1980 – 2000			Sub-Sample Period I: 1980 - 1989			Sub-Sample Period II: 1990 – 2000		
	Dependent Variable			Dependent Variable			Dependent Variable		
	LL	PRI	DOC	LL	PRI	DOC	LL	PRI	DOC
	Without Interaction Term								
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Constant	1.03 (0.77)	0.04 (0.02)	0.81 (0.56)	1.64 (1.40)	-0.59 (-0.39)	2.03 (1.60)	-2.76 (-1.68)	-4.04 (-1.78)*	-2.28 (-1.07)
RGDPC	0.18 (1.81)*	0.21 (2.36)**	0.19 (1.99)**	0.11 (2.13)**	0.25 (2.04)**	0.11 (2.09)**	0.17 (2.16)**	0.19 (2.37)**	0.14 (2.03)**
R	-0.01 (-0.02)	0.01 (0.25)	0.02 (0.42)	0.02 (0.66)	0.01 (0.18)	0.02 (0.76)	0.02 (0.53)	0.06 (0.98)	0.06 (1.01)
INS	0.21 (0.47)	0.15 (0.28)	0.60 (1.29)	0.06 (0.19)	0.32 (0.87)	0.13 (0.42)	0.46 (2.42)**	0.51 (1.80)*	0.55 (2.06)**
CIF	-0.04 (-0.37)	0.14 (1.03)	0.10 (0.94)	-0.01 (-0.03)	0.09 (0.67)	0.01 (0.08)	0.13 (2.26)**	0.25 (2.15)**	0.04 (0.29)
TO	0.31 (1.90)*	0.28 (1.33)	0.15 (0.88)	0.33 (1.91)*	0.25 (1.10)	0.15 (0.81)	0.34 (2.03)**	0.37 (1.61)	0.16 (0.74)
Hausman Test	2.62 (0.85)	0.56 (0.99)	6.66 (0.35)	0.54 (0.99)	0.20 (0.99)	2.55 (0.86)	2.69 (0.84)	3.44 (0.75)	6.52 (0.36)
	With Interaction Term								
	Model 4	Model 5	Model 6	Model 4	Model 5	Model 6	Model 4	Model 5	Model 6
Constant	2.53 (1.84)	0.97 (0.51)	1.65 (1.06)	2.28 (1.81)	-1.65 (-1.02)	2.09 (1.52)	-2.35 (-1.43)	-3.86 (-1.66)	-1.28 (-0.61)
RGDPC	0.16 (2.67)**	0.25 (2.19)**	0.20 (2.40)**	0.14 (2.09)**	0.17 (2.23)**	0.11 (2.10)**	0.15 (2.06)**	0.16 (2.23)**	0.14 (2.18)**
R	0.02 (0.53)	0.03 (0.49)	0.03 (0.70)	0.03 (0.89)	0.01 (0.12)	0.02 (0.76)	0.03 (0.67)	0.06 (1.01)	0.07 (1.26)
INS	0.04 (0.06)	0.04 (0.08)	0.50 (1.10)	0.15 (0.49)	0.47 (1.26)	0.12 (0.38)	0.57 (2.57)**	0.56 (1.80)*	0.70 (2.32)**
CIF	-0.17 (-2.48)**	-0.13 (-1.01)	-0.37 (-1.20)	-0.21 (-1.25)	-0.20 (-1.74)*	-0.11 (-0.14)	-0.17 (-1.19)	-0.15 (-0.14)	-0.18 (-1.92)*
TO	0.02 (0.07)	0.07 (0.27)	0.05 (0.26)	0.18 (0.88)	0.38 (1.87)*	0.13 (0.59)	0.13 (0.51)	0.28 (0.81)	0.25 (0.84)
CIF x TO	0.47 (2.54)***	0.29 (1.14)	0.27 (1.85)*	0.23 (1.28)	0.50 (2.01)*	0.26 (0.13)	0.43 (2.23)**	0.39 (2.38)**	0.42 (2.19)**
Hausman Test	1.43 (0.98)	2.35 (0.93)	5.72 (0.57)	0.38 (0.99)	5.72 (0.57)	2.49 (0.92)	2.06 (0.95)	3.24 (0.86)	5.25 (0.63)
N	43	43	43	43	43	43	43	43	43

Notes: Figures in the parentheses are the t-statistics. ***, ** and * denote significant at 1%, 5% and 10%, respectively.

