Efectos del desarrollo bancario y del mercado de valores en el crecimiento económico en Asia y Latinoamérica: ¿Por qué tan diferentes?

Effects of Banking and Stock Market Development on Economic Growth in Asia and Latin America: Why so Different?

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Resumen

El artículo estudia la influencia del desarrollo de la bolsa de valores y el desarrollo bancario en el crecimiento económico de Latinoamérica (México, Venezuela y Chile) y el Sudeste Asiático (Malasia, Tailandia, Indonesia y Filipinas) de 1980 a 2009. Se usa una regresión de panel no paramétrica para conocer la agrupación de los datos y otra de panel balanceado para estimar la relación entre las variables mencionadas. Los resultados son: el desarrollo de la bolsa de valores ha sido positivo en los países asiáticos y en Latinoamérica ha sido adverso. El desarrollo bancario ha sido negativo en todos los países.

Palabras clave: desarrollo del mercado de valores y financiero, crecimiento económico, regresión no paramétrica.

Abstract

This paper examines the influence of banking and financial development on economic growth in Latin American (Mexico, Venezuela and Chile) and Southeast Asian countries (Malaysia, Thailand, Indonesia and the Philippines) from 1980 to 2009. The study employs a nonparametric panel regression to test for the existence of data 'poolability' and a balanced, within-effects panel regression to estimate the relationship between stock market development, financial development and economic growth. The results are: stock market development has exerted a positive effect in Southeast Asia, whereas in Latin America it has adverse effects. Banking development has been negative in all countries.

Keywords: stock market and financial development, economic growth, nonparametric regression.
JEL: E44, G0, G18, C14, O4.

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Comunicación.

1. INTRODUCTION

This paper studies the relationship between financial development,[1] stock market development and economic growth in selected Southeast Asian and Latin American countries for the period from 1980 to 2009. Economic growth is a complex phenomenon caused by the interplay of many economic sectors using different combinations of labor, capital and technology. Financial institutions are an important sector that plays a crucial role in promoting economic growth through the allocation of savings to investment projects with the highest profit rates. Financial development, or the improvement in quantity, quality and efficiency of financial intermediary services (Calderon and Liu, 2003), is the process through which intermediaries enhance or retard output rates in an economy in the long run.

Since the 1960s Asia grew faster than any other region in the world. According to ADB (1997), East Asian countries achieved higher economic growth because of three factors: first, substantial potential for catching up due to low incomes and well-educated workers; second, favorable geographical and structural characteristics and pro-growth economic policies; and third, export promotion policies through free trade, convertible currencies, macroeconomic stability and a set of innovative institutions. The experience in Latin America has been contrary. Since the early 1980s many Latin American countries went through economic and financial crises, macroeconomic instability and social and political instability. Chile has been cited as a Latin American stars because it has enjoyed of accelerated growth along with economic stability

There are some striking differences among the countries considered in this study during 1980-2009. The average real growth rate in Southeast was 5% while in Latin America it was 3%. Investment as a proportion of GDP was 28% in Southeast Asia and 22% in Latin America. The real growth of exports was significantly higher in the first region: 8.6% versus 4.6%. Some indicators of financial development are even more revealing: bank credit to the private sector divided by GDP, 60% versus 29%; liquid liabilities as a proportion of GDP, 67% versus 33%; and stock market capitalization over GDP, 57% versus 32%. Finally, as mentioned above, Southeast Asia had longer periods of macroeconomic stability, because the average inflation rate in the region was 7% against 25% in Latin America. A priori the data indicate that Asian financial institutions evolved and performed their functions in a pro-growth, more stable environment. Therefore, we hypothesize that in the region financial and stock market development exerted a positive effect on economic growth in the long run.

