CAPITAL ACCOUNT LIBERALIZATION AND ECONOMIC GROWTH: EVIDENCE FROM EMERGING MARKET ECONOMIES

MUHAMMAD ATIQ UR REHMAN AND MUHAMMAD AZMAT HAYAT*

Abstract. Financial globalization has altered the world economic architecture over the past few decades. The economies are liberalizing their financial sectors by reducing government regulations and restrictions on capital flows across borders. The capital account liberalization is a critical policy decision for the Emerging Market Economies (EMEs). This research work aims at exploring the impact of capital account liberalization on economic growth in the 17 emerging economies over the period 1991 - 2015. The generalized method of moments (GMM) system technique is applied using different de facto and de jure measures of capital account openness. The empirical results indicate that only foreign direct investment (FDI) affects economic growth positively and significantly in the EMEs while the coefficients on all the other measures of capital account liberalization remain statistically insignificant. The findings suggest that FDI is the most beneficial and stable capital flow which imports sophisticated techniques of production, promotes a competitive environment, encourages innovations and inventions and hence promotes economic growth in the emerging economies.

Keywords: Capital account liberalization, Economic growth, Foreign direct
investment, Generalized method of moments

JEL classification: F36, F15, F21, C23

*The authors are respectively Ph.D. Scholar and Assistant Professor at Department of
Economics, University of the Punjab, Lahore -Pakistan.
Corresponding author e-mail: atiq164@live.com

I. INTRODUCTION

Financial liberalization has gained substantial importance in the current globalized world. In the quest of exploring its outcomes, the researchers mainly focus on its effects on economic growth. Theoretical literature suggests that the capital account liberalization encourages an efficient allocation of financial resources, induces financial sector development and provides risk diversification opportunities. Recognizing these potential advantages, the policy makers of industrial economies have taken steps towards financial liberalization over the last three decades. Many researchers attribute the efficiency gains in these advanced economies to liberalized capital markets. McKinnon and Shaw (1973) explain that the financial openness would promote economic growth by encouraging investment and capital accumulation. Financial liberalization also puts a favorable impact on productivity due to easier access to profitable investments opportunities and efficient allocation of funds (Kose et al. 2009). In a more sophisticated context, the capital inflows from rich to poor nations may improve the allocative efficiency of investment, alleviate credit constraints and provide lucrative investment opportunities (Acemoglu and Zilibotti, 1997). According to a neoclassical viewpoint, the international capital market liberalization transfers capital from capital-abundant to capital-scarce economies. The cheaper capital in low-income economies encourages investment and promotes economic growth. However, a policy prescription of rapid capital account liberalization in economically less developed countries has been controversial. Some economists advocate the benefits of financial liberalization while others point out some potential risks on the basis of past bad experiences of East Asia and Latin America.

Financial globalization gained popularity in the mid-1980s. The financial markets perform a vital role in the development process of an economy by providing information to the agents about optimal allocation of finances and international diversification. However, there are many concerns over financial liberalization in the wake of global financial crunch experienced by different countries around the globe. The previous two decades have witnessed two cases of massive capital flows to emerging markets. The first wave of crisis started in the 1990s and ended rapidly after bringing Asian financial crisis. The recent case is the increased financial flows from industrialized countries to emerging

market economies. However, the nature and composition of financial flows are found to be different in both cases. The strategy of minimum restrictions on capital flows has been encouraged on the basis of expected improved allocation of financial resources and better risk diversification possibilities. It is strongly assumed that the liberalization of financial flows benefits developing countries because they are relatively capital-poor economies with a higher marginal product of capital. However, the increased capital flows may cause currency and financial crises. The 2008 financial crisis gave a jerk to the global financial regulatory setup and a new debate on the costs and benefits of financial openness started. The experience of capital account liberalization in emerging markets provides many opportunities as well as challenges for the economic policy makers. The core objective of this study is to explore the impact of capital account liberalization on economic growth in emerging market economies exclusively.