Table 6: Results of Instrumental 2SLS Regressions
(Dependent Variable: Financial Development)
Openness Proxy: Total Trade/GDP
Capital Inflows Proxy: Capital Account Liberalisation (Chinn and Ito, 2002)

	Full Sample Period: 1980 - 1999			Sub-Sample Period I: 1980 – 1989			Sub-Sample Period II: 1990 – 1999		
	Dependent Variable			Dependent Variable			Dependent Variable		
	LL	PRI	DOC	LL	PRI	DOC	LL	PRI	DOC
	Without Interaction Term								
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Constant	0.27 (0.22)	-1.19 (-0.67)	0.23 (0.17)	1.13 (1.18)	-1.06 (-0.79)	1.39 (1.39)	-2.89 (-1.81)	-5.04 (-2.21)	-2.08 (-1.05)
RGDPC	0.18 (2.49)**	0.28 (2.26)**	0.22 (2.15)**	0.14 (2.17)**	0.32 (2.93)***	0.18 (2.21)**	0.21 (2.03)**	0.27 (2.38)**	0.18 (2.18)**
R	0.01 (-0.26)	0.01 (0.20)	0.01 (0.11)	0.01 (0.49)	0.02 (0.39)	0.02 (0.53)	0.03 (0.63)	0.08 (1.28)	0.05 (0.81)
INS	0.28 (0.65)	0.37 (0.61)	0.60 (1.36)	0.10 (0.08)	0.42 (0.60)	0.14 (0.54)	0.40 (2.37)**	0.46 (2.28)**	0.42 (1.84)*
CIF	-0.06 (-0.76)	0.07 (0.59)	-0.09 (-1.08)	-0.08 (-1.14)	0.05 (0.45)	-0.14 (-1.91)*	0.03 (0.38)	0.11 (0.89)	0.06 (0.64)
TO	0.35 (2.13)**	0.31 (1.36)	0.19 (1.14)	0.37 (2.63)**	0.35 (1.76)*	0.20 (1.42)	0.33 (1.99)*	0.40 (1.69)*	0.17 (0.82)
Hausman Test	2.76 (0.83)	0.44 (0.99)	7.43 (0.28)	0.76 (0.99)	0.26 (0.99)	2.94 (0.82)	2.35 (0.88)	1.34 (0.96)	7.26 (0.29)
	With Interaction Term								
	Model 4	Model 5	Model 6	Model 4	Model 5	Model 6	Model 4	Model 5	Model 6
Constant	0.53 (0.43)	-0.92 (-0.53)	0.57 (0.45)	0.64 (0.64)	-1.21 (-0.84)	0.85 (0.82)	-2.35 (-1.43)	-3.86 (-1.66)	-1.28 (-0.61)
RGDPC	0.17 (1.97)*	0.32 (2.56)**	0.25 (2.35)**	0.18 (1.96)*	0.33 (2.92)***	0.16 (2.13)**	0.02 (2.15)**	0.16 (2.23)**	0.14 (2.18)**
R	-0.04 (-0.83)	-0.01 (-0.23)	-0.02 (-0.52)	0.01 (0.44)	0.02 (0.38)	0.01 (0.48)	0.03 (0.67)	0.06 (1.01)	0.07 (1.26)
INS	0.02 (0.03)	0.09 (0.14)	0.29 (0.66)	0.12 (0.45)	0.19 (0.50)	0.04 (0.15)	0.57 (2.57)**	0.56 (1.98)**	0.70 (2.32)**
CIF	-0.24 (-1.96)*	-0.16 (-1.29)	-0.37 (-2.19)**	-0.19 (-1.50)	-0.21 (-0.24)	-0.14 (-1.69)*	-0.17 (-1.19)	-0.15 (-0.14)	-0.18 (-1.92)*
TO	0.28 (1.87)*	0.30 (1.38)	0.27 (1.69)*	0.21 (1.37)	0.20 (1.30)	0.22 (1.47)	0.13 (0.51)	0.28 (0.81)	0.25 (0.84)
CIF x TO	0.42 (2.63)***	0.39 (1.69)*	0.31 (2.06)**	0.44 (2.90)***	0.40 (1.50)	0.39 (2.06)**	0.43 (2.23)**	0.39 (2.38)**	0.42 (2.19)**
Hausman Test	2.32 (0.94)	0.26 (0.99)	6.75 (0.45)	0.55 (0.99)	0.46 (0.99)	2.54 (0.92)	2.06 (0.95)	3.24 (0.86)	5.25 (0.63)
N	43	43	43	43	43	43	43	43	43