To test the relationship between finance and growth, we use panel data from seven countries, namely Malaysia, Indonesia, Philippines, Thailand, Chile, Mexico and Venezuela for the period from 1980 to 2009. We conduct a “poolability” test in the data using a nonparametric panel regression. We found out that our data was partially poolable and it was enough to proceed with our estimations based on balanced, within effect panel data model. Our main results indicate that financial development has been, in general, negative in the countries considered in this study. However, using stock market development as an explanatory variable we showed that securities markets have positive growth effects in Southeast Asia and negative effects in Latin America.

[1] I.e, banking development. Banks are the main financial intermediaries outside the stock markets in most developing countries.

This paper is structured as follows. The second section discusses the literature concerning some studies of the influence of stock markets and financial development on economic growth. The following section explains our econometric strategy and the data employed in the balanced, within effects panel data model. Section four discusses the nonparametric approach used in this paper to test for data "poolability" and the estimation results from the panel data model. The last section concludes.

2. LITERATURE REVIEW

The economic theory postulates that financial markets have a primordial role in promoting a country's economic activity. There are several channels through financial intermediaries affect both the level and the rate of economic growth. M Pagano (1993) introduces a simplified growth model known as the "AK" model composed of the following equations:

$$Y_t = AK_t \tag{1}$$

$$I_t = K_{t+1} - (1 - d)K_t \tag{2}$$

$$fS_t = I_t \tag{3}$$

$$g = A\frac{I}{Y} - d = Afs - d \tag{4}$$

where Y is the aggregate output, K is the aggregate capital stock, I is the aggregate investment, A is the level of technology in the economy, δ is the rate of depreciation of the capital stock. g represents the steady-state growth rate which is obtained by assuming that $g_{t+1} = Y_{t+1}/Y_t - 1 = K_{t+1}/K_t - 1$ and substituting into Eq. (1-3). The model also assumes a closed economy with no government, that in capital market equilibrium gross saving S_t equals gross investment I_t and "that a proportion $1 - f$ is 'lost' in the process of financial intermediation" (Pagano, 1993: 614).

Intermediaries can affect the process of economic growth by raising the investment rate ϕ, the social marginal productivity of capital A and the private saving rate s. First, financial institutions capture resources from economic agents through competitive real interest rates, as postulated by R. I. McKinnon (1973) and E. Shaw (1973). An increase in real interest rates makes deposits more attractive. However, part of those resources are decreased by the cost of intermediation that includes commissions, fees and taxation due to government regulations like reserve requirements, transaction taxes, among others (Pagano, 1993: 615). Second, intermediaries can improve the allocation of capital by choosing investment projects with the highest rates of returns and therefore promoting economic growth. Here the main channel occurs through bank credit to private firms. Typically institutions evaluate alternative investment projects and could induce firms to investment in riskier and more productive technologies (*Ibid*: 615). Finally, if financial intermediaries are able to attract savings while capital markets develop at the same time, households have access to higher consumer credit, for instance, that stimulates firms' production.

As part of financial intermediaries, stock markets are able to enhance economic growth. Demigüç-Kunt and Levine (1996) argue that securities markets could affect economic growth through several channels. First, through the creation of liquidity:

> "Many profitable investments require a long-term commitment of capital, but investors are often reluctant to relinquish control of their savings for long periods. Liquid equity markets make investment less risky and more attractive because they allow savers to acquire an asset—equity— and to sell it quickly and cheaply if they need access to their savings or want to alter their portfolios. At the same time, companies enjoy permanent access to capital raised through equity issues. By facilitating longer-term, more profitable investments, liquid markets improve the allocation of capital and enhance prospects for long-term economic growth" (*Ibid*: 229).

Second, through risk diversification given that stock markets tend to be internationally integrated, although economic theory is ambiguous in this respect. Even if markets are internationally integrated thus allowing risk sharing of risky projects and shifting to higher-return projects, the need for precautionary saving is reduced. As a consequence, savings rates, investment and economic growth are reduced (*Ibid*: 230). Third, securities markets can also affect growth by improving the amount and quality of information about firms. "To the extent that larger, more liquid stock markets increase incentives to research firms, the improved information will improve resource allocation and accelerate growth".