II. REVIEW OF LITERATURE

The empirical research does not give a clear explanation of the benefits of financial openness in emerging market economies. Many studies suggest a positive association between financial liberalization and GDP growth but several others are unable to discover any significant link. Quinn (1997) utilizes IMF's Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER) to develop a financial openness index for a large group of developed and developing economies. The empirical results suggest a positive nexus between financial openness and economic growth. Bailliu (2000) finds that capital account liberalization stimulates growth through financial development in case of developed countries. Arteta et al. (2001) discover a more supportive role of financial openness in advanced countries than in developing economies. Bekaert, Harvey, and Lundblad (2001) find that the capital account liberalization affects GDP growth positively in emerging countries. Ross Livine (2001) finds a favorable influence of financial openness on output growth by bringing improvements in domestic financial setup. O'Donnell (2001) points out that the growth impacts of financial liberalization are different in different countries depending on their economic structures and institutional quality. Soto (2003) explores the contribution of capital account liberalization on GDP growth in 72 economies over the period

1985-1996. The empirical results indicate that the foreign direct investment affects GDP growth positively and significantly. Bonfiglioli (2005) examines the effects of financial openness on total factor productivity, investment and GDP growth for 57 economies. He reveals that the capital account liberalization does not significantly influence capital accumulation but it enhances productivity and economic growth. Kose et al. (2006) discover a positive contribution of FDI inflows on output. Klein and Olivei (2008) discover a positive impact of capital market liberalization on economic growth in developed economies. Bekaert, Harvey, and Lundblad (2011) explain that the countries with more financial development or having higher quality institutions experience larger productivity gains from financial liberalization. Gehringer (2015) explores the role of capital account liberalization in promoting GDP growth for the member economies of the European Union. The author finds that the financial market liberalization affects economic growth positively through productivity channel.

On the other hand, various studies do not find any favorable evidence of positive correlation between financial liberalization and growth. Grilli and Milesi-Ferretti (1995) empirically investigate the contribution of financial liberalization in promoting economic growth for a group of 61 countries. Using different measures of financial liberalization, they find no robust correlation between capital controls and GDP growth. Rodrik (1998) empirically studies the finance-growth nexus in 100 developed and emerging economies. He is unable to find any positive and significant influence of financial market liberalization on economic growth. According to Stiglitz (2000), the direct positive influence of financial liberalization on output growth in emerging markets is largely offset by the negative effects of increased macroeconomic volatility, business cycle fluctuations, and financial sector instability. Edwards (2001) examines the role of capital mobility on GDP and total factor productivity growth. He concludes that the countries with sophisticated domestic financial system experience a favorable outcome of financial openness policies on economic growth. Edison, Livine, Ricci, and Slok (2002) find no robust evidence of a positive nexus between financial liberalization and growth. Chinn and Ito (2008) explain that the benefits of financial market liberalization can only be availed if the domestic financial system is supported by a developed

and suitably functioning institutional infrastructure. Kim et al. (2012) examine the impact of opening up borders for international capital flows on macroeconomic uncertainty and economic growth for a group of 70 economies from 1960 to 2007. Using foreign assets and liabilities as financial openness measures, they find a negative effect of liberalized financial markets on GDP growth.

The difference in country coverage, sample size, and empirical methodology may be a cause of divergence in empirical findings. Firstly, most of the studies empirically examine the growth effects of capital account liberalization on developed, emerging, and underdeveloped economies under a single panel data setting while the growth dynamics, macroeconomic environment, institutional quality and corporate governance structures are different in these countries depending on the levels of their development. This study aims at fulfilling the dire need to examine the impact of capital account liberalization on economic growth in emerging economies separately.

III. DATA AND EMPIRICAL METHODOLOGY

The study uses panel data set over the period 1991-2015 for 17 major Emerging Economies including Argentina, Brazil, Chile, China, Hungry, India, Indonesia, Malaysia, Mexico, Pakistan, Philippines, Poland, Russia, Thailand, Turkey, Ukraine, and Venezuela. Emerging markets are those markets which have higher expected returns and greater macroeconomic volatility. IMF (2015) classification is used to select the Emerging market economies. The number of countries for empirical analysis is confined to seventeen due to data availability issues. Our study includes the most prominent Emerging market economies like BRIC (Brazil, Russia, India, and China) with other major Latin American emerging countries (Argentina, Chile, Mexico, and Venezuela). The major emerging states of ASEAN (Indonesia, Malaysia, Philippines, and Thailand) are also part of this study. The main economies of emerging Europe (Hungry, Poland, and Ukraine) are also taken into account. The data on real GDP per capita growth, years of schooling, population growth, Govt. expenditure as a share of GDP, life expectancy and trade openness (exports plus imports as a share of GDP) is obtained from the World Development Indicators (WDI) database.