Notes: Figures in the parentheses are the t-statistics. ***, ** and * denote significant at 1%, 5% and 10%, respectively.

Table 7: Pooled Mean Group Estimation for ARDL
Dependent Variable: Financial Development (Banking Sector Development)
Openness Proxy: Total Trade/GDP
Capital Inflows Proxy: Private Capital Flows

	Liquid Liabilities		Private Sector Credit		Domestic Credit	
Without Interaction Term	Model 1	Hausman Test	Model 2	Hausman Test	Model 3	Hausman Test
RGDPC	0.16	1.20	0.18	0.87	0.19	0.03
	(2.52)**	(0.27)	(2.27)**	(0.35)	(2.35)**	(0.85)
R	0.01	2.15	0.34	7.50	0.01	0.11
	(1.62)	(0.14)	(1.49)	(0.01)	(1.26)	(0.74)
INS	0.18	1.22	0.21	0.28	0.25	0.12
	(8.80)***	(0.27)	(2.31)**	(0.60)	(2.23) **	(0.73)
CIF	0.06	0.40	0.15	0.85	0.24	2.07
	(0.38)	(0.53)	(2.81)***	(0.36)	(3.16)***	(0.15)
TO	0.04	0.69	0.05	1.76	0.06	1.25
	(1.74)*	(0.41)	(0.53)	(0.18)	(1.08)	(0.26)
Adjustment	-0.16		-0.16		-0.18	
	(-5.67)***		(-5.32)***		(-6.96)***	
Joint Hausman Test for long-run homogeneity	2.79		8.50		2.85	
	(0.73)		(0.20)		(0.71)	
With Interaction Term	Model 4	Hausman Test	Model 5	Hausman Test	Model 6	Hausman Test
RGDPC	0.23	2.79	0.27	0.97	0.20	0.06
	(4.22)***	(0.09)	(4.76)***	(0.32)	(2.09)**	(0.81)
R	0.01	0.32	0.01	7.78	0.03	0.07
	(0.81)	(0.57)	(0.74)	(0.01)**	(1.46)	(0.79)
INS	0.25	1.17	0.30	0.44	0.39	0.65
	(2.23)**	(0.28)	(2.26)**	(0.51)	(2.16)**	(0.42)
CIF	0.15	0.85	0.05	3.17	0.19	1.49
	(1.86)*	(0.36)	(1.55)	(0.07)	(1.16)	(0.22)
TO	0.31	0.36	0.28	1.86	0.27	0.02
	(1.81)*	(0.55)	(0.95)	(0.17)	(1.32)	(0.88)
CIF x TO	0.46	1.19	0.40	3.00	0.43	1.60
	(2.81)***	(0.27)	(3.02)***	(0.08)	(3.29)***	(0.21)
Adjustment	-0.26		-0.20		-0.42	
	(-8.25)***		(-8.04)***		(-6.824)***	
Joint Hausman Test for long-run homogeneity	4.51		2.50		8.55	
	(0.61)		(0.76)		(0.20)	
N	43		43		43	
T	21		21		21	
N x T	903		903		903	

Notes: Figures in parentheses are t-statistic except for Hausman test (H), which is p-value. ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.