Levine and Zervos (1996) examine the relationship between stock market development and economic growth with pool cross-country, time-series regressions using data on forty-one countries for period from 1976 to 1993. They build an index of stock market development by combining information on stock market size, trading, and integration. Their control variables include initial GDP per capita, political stability, investment in human capital, and measures of monetary, fiscal, and exchange rate policy. Their main conclusion is that "stock market development remains positively and significantly correlated with long-run economic growth" (*Ibid*, p. 325).

With cointegration analysis and a vector error correction model Nieuweburgh et al. (2006) find out that stock market development caused economic growth in Belgium in the period between 1893 and 1935. The authors construct new stock market indicators based on the Belgian companies whose main economic activity is located in Belgium, foreign companies with main activity abroad, Belgian colonial companies, Belgian companies with main economic activity abroad and foreign companies with main activity in Belgium (*Ibid*: 19). Lastly, Durham (2002) examines whether stock market liberalization has positive long- and short-run effects on economic growth using a sample of up to 64 countries from 1981 to 1998. His results point out that "stock market development has a more positive impact on growth for greater levels of per capita GDP, lower levels of country credit risk, and higher levels of legal development" (*Ibid*: 211).

In summary, the economic theory and empirical evidence provide strong support for the role of the positive financial development and stock markets in fostering economic growth in the long-run in both developed and developing countries.

3. ECONOMETRIC MODEL AND DATA

The whole data set comes from the *World Development Indicators* of the World Bank, the *International Financial Statistics* of the International Monetary Fund, and the *Financial Structure Database 2009* which contains time series of financial development indicators and is updated yearly.

Our main specification is as follows:

$$Y_{it} = b_0 + b_1 P_{it} + b_2 LI_{it} + b_3 X_{it} + b_4 INF_{it} + b_5 GC_{it} + b_6 FD_{it} + b_7 STK_{it} + e_{it} \quad (5)$$

where i refers to the country and t to the time period. Our dataset has seven economies over the period from 1980 to 2009. Y_{it} is the annual real growth rate of the gross domestic product (GDP). P_{it} is the annual growth rate of population. LI_{it} is the natural logarithm of the sum of gross fixed capital formation and change in inventories over the GDP in constant terms. X_{it} is the annual growth rate of exports measured in constant local currency. INF_{it} represents the inflation measured by the annual growth rate of GDP deflator. GC_{it} refers to the natural logarithm of general government spending over GDP. FD_{it} is a composite measure of financial development that comprises three indicators in natural logs: liquid liabilities divided by GDP, private credit by deposit money banks divided by GDP, and stock market capitalization over GDP (STK_{it}). Finally, ε_{it} represents the residuals.

Table 1 presents the descriptive statistics of variables. In the table we can observe that on average economic growth has been higher in Southeast Asian than in Latin America (5.01% versus 3.13%), as well as all measures of financial and stock market development.

Table 1. Descriptive Statistics

Variable	Southeast Asia				Latin America			
	Mean	Std. Dev.	Min.	Max.	Mean	Std. Dev.	Min.	Max.
Y	0.0501	0.0416	-0.1313	0.1329	0.0313	0.0507	-0.1032	0.1229
P	0.0189	0.0062	0.0056	0.0297	0.0178	0.0052	0.0097	0.0320
I	0.2775	0.1089	0.1435	0.6148	0.2185	0.0599	0.0963	0.4201
X	0.0862	0.1095	-0.3181	0.3981	0.0459	0.1155	-0.1972	0.6963
PC	0.5980	0.3999	0.0805	1.6596	0.2901	0.1904	0.0642	0.7825
LY	0.6668	0.3449	0.1425	1.3233	0.3316	0.1250	0.1214	0.6944
STK	0.5650	0.5972	0.0006	2.8243	0.3242	0.3610	0.0149	1.4715
INF	0.0729	0.0936	-0.0864	0.7527	0.2483	0.2607	0.0024	1.4100
GC	-2.3732	0.2358	-2.7532	-1.8394	-2.0283	0.2041	-2.3975	-1.4687