We use different de facto and de jure measures of capital account liberalization. The de facto measures are developed on the basis of actual capital flows realized. Some major de facto measures of financial liberalization include foreign assets, foreign liabilities and FDI as a share of GDP. Being less volatile, the de facto measures are a better representation of financial liberalization in a country. Our de-facto measures of capital account liberalization include total Assets plus liabilities and FDI both expressed as shares of GDP. The data on total Assets plus liabilities comes from the external wealth of nations database by Lane and Milesi-Ferretti. The data on FDI as a share of GDP is obtained from WDI. De jure measures of financial liberalization reflect the intensity of restrictions on financial flows across countries. These measures are based on the AREAER database published by IMF. We use two de jure measures of capital account liberalization including Chin-Ito KAOPEN index and Schindler index. Chin-Ito KAOPEN index represents the extent of capital account openness of an economy with codified restrictions on financial transactions. The value of 0 represents fully restricted and 1 means unrestricted or fully liberalized economy. The data on Chin-Ito KAOPEN index is collected from Chin and Ito (2011) database. Schindler index is obtained from martin Schindler (2015) data set. Schindler's index of capital controls was initially developed for 91 countries. It is coded in binary form with 0 for unrestricted and 1 for restricted. The study uses a panel data set for estimation due to its various advantages over cross sectional data. The previous studies frequently used cross sectional data for the empirical analysis of finance-growth nexus. The estimation of cross-sectional data is able to test permanent growth impact over long-run horizons while typical neoclassical model suggests only temporary growth impacts of financial flows (Henry, 2007). We employ panel data GMM to cope with the criticism by Henry. The GMM technique enables us to control for the country-specific effects and potential endogeneity bias. We start from the following simple growth regression using panel data:

$$Y_{it} = \beta CAL_{it} + \gamma X_{it} + \varepsilon_{it} \quad \ldots\ldots(I)$$

Where Y_{it} denotes real GDP per capita growth and CAL_{it} represents any measure of capital account liberalization. The vector of control variables is symbolized by X_{it} contains years of secondary schooling as a

proxy for human capital, population growth, trade openness, life expectancy, and government expenditure as a share of GDP. In standard growth regressions, initial GDP per capita is included to test the conditional convergence. The subscripts i and t indicate the countries and the time periods under consideration respectively while ε_i indicates an identically and independently distributed (i.i.d) stochastic error term.

The dynamic form of the equation (1) by incorporating time-invariant country specific effects η_i can be written as:

$$Y_{it} = aY_{it-1} + \beta CAL_{it} + \gamma X_{it} + \eta_i + \varepsilon_{it} \qquad (II)$$

The time-invariant country-specific characteristics can be eliminated by formulating the preceding equation in differences.

$$Y_{it} - Y_{it-1} = a\left(Y_{it-1} - Y_{it-2}\right) + \beta\left(CAL_{it} - CAL_{it-1}\right) + \gamma\left(X_{it} - X_{it-1}\right) + \left(\varepsilon_{it} - \varepsilon_{it-1}\right)$$
$$\Delta Y_{it} = a\Delta Y_{it-1} + \beta\Delta CAL_{it} + \gamma\Delta X_{it} + \Delta\varepsilon_{it} \qquad (III)$$

The study uses a panel data set from seventeen emerging economies taking five-year non-overlapping averages of all variables for the period of 1991-2015. The cyclicality of data is reduced by using five-year averages of all variables. The dynamic system GMM panel regression on non-overlapping 5-year averages can be written as

$$\Delta Y_{it} = a\Delta Y_{it-5} + \beta\Delta CAL_{it} + \gamma\Delta X_{it} + \Delta\varepsilon_{it} \ldots\ldots\left(III'\right)$$

The above-given equation corresponds to system GMM.