Table 8: Pooled Mean Group Estimation for ARDL
Dependent Variable: Financial Development (Capital Market Development)
Openness Proxy: Total Trade/GDP
Capital Inflows Proxy: Private Capital Flows

	Market Capitalisation		Total Share Value Traded		Number of Companies Listed	
Without Interaction Term	Model 1	Hausman Test	Model 2	Hausman Test	Model 3	Hausman Test
RGDPC	0.31 (3.35)***	0.88 (0.35)	0.15 (2.54)**	2.03 (0.15)	0.59 (9.17)***	0.19 (0.66)
R	0.11 (1.74)*	7.89 (0.00)***	0.03 (0.49)	0.33 (0.57)	-0.01 (-0.31)	0.14 (0.70)
INS	0.14 (1.97)**	0.12 (0.73)	0.08 (3.99)***	0.42 (0.52)	0.08 (1.76)*	0.88 (0.35)
CIF	0.40 (2.11)**	0.43 (0.51)	0.33 (4.71)***	2.23 (0.13)	0.25 (1.07)	1.83 (0.18)
TO	0.27 (2.76)***	0.08 (0.77)	0.05 (1.34)	0.42 (0.52)	0.18 (3.32)***	3.62 (0.06)
Adjustment	-0.16 (-5.67)***		-0.03 (-2.19)***		-0.29 (-4.32)***	
Joint Hausman Test for long-run homogeneity	9.66 (0.09)		6.98 (0.32)		10.42 (0.06)	
With Interaction Term	Model 4	Hausman Test	Model 5	Hausman Test	Model 6	Hausman Test
RGDPC	0.26 (2.38)**	0.04 (0.84)	0.24 (2.17)**	0.07 (0.79)	0.32 (2.63)***	0.64 (0.42)
R	0.04 (0.47)	8.36 (0.00)***	0.10 (1.47)	0.00 (0.98)	-0.01 (-1.17)	0.99 (0.32)
INS	0.16 (2.18)**	0.56 (0.45)	0.12 (2.29)**	2.05 (0.15)	0.08 (0.59)	1.06 (0.30)
CIF	0.25 (2.32)**	0.59 (0.44)	0.28 (4.47) ***	1.37 (0.24)	0.32 (1.83)*	1.00 (0.32)
TO	0.17 (2.38)**	2.06 (0.15)	0.16 (1.71)*	2.05 (0.15)	0.28 (4.16)***	1.04 (0.31)
CIF x TO	0.41 (3.33)***	0.59 (0.44)	0.44 (3.04)***	1.47 (0.23)	0.49 (2.62)**	1.00 (0.32)
Adjustment	-0.33 (-2.77)***		-0.25 (-2.66)***		-0.27 (-4.23)***	
Joint Hausman Test for long-run homogeneity	6.90 (0.44)		12.86 (0.05)		5.58 (0.47)	
N	22		22		22	
T	21		21		13	
N x T	462		462		286	

Notes: Figures in parentheses are t-statistic except for Hausman test (H), which is p-value. ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.

Table 9: Pooled Mean Group Estimation for ARDL
Dependent Variable: Financial Development (Banking Sector Development)
Openness Proxy: Total Trade/GDP
Capital Inflows Proxy: Inflows of Capital