Given that the variables of liquid liabilities, private credit and stock market capitalization tend to be highly correlated, we used the statistical method of principal components to calculate our measure of financial development (see Table 2). This statistical method helps in avoiding the problem of high correlation among variables and hence multicollinearity and incorrect inferences (Jalil et al., 2010). What this method does is "to transform the correlated variables into a smaller of uncorrelated variables called principal components, while retaining most of the original variability in the data" (Jalil et al., 2010: 191). However, in the empirical results we only highlight the role of the variables of financial development and stock market capitalization.

Figure 1 shows the indicators of financial development and stock market capitalization for the countries under study. It can be seen that in Latin American the

size of both indicators is smaller than in the Southeast Asian countries. Malaysia's financial development and stock market capitalization has greatly surpassed the rest of the countries. On the other hand, the evolution of the two indicators in Chile has been remarkable overpassing the GDP, while in Venezuela they have been depressed. Our empirical results capture the aforementioned effects of the stock market capitalization on the rates of economic growth: positive in the case of the Southeast Asian countries, and negative in the case of the Latin American countries.

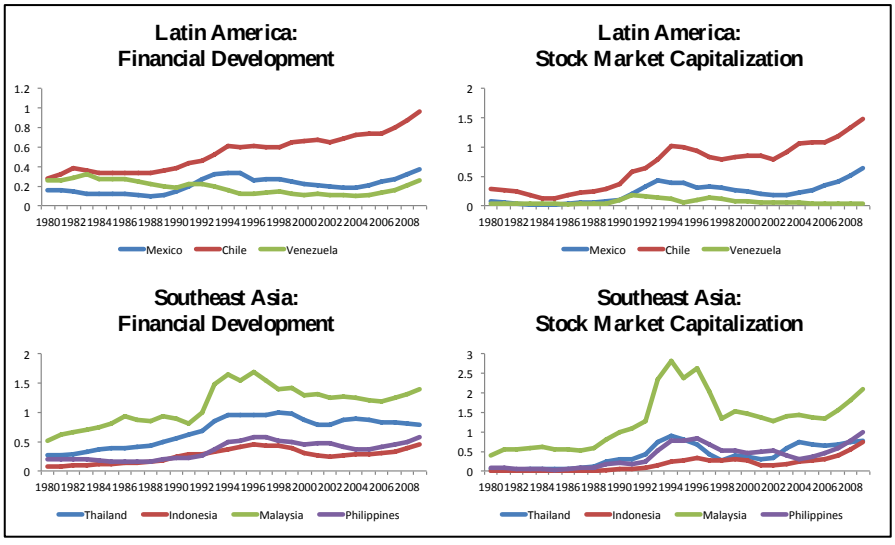
Table 2. Principal Component Analysis

Mexico			
Cumulative Proportion (Variance of PC1) :			0.6896
Variable	PC 1	PC 2	PC 3
LLY	0.504021	0.785542	0.359008
LPC	0.651909	-0.073347	-0.754742
LSTK	0.566549	-0.614446	0.54907
Venezuela			
Cumulative Proportion (Variance of PC1) :			0.7576
Variable	PC 1	PC 2	PC 3
LLY	0.6296	0.2789	0.7251
LPC	0.6145	0.3923	-0.6845
LSTK	-0.4754	0.8765	0.0756
Malaysia			
Cumulative Proportion (Variance of PC1) :			0.8168
Variable	PC 1	PC 2	PC 3
LLY	0.6268	-0.0255	-0.7787
LPC	0.5557	-0.686	0.4698
LSTK	0.5462	0.7272	0.4158
Thailand			
Cumulative Proportion (Variance of PC1) :			0.8907
Variable	PC 1	PC 2	PC 3
LLY	0.5784	-0.5378	0.6134
LPC	0.5836	-0.2525	-0.7718
LSTK	0.57	0.8044	0.1678