The dynamic panel GMM estimator developed by Arellano and Bond (1991) controls for the endogeneity problem due to the inclusion of lagged dependent variable as a regressor. The system GMM was initially introduced by Arellano and Bover (1995) and then fully developed by Blundell and Bond (1998). It is an extended form of difference GMM. It makes an assumption that the first differences of instrumental variables are not correlated with fixed effects. This additional assumption enhances efficiency by introducing more instruments. The original and transformed equations both form a system of equations which is called system GMM. The difference GMM has a tendency to give biased results in small sample estimations with weak instruments, so the system GMM is more efficient and preferable technique.

The Hansen test is used to examine the validity of instruments. The autocorrelation is tested by Arellano-Bond test of second order autocorrelation. The theoretical foundations reveal that the explanatory variables, the years of schooling, population growth, life expectancy, trade openness and government spending are not correlated with each other, so the regressions are likely to face no problem of multicollinearity. Robust standard errors are computed to get rid of heteroskedasticity. Following Barro, Mankiw and Sala-i-Martin (1995), we use the initial income to assess the conditional convergence. The real per capita GDP in 1991 is included as initial income. The coefficient on initial income (α) indicates conditional convergence. The negative value of initial income coefficient ($\alpha < 0$) implies the presence of convergence.

IV. EMPIRICAL RESULTS AND FINDINGS

The empirical results for the panel system GMM are presented in Table 1 and Table 2. In addition to system GMM estimator, we also consider OLS and fixed effect methods on non-overlapping five-year intervals for the robustness checks.

TABLE 1

Estimates Using De Facto Measures

Dependent Variable	Growth Rate Of Real GDP Per Capita					
Method	System GMM		Fixed Effects		OLS	
Regression	(1)	(2)	(1)	(2)	(1)	(2)
Initial Income	-1.8361** (0.8002)	-1.3344** (0.6029)	-2.8047* (0.6424)	-1.6290** (0.6557)	-2.3162* (0.6068)	-1.5098* (0.5173)
Schooling	-0.7905 (3.3963)	0.4072 (2.0617)	0.8595 (1.8289)	0.1321 (1.7850)	0.6038 (1.6425)	0.1028 (1.6658)
Population Growth	-0.4762 (0.8304)	-0.7045 (.5458)	0.1775 (0.7545)	-0.6827 (0.5597)	-0.1895 (0.7826)	-0.7359 (0.5692)
Govt. Expenditure	-1.1101 (1.9139)	-3.9885** (1.6019)	-0.2583 (1.9039)	-3.5686** (1.7449)	-0.6891 (10.9177)	-3.8761** (1.7966)
Life Expectancy	3.7677** (2.6652)	6.3892* (2.1330)	26.3430* (9.5036)	8.2689 (13.6568)	19.1270** (8.8486)	5.7219 (9.6148)
Trade Openess	-1.6572 (1.3290)	-1.0918 (0.6666)	-1.9669 (1.3153)	-1.1339** (0.5564)	-1.6326 (1.2941)	-1.1082** (0.5326)
Total Liabilities + Asssets	2.8833 (2.2019)		3.1076 (2.5848)		2.4376 (2.5227)	
FDI		1.8439** (0.7564)		1.8855** (0.9565)		1.9134** (0.8802)
Constant			-92.4372**	-5.7703	-63.405***	4.6026

Dependent Variable	Growth Rate Of Real GDP Per Capita					
Method	System GMM		Fixed Effects		OLS	
Regression	(1)	(2)	(1)	(2)	(1)	(2)
			(37.0360)	(56.7287)	(34.0506)	(41.0870)
R-Squared			0.32	0.36	0.26	0.33
Observations	85	85	85	85	85	85
Groups	17	17	17	17	17	17
Hansen (p-value)	0.863	0.811				
AB m2 (p-value)	0.192	0.107				

Note: All variables are in log form except real GDP per capita growth and population growth. De facto measures of capital account liberalization including total assets plus liabilities and FDI both as shares of GDP are used. The data sample ranges from 1991 to 2015 with 5-year non-overlapping averages. Robust standard errors are given in parentheses; * , ** and *** indicate significance at 1%, 5%, and 10% level respectively. AB m2 is the Arellano-Bond test for second order autocorrelation.