	Liquid Liabilities		Private Sector Credit		Domestic Credit	
Without Interaction Term	Model 1	Hausman Test	Model 2	Hausman Test	Model 3	Hausman Test
RGDPC	0.26 (2.77)***	3.70 (0.05)	0.25 (2.68)***	1.95 (0.16)	0.22 (2.93)***	0.88 (0.35)
R	0.14 (1.57)	6.38 (0.01)	0.18 (1.63)	0.29 (0.59)	0.17 (1.68)*	0.77 (0.38)
INS	0.24 (3.23)***	0.02 (0.88)	0.20 (2.24)**	1.57 (0.21)	0.29 (2.75) ***	1.98 (0.16)
CIF	0.03 (2.47)**	2.89 (0.09)	0.01 (1.89)*	1.58 (0.21)	0.06 (1.79)*	2.05 (0.15)
TO	0.02 (0.33)	0.78 (0.38)	0.11 (1.85)*	0.02 (0.90)	0.19 (1.66)	1.51 (0.22)
Adjustment	-0.43 (-4.40)***		-0.40 (-4.17)***		-0.44 (-3.87)***	
Joint Hausman Test for long-run homogeneity	10.80 (0.13)		5.94 (0.31)		8.01 (0.17)	
With Interaction Term	Model 4	Hausman Test	Model 5	Hausman Test	Model 6	Hausman Test
RGDPC	0.19 (2.90)***	0.52 (0.47)	0.15 (2.58)***	1.33 (0.25)	0.18 (3.57)***	0.99 (0.32)
R	0.14 (1.21)	29.20 (0.00)***	0.10 (1.25)	3.92 (0.05)	0.18 (1.29)	0.89 (0.35)
INS	0.24 (2.11)**	0.05 (0.83)	0.28 (2.08)**	0.12 (0.72)	0.30 (2.26)**	0.85 (0.36)
CIF	0.09 (1.75)*	0.13 (0.72)	0.20 (1.82)*	0.16 (0.69)	0.21 (1.60)	0.21 (0.65)
TO	0.20 (1.54)	11.83 (0.00)***	0.16 (0.25)	0.00 (0.99)	0.14 (1.87)*	0.60 (0.44)
CIF x TO	0.37 (2.68)***	0.10 (0.75)	0.33 (2.93)***	0.13 (0.72)	0.46 (2.69)***	0.14 (0.71)
Adjustment	-0.40 (-4.25)***		-0.35 (-3.83)***		-0.48 (-4.75)***	
Joint Hausman Test for long-run homogeneity	8.32 (0.18)		6.53 (0.28)		9.50 (0.15)	
N	16		16		16	
T	21		21		21	
N x T	336		336		336	

Notes: Figures in parentheses are t-statistic except for Hausman test (H), which is p-value. ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.

Table 10: Pooled Mean Group Estimation for ARDL
Dependent Variable: Financial Development (Capital Market Development)
Openness Proxy: Total Trade/GDP
Capital Inflows Proxy: Inflows of Capital

	Market Capitalisation (1980-2000)		Total Share Value Traded (1980-2000)		Number of Companies Listed (1988-2000)	
Without Interaction Term	Model 1	Hausman Test	Model 2	Hausman Test	Model 3	Hausman Test
RGDPC	0.35	1.59	0.26	0.54	0.19	3.76
	(2.98)***	(0.21)	(1.99)**	(0.46)	(9.54)***	(0.05)
R	0.12	0.57	0.01	0.33	0.01	1.13
	(0.88)	(0.45)	(0.08)	(0.56)	(1.17)	(0.29)
INS	0.32	1.17	0.07	2.44	0.06	0.14
	(3.70)***	(0.28)	(2.17)**	(0.12)	(2.06) **	(0.71)
CIF	0.27	1.19	0.19	0.02	0.26	0.66
	(3.10)***	(0.27)	(2.94)***	(0.88)	(1.78)*	(0.42)
TO	0.33	0.00	0.11	0.02	0.29	0.23
	(3.28)***	(0.95)	(1.09)	(0.90)	(3.89)***	(0.63)
Adjustment	-0.20		-0.19		-0.30	
	(-2.17)**		(-2.23)***		(-2.89)***	
Joint Hausman Test for long-run homogeneity	9.59		7.23		11.15	
	(0.09)		(0.13)		(0.08)	
With Interaction Term	Model 4	Hausman Test	Model 5	Hausman Test	Model 6	Hausman Test
RGDPC	0.42	0.07	0.34	0.52	0.25	1.81
	(4.09)***	(0.79)	(3.47)***	(0.47)	(4.53)***	(0.18)
R	-0.10	1.79	-0.15	0.86	0.01	0.02
	(-0.81)	(0.18)	(-1.02)	(0.36)	(0.76)	(0.88)
INS	0.39	0.00	0.08	0.81	0.02	0.01
	(5.28)***	(1.00)	(3.78)***	(0.37)	(1.76)*	(0.91)
CIF	0.21	0.58	0.23	0.00	0.32	0.01
	(3.87)***	(0.45)	(3.49) ***	(0.98)	(2.46)**	(0.91)
TO	0.19	0.07	0.02	0.02	0.35	0.42
	(2.34)**	(0.79)	(1.78)*	(0.89)	(4.63)***	(0.52)
CIF x TO	0.36	0.87	0.33	0.01	0.46	0.02
	(3.23)***	(0.35)	(3.01)***	(0.94)	(5.83)***	(0.89)
Adjustment	-0.29		-0.21		-0.32	
	(-2.59)***		(-1.75)*		(-3.03)***	
Joint Hausman Test for long-run homogeneity	7.62		4.50		3.91	
	(0.12)		(0.74)		(0.69)	
N	11		11		14	
T	21		21		13	
N x T	231		231		182	