Chile			
Cumulative Proportion (Variance of PC1) :			0.7686
Variable	PC 1	PC 2	PC 3
LLY	0.5713	-0.603	0.5569
LPC	0.6389	-0.0993	-0.7629
LSTK	0.5153	0.7916	0.3285
Indonesia			
Cumulative Proportion (Variance of PC1) :			0.8393
Variable	PC 1	PC 2	PC 3
LLY	0.53	0.8351	0.147
LPC	0.6099	-0.255	-0.7504
LSTK	0.5892	-0.4874	0.6445
Philippines			
Cumulative Proportion (Variance of PC1) :			0.7304
Variable	PC 1	PC 2	PC 3
LLY	0.4646	0.8705	0.1626
LPC	0.6434	-0.2056	-0.7374
LSTK	0.6085	-0.4472	0.6555

Fuente: Authors' calculations.

Figure 1. Financial Development and Stock Market Capitalization, 1980-2009 (% of GDP)



Source: Authors' calculation and *Financial Structure Database 2009*.

4. EMPIRICAL RESULTS

This paper uses a nonparametric estimation of panel data to find out the existence of 'poolability' in our data (Racine, 2008). The nonparametric estimation assumes no a priori hypothesis in relation to the density function of data, in the sense that the latter "…determines the shape of the density, without constraining the function to belong to any particular family of distributions" (Ahamada and Flachaire, 2010).

Following Racine (2008), let us consider the following nonparametric panel data model:

$$Y_{it} = g(X_{it}) + u_{it}, \quad i = 1, 2, \ldots, N, \; t = 1, 2, \ldots, T \tag{6}$$

where $g(\cdot)$ is an unknown smooth function. $X_{it} = (X_{it,1}, \ldots, X_{it,q})$ is of dimension q, all other variables are scalars and $E(u_{it} \mid X_{i1}, \ldots, X_{iT}) = 0$. In this case, time series are be "poolable" if it is possible to effectively "pool" the data by adding both i and t ignoring the time dimension of series and then applying a nonparametric regression method. The next step consists in introducing an unordered discrete variable (in our case, the year which goes from 1 to 30 or from 1980 to 2009) and estimate $E(Y_{it} \mid Z_{it}, d_i)$ non-parametrically using a mixed discrete and continuous kernel approach,[2] such as the Gaussian kernel represented by $k(x) = \frac{1}{\sqrt{2p}} e^{-\frac{x^2}{2}}$. The final step is to cross validate with a parameter associated with d_i to select the smoothing parameter, which can be denoted by $\hat{l}$: if the $0 < \hat{l} < 1$, we say the data is partially poolable, if $\hat{l} = 0$ the data is not poolable and if $\hat{l} = 1$ the data is fully poolable.

Table 2 shows the bandwidth summary for the local linear economic growth panel data model. In all cases we can see that at least $0 < \hat{l} < 1$ or $\hat{l} = 1$ in the case of the full set of data comprising all countries. In fact, the Southeast Asian factor values are better than those of Latin America. Given that our panel data is at least partially poolable, then we can proceed to estimate our panel data model.

Table 3. Bandwidth Summary for Panel Data

[2] Z_{it} is multivariate and it could include a set of explicative variables, for instance.