Table 1 shows the impact of de facto measures of capital account liberalization on real GDP per capita growth. We use two de facto measures including total assets plus liabilities as share of GDP and FDI as a share of GDP. The empirical results obtained by applying system GMM indicate that only the coefficient of FDI is statistically significant with positive sign while other measure, total liabilities and assets as share of GDP remains statistically insignificant. The fixed effects and pooled OLS applied for the robustness checks, also confirm these results. Foreign direct investment inflows nurture growth in emerging economies by bringing in modern techniques of production, improving managerial skills and encouraging competition through the entry of foreign firms. According to Sarno and Taylor (1999), FDI is a long term and stable capital inflow which helps fostering economic growth. The GMM estimates indicate that a one percent increase in FDI to GDP ratio leads to increase real GDP per capita growth by 1.84 percent. The fixed effects and OLS estimates reflect that a one percent increase in FDI to GDP ratio brings 1.88 to 1.91 percent increases in real GDP growth per capita respectively. The negative and significant coefficient on initial income indicates conditional convergence. These findings are similar to Barro (1996), Bonfiglioli (2005), Kose etl. (2008) and many others. The other control variables are the average years of schooling, population growth, government expenditure, life expectancy and trade openness. The coefficient on life expectancy is positive and significant because better health and social facilities make labor more productive and raise output.

The GMM results suggest that one percent increase in the life expectancy leads to increase economic growth by 3.76 to 6.38 percent or vice a versa. The schooling, population growth and trade openness variables enter into regressions as insignificant variables. The Hansen test p-values are greater than 0.10 in each case which indicates that the instruments are correctly specified. The p-values associated with Arellano-Bond test of second order autocorrelation are greater than 0.10 in each case of GMM regression indicating the absence of autocorrelation.

TABLE 2

Estimates Using De Jure Measures

Dependent Variable	Growth Rate Of Real GDP Per Capita					
Method	System GMM		Fixed Effects		OLS	
Regression	(3)	(4)	(3)	(4)	(3)	(4)
Initial Income	-1.1567 (0.7296)	-1.3915 *** (0.7593)	-2.0993* (0.5912)	-2.2016* (0.8257)	-1.9368* (0.5304)	-2.0425* (0 .7513)
Schooling	-0.6139 (3.0586)	-0.8699 (3.1791)	1.1927 (1.5348)	1.0373 (1.5965)	1.0875 (1.3428)	0.9438 (1.4317)
Population Growth	-0.7657 (0.7564)	-0.7608 (0.7792)	-0.2751 (0.7906)	-0.2677 (0.7868)	-0.3548 (0.7456)	-0.3436 (0.7505)
Govt. Expenditure	-2.4419 (1.9487)	-2.1298 (1.9703)	-1.3337 (1.6597)	-1.0715 (1.7570)	-1.6822 (1.6937)	-1.4442 (1.7889)
Life Expectancy	5.0571*** (2.6185)	5.4916*** (2.6898)	28.3296* (9.6858)	28.2571* (10.3250)	24.4029* (8.8086)	24.4012* (9.1638)
Trade Openess	-0.2390 (0.7246)	-0.2324 (0.7697)	-0.5005 (0.4821)	-0.5487 (0.4796)	-0.4565 (0.4710)	-0.4795 (0.4741)
Chin Ito (2006), KAOPEN Index	-0.0239 (0.2256)		-0.1280 (0.2795)		-0.0804 (0.2846)	
Schindler(2009), KA index		-0.4341 (1.6044)		-0.1871 (0.6904)		-0.3323 (1.7505)
Constant			-96.8129** (38.4257)	- 95.7022** (39.4055)	-80.5795** (35.7780)	-79.7408** (35.7661)
R-Squared			0.25	0.25	0.21	0.21
Groups	17	17	17	17	17	17
Observations	85	85	85	85	85	85
Hansen (p-value)	0.898	0.790				
AB m2 (p-value)	0.154	0.159				