Notes: Figures in parentheses are t-statistic except for Hausman test (H), which is p-value. ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.

Table 11: Pooled Mean Group Estimation for ARDL
Dependent Variable: Financial Development (Banking Sector Development)
Openness Proxy: Import Duties/Total Imports
Capital Inflows Proxy: Private Capital Flows

	Liquid Liabilities		Private Sector Credit		Domestic Credit	
Without Interaction Term	Model 1	Hausman Test	Model 2	Hausman Test	Model 3	Hausman Test
RGDPC	0.46 (3.53)***	0.05 (0.82)	0.27 (2.35)**	2.44 (0.12)	0.21 (2.19)**	1.14 (0.29)
R	0.15 (1.79)*	1.15 (0.28)	0.13 (0.92)	4.71 (0.03)**	0.11 (1.45)	10.57 (0.00)***
INS	0.28 (1.77)*	0.11 (0.74)	0.20 (2.28)**	0.66 (0.42)	0.22 (2.33) **	0.09 (0.77)
CIF	0.22 (3.28)***	0.48 (0.49)	0.24 (2.91)***	0.08 (0.77)	0.20 (2.07)**	1.62 (0.20)
ID	0.13 (0.70)	0.40 (0.53)	0.12 (0.91)	0.47 (0.49)	0.10 (0.98)	2.91 (0.09)
Adjustment	-0.21 (-4.76)***		-0.36 (-3.51)***		-0.39 (-3.78)***	
Joint Hausman Test for long-run homogeneity	3.57 (0.61)		11.36 (0.04)**		8.23 (0.14)	
With Interaction Term	Model 4	Hausman Test	Model 5	Hausman Test	Model 6	Hausman Test
RGDPC	0.39 (3.01)***	0.81 (0.37)	0.23 (2.27)**	1.33 (0.25)	0.19 (2.41)**	1.08 (0.30)
R	0.06 (1.33)	0.10 (0.75)	0.05 (0.88)	3.92 (0.05)	0.04 (1.56)	0.43 (0.51)
INS	0.30 (2.85)***	5.39 (0.02)**	0.24 (2.08)**	0.12 (0.72)	0.25 (2.26)**	1.61 (0.21)
CIF	0.23 (1.93)*	1.10 (0.29)	0.30 (1.25)	0.16 (0.69)	0.21 (1.66)*	0.01 (0.94)
ID	0.11 (1.45)	1.51 (0.22)	0.25 (1.31)	0.00 (0.99)	0.16 (1.28)	0.29 (0.59)
CIF x ID	0.48 (2.16)**	0.19 (0.67)	0.42 (2.56)***	0.13 (0.72)	0.40 (2.89)***	0.00 (0.98)
Adjustment	-0.39 (-3.27)***		-0.40 (-3.74)***		-0.32 (-2.76)***	
Joint Hausman Test for long-run homogeneity	4.85 (0.56)		3.90 (0.68)		6.50 (0.29)	
N	15		15		15	
T	21		21		21	
N x T	315		315		315	

Notes: Figures in parentheses are t-statistic except for Hausman test (H), which is p-value. ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.