(A) Full Set: explanatory variable FD			A) Full Set: explanatory variable STK		
Variable	Bandwidth	Scale Factor	Variable	Bandwidth	Scale Factor
P	33823.79	9933493	P		
LI	0.8298269	6.535436	LI		
X	0.2795014	5.422761	X		
FD	0.3699097	1.826313	STK		
INF	0.506184	8.721854	INF		
GC	0.106356	0.6471617	GC		
Ordered (YEAR)	1.0000	Lambda Max: 1	Ordered (YEAR)		
Factor (CTRY)	0.1356437	Lambda Max: 1	Factor (CTRY)		
(B) Latin America: explanatory variable FD			(B) Latin America: explanatory variable STK		
Variable	Bandwidth	Scale Factor	Variable	Bandwidth	Scale Factor
P	38795.74	16257790	P	9642.512	4040802
LI	3010390	21014425	LI	520983.5	3636794
X	0.2432389	4.335998	X	0.2432478	4.336156
FD	713987.4	7413662	STK	2842626	29516303
INF	3168052	29162852	INF	5204622	47910078
GC	0.1068184	1.114888	GC	0.1067935	1.114627
Ordered (YEAR)	0.9999147	Lambda Max: 1	Ordered (YEAR)	1.00000	Lambda Max: 1
Factor (CTRY)	0.123883	Lambda Max: 1	Factor (CTRY)	0.1237841	Lambda Max: 1
(C) Southeast Asia: explanatory variable FD			(C) Southeast Asia: explanatory variable (STK)		
Variable	Bandwidth	Scale Factor	Variable	Bandwidth	Scale Factor
P	0.005746415	1.495618	P	0.003877359	1.009159
LI	0.5896952	3.599081	LI	80416.95	490808.1
X	214708.2	3991106	X	30228.74	561907.3
FD	0.3202228	1.268968	STK	0.4159366	1.422713
INF	0.03682356	1.336044	INF	0.04463931	1.619617
GC	408151.5	2793695	GC	4916623	33653064
Ordered (YEAR)	1.00000	Lambda Max: 1	Ordered (YEAR)	1.00000	Lambda Max: 1
Factor (CTRY)	1.00000	Lambda Max: 1	Factor (CTRY)	0.8554529	Lambda Max: 1

Source: Authors' calculation.

In Table 4 most of our control variables are strongly related to the real rate of economic growth, depending on the specification. In all specifications *GC* is insignificant and in the case of Latin America it has a negative sign, which could imply that it has ineffective in promoting economic growth. In the case of the annual growth rate of population, the coefficients are higher and significant with respect to Mexico, Venezuela and Chile, meaning that output has been labor intensive in those countries during the period under study. *LI* is highly significant in all panel regressions with the expected positive sign. However, the size of its coefficient is smaller than those of *P*. In addition, our variable of real growth of exports *X* has the expected sign across regressions, with the exception of specification (2B). Finally, the control variable *INF* has a negative sign as found in previous studies and it is statistically significant is most regressions, except in (2B).

The evidence on stock market development and economic growth is at best mixed. In a highly influential study, R. Atje and B. Jovanovic (1993) found a positive

relationship between stock market development and the rate of economic growth. In an study where the Mankiw, Romer and Weil (1992) model is augmented, A. Cooray (2010) found strong support for the influence of stock markets on growth for a cross section of 35 developing countries. As explained by the author, since the OLS estimation of equations could lead to bias and inconsistent parameters due to the problem of endogeneity, the GMM technique was also employed. The estimation results show that the stock market variables are all significant at the 5% level in all regressions.

Contrary to the previous studies, D. Harris (1997) re-examines the link between stock markets and growth using current investment rather than lagged investment in a two stage least squares to avoid the problem of endogeneity. The author's sample is divided into developed and less-developed countries; he found that stock markets have a small influence on growth in the more advanced countries.