Note: All variables are in log form except real GDP per capita growth and population growth. De jure measures of capital account liberalization including Chin &Ito (2006) KAOPEN Index and Schindler (2009) over all restrictions index are used . The data sample ranges from 1991 to 2015 with 5-year non-overlapping averages. Robust standard errors are given in parentheses; * , ** and *** indicate significance at 1%, 5%, and 10% level respectively. AB m2 is the Arellano-Bond test for second order autocorrelation

Table 2 gives estimates of the impact of de jure capital account liberalization on real GDP per capita growth. The de jure measures include Chin &Ito (2006) KAOPEN Index and Schindler (2009) over all restrictions index. The one-step robust system GMM results indicate that the impact of both de jure measures is statistically insignificant. The fixed effects and pooled OLS applied for the robustness checks, also confirm these results. According to Garita and Zhou (2009), de jure measures of financial liberalization are short term capital flows which do not put any significantly favorable impact on the EMEs as they are unstable and bring macroeconomic fluctuations. The de jure measures are criticized because they do not properly reflect the extent of capital account openness. Moreover, these measures are based on numerous restrictions related to foreign exchange transactions that generally don't restrict capital flows. Most notably, de jure measures are unable to reflect the actual degree of financial globalization. So the both de jure measures are found to be statistically insignificant. The other control variables are the initial income, average years of schooling, population growth, government expenditure, life expectancy, and trade openness. The negative and significant coefficient on the initial income indicates conditional convergence. The life expectancy is positive and significant, while schooling, population growth, and trade openness variables generally remain insignificant. The p-values of Hansen test are greater than 0.10 in each case which implies that the instruments are correctly specified. According to Roodman (2006), Hansen test is weaker and not fairly faithful in first step regression. The two-step estimator is efficient and robust to different patterns of heteroskedasticity and cross-correlation. Hence, the p-values for the Hansen test are reported from the second step. The p-values of Arellano-Bond test for second order autocorrelation are greater than 0.10 indicating the absence of autocorrelation.

V. CONCLUSIONS AND POLICY RECOMMENDATION

Capital account liberalization and its impacts on economic growth have gained considerable concentration of the different interest groups and researchers around the globe. The changing settings of financial architecture worldwide on the basis of financial sector liberalization have made the capital account liberalization the most hotly debated topic

among the policy makers. This research work aims at exploring the influence of capital account liberalization on growth in emerging markets. The study empirically analyzes the seventeen major EMEs including Argentina, Brazil, Chile, China, Hungry, India, Indonesia, Malaysia, Mexico, Pakistan, Philippines, Poland, Russia, Thailand, Turkey, Ukraine, and Venezuela. The GMM system technique is applied using different de facto and de jure financial liberalization measures. The fixed effects and pooled OLS are also applied for the robustness checks. The empirical results suggest that only FDI affects economic growth positively and significantly while all the other measures of capital account liberalization remain statistically insignificant. The findings provide useful policy suggestions for the authorities and think tanks of emerging market economies. It is found that the foreign direct investment is a long term and stable capital flow which imports sophisticated techniques of production through technological diffusion, encourages innovations and inventions due to competition and hence enhances economic growth. The financial liberalization policy should be aiming at attracting more and more foreign direct investment to gain the benefits from favorable technological spillovers. The law and order situation should be improved accompanied with stable macroeconomic policies to encourage the foreign investors. The emerging economies should concentrate on the domestic financial sector development to properly reap the benefits of financial liberalization by allocating funds to the most suitable investment opportunities. The hasty liberalization of capital flows with a fragile domestic financial system may be harmful for the emerging market economies. It is imperative for the economic policy makers of emerging and developing countries to adopt specific flexibility in policy by preserving some regulatory space in their own control. The governments should rationally use their regulatory powers of controlling short-term capital flows to avoid macroeconomic fluctuations and financial crisis in emerging market economies.

REFERENCES

Acemoglu, D. and F. Zilibotti (1997). Was Prometheus unbound by chance? Risk, diversification, and growth. Journal of Political Economy 105 (4): 709–752.

Arellano, M., & Bover, O. (1995). Another look at the instrumental variable estimation of error-components models. Journal of econometrics, 68(1), 29-51.

Arteta, C., B. Eichengreen, and C. Wyplosz (2001) When Does Capital Account Liberalization Help More than It Hurts? National Bureau of Economic Research, Cambridge.