Table 12: Pooled Mean Group Estimation for ARDL
Dependent Variable: Financial Development (Capital Market Development)
Openness Proxy: Import Duties/Total Imports
Capital Inflows Proxy: Private Capital Flows

	Market Capitalisation		Total Share Value Traded		Number of Companies Listed	
Without Interaction Term	Model 1	Hausman Test	Model 2	Hausman Test	Model 3	Hausman Test
RGDPC	0.53 (5.13)***	0.32 (0.57)	0.02 (0.33)	0.94 (0.33)	0.62 (3.38)***	0.56 (0.46)
R	0.15 (0.66)	1.90 (0.17)	0.11 (1.59)	1.96 (0.16)	0.05 (1.52)	0.70 (0.40)
INS	0.15 (2.27)**	0.99 (0.32)	0.15 (5.97)***	1.79 (0.18)	0.29 (6.39)***	0.94 (0.33)
CIF	0.33 (2.30)**	1.15 (0.28)	0.64 (3.13)***	0.76 (0.38)	0.08 (0.28)	0.03 (0.86)
ID	0.39 (3.39)***	0.18 (0.67)	0.50 (2.69)***	0.00 (0.97)	0.73 (4.56)***	1.50 (0.22)
Adjustment	-0.20 (-2.28)**		-0.20 (-2.26)**		-0.31 (-3.62)***	
Joint Hausman Test for long-run homogeneity	11.33 (0.05)		7.93 (0.16)		3.39 (0.64)	
With Interaction Term	Model 4	Hausman Test	Model 5	Hausman Test	Model 6	Hausman Test
RGDPC	0.19 (0.58)	0.17 (0.68)	0.02 (0.31)	1.78 (0.18)	0.39 (7.12)***	0.00 (0.95)
R	0.24 (1.32)	0.26 (0.61)	0.11 (1.49)	0.21 (0.65)	0.02 (1.67)	0.10 (0.75)
INS	0.48 (3.11)***	0.00 (0.98)	0.15 (6.09)***	0.21 (0.65)	0.42 (1.79)	0.15 (0.70)
CIF	0.23 (2.38)**	5.51 (0.02)	0.54 (2.34)**	1.11 (0.29)	0.25 (1.77)	1.96 (0.16)
ID	0.55 (3.16)***	0.01 (0.94)	0.55 (2.69)***	0.55 (0.46)	0.46 (4.73)***	3.44 (0.06)
CIF x ID	0.43 (2.49)**	0.17 (0.68)	0.35 (0.65)	0.14 (0.71)	0.57 (3.21)***	2.43 (0.12)
Adjustment	-0.30 (-3.72)***		-0.35 (-3.60)***		-0.22 (-2.35)**	
Joint Hausman Test for long-run homogeneity	9.20 (0.26)		8.93 (0.12)		7.02 (0.32)	
N	12		12		14	
T	21		21		13	
N x T	252		252		182	

Notes: Figures in parentheses are t-statistic except for Hausman test (H), which is p-value. ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.