Table 4. Balanced, Within Effects Panel Regression Results

Dependent variable: Y Panel Model: Within

Variable	(1) (Full set) n = 7, T = 30		(2) (Latin America) n = 3, T = 30		(3) (Southeast Asia) n = 4, T = 30	
	(A)	(B)	(A)	(B)	(A)	(B)
P	0.9962	2.0112**	0.9656	0.510580	2.1566 *	3.2779 ***
	(1.1729)	(2.4218)	(0.7232)	(0.333)	(2.0451)	(3.5986)
LI	0.0543 ***	0.0450 ***	0.0804 ***	0.07780 **	0.0430 **	0.0331 *
	(4.1650)	(3.5011)	(3.7765)	(3.3400)	(2.8210)	(2.1598)
X	0.1079 ***	0.1099***	0.0778 .	0.0778	0.1392 ***	0.1430 ***
	(3.9915)	(4.0029)	(1.7181)	(1.5768)	(4.8636)	(5.0334)
FD	-0.0620 *	---	-0.2152 ***	---	-0.0231	---
	(-2.5322)		(-3.5875)		(-1.1675)	
STK		0.0056	---	-0.0634 .	---	0.0155 .
		(0.5186)		(-1.8362)		(1.7447)
INF	-0.0598 ***	-0.0573 ***	-0.0414 .	-0.0211	-0.2416 ***	-0.2324 ***
	(-3.4906)	(-3.2967)	(-3.5875)	(0.3666)	(-6.7898)	(-6.6146)
GC	0.0001	0.0364	-0.0710 .	-0.0339	-0.0145	0.0145
	(0.0071)	(1.7028)	(-1.9330)	(-0.8423)	(-0.4497)	(0.5052)
Observations	210	210	90	90	120	120
R^2	0.2105	0.1859	0.2427	0.1574	0.4388	0.4471
Adjusted R^2	0.1975	0.1744	0.2185	0.1417	0.4022	0.4099
F	8.7541	7.4981	4.3274	2.5235	14.3325	14.8256

Standard errors
*** p < 0.00 ** p < 0.001 * p < 0.01 '.' P < 0.05

Note: t-values are in parenthesis.

Enisan and Olufisayo (2008) analyze the long run and casual relationship between economic growth and stock market developing with the econometric technique known as autoregressive distributed lag bounds test. Their results are mixed: they found a cointegration relationship between stock market and growth in Egypt, South Africa, Cote D'Ivoire, Kenya, Morocco and Zimbabwe, but their tests

failed to show any relationship in the case of Nigeria using market size as indicator of stock market development.

Finally, in Table 4 it can be seen that the sign of the indicator of stock market development is negative in the case of the Latin American countries and positive in the case of the Asian countries, although in both cases the effect is small. For Latin America, results point out that if stock market development increases 10%, then the rate of economic growth will decrease 0.6%, while in Southeast Asia if it increases 10% their GDP will grow 0.15% on average. On the other hand, our indicator of financial development has a negative sign for the full set of countries and Latin America, indicating the financial sector has not promoted effectively economic growth. Nonetheless, it should be pointed out that the negative effect comes mainly from the indicators of liquid liabilities and private credit by deposit money banks. Therefore, for the full set an increase of 10% in financial development means a fall of roughly 0.6% in GDP, whereas in Latin America alone means a decrease of 2%.

5. CONCLUSIONS

In this paper we have investigated the relationship between stock market development, financial development and economic growth in several countries of Southeast Asia (i.e., Indonesia, Malaysia, Thailand and Philippines) and Latin America (Mexico, Venezuela and Chile) using data for the period from 1980 to 2009. Our study investigated the link with a nonparametric regression of a panel data model to test for the significance of data “poolability” and a balanced, within effects panel data model.

In this study we controlled for the population growth rate, the investment intensity with respect to output, the inflation rate, government spending and the real growth rate of exports. We found mixed evidence in favor of financial development and stock market development. In Latin America both indicators have exerted a negative influence on growth, while in Southeast Asia the stock market development has had positive effects on economic growth.

Our results have several policy implications. First, authorities should still emphasize the development of financial markets to enhance their contribution to growth. In Mexico and Venezuela financial markets are still underdeveloped in comparison to Southeast Asian countries where stock markets intermediate more than the value of GDP. Second, during the period under study the Latin American countries suffered from several deep recessions and crises that severely slowed down the development their financial systems, thereby disrupting the investment and savings channels through which financial institutions are supposed to enhance the economic activity.

This paper has not addressed other major issues in the financial research agenda such as the directionality of the finance-growth nexus, an area that corresponds to time series econometrics. Also, our empirical results can be improved by including other Asian and/or Latin American countries in our sample data.

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