Bailliu, J. N. (2000). Private capital flows, financial development, and economic growth in developing countries. Ottawa: Bank of Canada.

Barro, R. J., Mankiw, N. G., & Sala-i-Martin, X. (1995). Capital mobility in neoclassical models of growth. American Economic Review, 85, 103–115.

Bekaert, G., Harvey, C. R., & Lundblad, C. (2005). Does financial liberalization spur growth? Journal of Financial economics, 77(1), 3-55.

Bekaert, G., Harvey, C. R., & Lundblad, C. (2011). Financial openness and productivity. World Development, 39(1), 1-19.

Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. Journal of econometrics, 87(1), 115-143.

Bonfiglioli., A. (2005) How Does Financial Liberalization affects Economic Growth? Seminar Papers 736, Stockholm University, Institute for International Economics Studies.

Chinn, M. D., & Ito, H. (2006). What matters for financial development? Capital controls, institutions, and interactions. Journal of development economics, 81(1), 163-192.

Edison, H. J., Levine, R., Ricci, L., & Sløk, T. (2002). International financial integration and economic growth. Journal of international money and finance, 21(6), 749-776.

Edwards, S. (2001). Capital mobility and economic performance: are emerging economies different? (No. w8076). National bureau of economic research

Eichengreen, B. (2009). The financial crisis and global policy reforms, University of California, Berkeley.

Garita, G. and Zhou, C. (2009). Can Open Capital Markets Help Avoid Currency Crises? De Nederlandsche Bank Working Paper 205.

Gehringer, A. (2015). Uneven effects of financial liberalization on productivity growth in the EU: Evidence from a dynamic panel investigation, International Journal of Production Economics Volume 159, January 2015, Pages 334–346.

Grilli, V., & Milesi-Ferretti, G. M. (1995). Economic effects and structural determinants of capital controls. Staff Papers, 42(3), 517-551.

Henry, P. B. (2007). Capital account liberalization: Theory, evidence, and speculation. Journal of Economic Literature, 45(4), 887-935.

Klein, M. W., & Olivei, G. P. (2008). Capital account liberalization, financial depth, and economic growth. Journal of international money and finance, 27(6), 861-875.

Kose, M. A., Prasad, E. S., & Terrones, M. E. (2009). Does openness to international financial flows raise productivity growth? Journal of International Money and Finance, 28, 554–558.

Lane, Philip R., and Gian Maria Milesi-Ferretti, 2005, "A Global Perspective on External Positions" IMF Working Paper no 05/161.

Levine, R. (2001). International financial liberalization and economic growth. Review of international Economics, 9(4), 688-702.

McKinnon, R. I. (1973). Money and Capital in Economic Development (Washington, DC: Brookings Institution, 1973); and Edward S. Shaw. Financial Deepening in Economic Development.

O'Donnell, B. (2001). Financial Openness and Economic Performance (unpublished: Dublin Trinity College).

Prasad, E. S., Rogoff K., Wei S-J., & Kose M. A. (2003). Effects of Financial Globalisation on Developing Countries: Some Empirical Evidence. Occasional Paper No. 220. International Monetary Fund.Washington DC.

Quinn, D. (1997) Correlates of Changes in International Financial Regulation. American Political Science Review, 91(3):531-551.

Rajan, R. G., & Zingales, L. (1996). Financial dependence and growth (No. w 5758). National bureau of economic research.

Rodrik, D. (1998). Who needs capital account convertibility? Should the IMF pursue capital account convertibility?.Essays in International Finance, 207. (pp. 55–65) Princeton: Princeton University Press.

Sarno, L., & Taylor, M. P. (1999). Hot money, accounting labels and the permanence of capital flows to developing countries: An empirical investigation. Journal of Development Economics, 59(2), 337-364.

Schindler, M. (2009). Measuring financial integration: A new data set. IMF Staff Papers, 56 (1), 222-238.

Soto, M. (2003). Taxing capital flows: an empirical comparative analysis. Journal of Development Economics, 72(1), 203-221..

Stiglitz, J. E. (2000). Capital market liberalization, economic growth, and instability. World development, 28(6), 1075-1086.

World Bank (2015) World Development Indicators database, World Bank, Washington DC.