Appendix I

Table AI: Definition and Source of the Data

Variable	Definition	Source
Liquid Liabilities/GDP (%) (1980 – 2000, N = 43))	- Liquid liabilities the sum of currency and deposits in the central bank (M0), plus transferable deposits and electronic currency (M1), plus time and savings deposits, foreign currency transferable deposits, certificates of deposit, and securities repurchase agreements (M2), plus travelers checks, foreign currency time deposits, commercial paper, and shares of mutual funds or market funds held by residents.	World Development Indicator (World Bank CD-ROM, 2002)
Private Sector Credit/GDP (%) (1980 – 2000, N = 43))	- Financial resources provided to the private sector, such as through loans, purchases of non-equity securities, and trade credits and other accounts receivable, that establish a claim for repayment.	World Development Indicator
Domestic Credit Provided by Banking Sector (%) (1980 – 2000, N = 43))	- includes all credit to various sectors on a gross basis. The banking sector includes monetary authorities and deposit money banks, as well as other banking institutions where data are available (including institutions that do not accept transferable deposits but do incur such liabilities as time and savings deposits).	World Development Indicator
Stock Market Capitalisation/GDP (%) (1980 – 2000, N = 22))	Market capitalization (also known as market value) is the share price times the number of shares outstanding.	Beck et al. (1999).
Total Share Value Traded/GDP (%) (1980 – 2000, N = 22))	Stock traded refers to the total value of shares traded during the period.	Beck et al. (1999).
Listed Domestic Companies/Population (%) (1988 – 2000, N = 22)	Listed domestic companies are the domestically incorporated companies listed on the country's stock exchanges at the end of the year.	World Development Indicator
Private capital flows, net total (US$) (1980 – 2000, N =43)	Net private capital flows consist of private debt and non-debt flows. Private debt flows include commercial bank lending, bonds, and other private credits; non-debt private flows are foreign direct investment and portfolio equity investment. Data are in current U.S. dollars.	World Development Indicator
Inflows of Capital (US$) (1980 – 2000, N = 16)	Capital inflows (sum of foreign direct investment and portfolio inflows) divided by GDP	International Financial Statistics (IFS), lines 78bed + 78 bgd
Total Trade/GDP (%) (1980 – 2000, N = 43)	Trade is the sum of exports and imports of goods and services measured as a share of gross domestic product.	World Development Indicator
Import Duties/Total Imports (%) (1980 – 2000, N = 15)	Import duties comprise all levies collected on goods at the point of entry into the country. The levies may be imposed for revenue or protection purposes and may be determined on a specific or ad valorem basis, as long as they are restricted to imported products. Data are shown for central government only.	World Development Indicator
Deposit Interest Rate (%) (1980 – 2000, N = 43))	Deposit interest rate is the rate paid by commercial or similar banks for demand, time, or savings deposits.	World Development Indicator

Appendix II

Table AII: The List of Developing Countries

N = 43 (Banking sector Development)

1. Algeria	12. Gambia	23. Malta	34. Sri Lanka
2. Bangladesh	13. Ghana	24. Malaysia	35. Syrian Arab Republic
3. Bolivia	14. Guatemala	25. Mexico	36. Thailand
4. Botswana	15. Honduras	26. Morocco	37. Togo
5. Cameroon	16. India	27. Niger	38. Trinidad and Tobago
6. Chile	17. Indonesia	28. Nigeria	39. Tunisia
7. Costa Rica	18. Jamaica	29. Pakistan	40. Turkey
8. Cote d'Ivoire	19. Jordan	30. Papua New Guinea	41. Uruguay
9. Ecuador	20. Kenya	31. Philippines	42. Venezuela
10. Egypt	21. Korea	32. Senegal	43. Zimbabwe
11. El Salvador	22. Malawi	33. Sierra Leone	

Note: Argentina and Brazil are not included in the sample due to these two countries have very high interest rate in 1990s and this may create an outlier and distort the model equilibrium.

N = 22 (Capital Market Development)

1. Chile	12. Morocco
2. Cote d'Ivoire	13. Nigeria
3. Egypt	14. Pakistan
4. India	15. Philippines
5. Indonesia	16. Sri Lanka
6. Jamaica	17. Thailand
7. Jordan	18. Trinidad and Tobago
8. Kenya	19. Turkey
9. Korea	20. Uruguay
10. Malaysia	21. Morocco
11. Mexico	22. Nigeria