Financial Liberalization and Economic Growth: Lessons from the South African Experience

David T. Tswamuno*, Scott Pardee**, and Phanindra V. Wunnava**[+]

Credit Suisse Securities, LLC*, Middlebury College**, and IZA[+]

Abstract Following liberalization in South Africa, uncertainty on the part of foreign investors due to lack of a credible macroeconomic framework led to increased volatility of capital flows; characterized by huge capital inflows and subsequent capital flight. Post-liberalization Foreign Portfolio Investments had no positive effect on economic growth. In addition, increased post-liberalization stock market turnover had a negative effect on economic growth. In contrast to this situation, evidence shows that foreign portfolio investment and increased turnover contributed positively to economic growth in a more controlled pre-1994 South African economy. This study aims to show that liberalization of the capital account is necessary but not sufficient for economic growth. Instead, countries need to adopt and implement credible macroeconomic policies meant to stabilize foreign capital flows in order for them to benefit fully from liberalization.

Keywords: Capital Flows, financial liberalization, South Africa, capital account

JEL Classification: C22, G12, G28

1. Introduction

The past 25 years have witnessed massive strides towards liberalization[1] of elements of the capital account in emerging markets. The result has been an unprecedented increase in capital flows to these markets. According to 1993's World Development Report, gross capital flows in the main developing countries amounted to US$850 billion during the period 1990 – 1993, compared to US$500 billion over the period 1985 – 1990, and only US$100 billion over the period 1980 – 1985. South Africa is among the countries that have relaxed exchange controls on capital markets in a bid to tap into the capital flows resulting from liberalization.

The current exchange control regulations in South Africa were introduced by way of the Exchange Control Regulations Act passed by the government in 1961 to prevent deterioration of the capital account. In order to facilitate the controls, the government adopted a dual exchange rate system and introduced the financial rand for all non-resident investor transactions. Controls were temporarily lifted in 1983 only to be re-introduced in 1985 against the backdrop of political

unrest and the withdrawal of credit lines by foreign banks to South Africa, which caused severe depreciation of the rand.

Positive political developments in the early 1990s encouraged efforts by South Africa to integrate its economy with the rest of the world.[2] On March 13, 1995, in a bid to stimulate economic growth, the government re-abolished the financial rand system and lifted all controls on non-resident investors, allowing them full access to the JSE Securities Exchange[3] and the South African Bond Exchange (SABE).

Liberalization of the JSE has resulted in massive increases in stock turnover and foreign investment in local financial assets. Since 1998, data from the South African reserve bank shows that liquidity of the JSE has averaged above 30%. Net Purchases of equity by foreign investors increased from R0.19 billion to R40.60 billion over the period 1994 – 1999. Over the same period, net bond purchases rose from R1.88 billion to R4.3 billion. According to the Rand Commission, by 2002, non-residents were responsible for over a third and over an eighth of the turnover on the JSE and the SABE respectively.

This paper intends to analyze the effect of liberalization of the JSE and the Bond Exchange and the subsequent boost in foreign investor participation on economic growth. In addition to serving as an appraisal, this study will have important implications for the country's current efforts to lift controls for local residents and also on other developing countries considering liberalization of their capital accounts.

2. Literature Survey

Since the days of McKinnon and Shaw (1973), financial liberalization theory has advanced from focusing merely on credit markets and the public sector to include the private sector. Most recent studies have debated the dynamics of liberalization of capital markets[4] in developing economies. This section briefly touches on some of the pertinent studies linking capital account liberalization and economic growth. As we shall see below, there is no consensus among researchers about this important link.

Capital account liberalization refers to a policy by which a government gives foreign investors the right to purchase shares and bonds in the country's markets, at the same time granting domestic investors the right to trade in foreign securities. Advocates for liberalization argue that unlimited international capital flows resulting from liberalization lower the cost of capital, allow for risk diversification, and encourage investment in projects with higher returns.

2.1 Advocates

International asset pricing models predict that liberalization will lead to a drop in the cost of equity and debt capital through integration of segmented markets. Integration is said to be achieved when global assets of identical risk command the same expected return regardless of where they are traded. Bekaert and Harvey (1995) show that if isolated countries were to liberalize, then capital flows across borders would equate the price of risk across all the markets,

eliminating differential risk. In a rather assertive paper, Henry (2004) argues that if a developing country opens its stock market to foreign investors; aggregate dividend yield falls by 240 basis points, growth rate of output increases by an average of 1.1 percentage points per year, and the growth rate of output per worker rises by 2.3 percentage points per year. In another paper, Levine and Zervos (1996) show that liberalization results in an increase in stock market liquidity. Increased liquidity leads to further development of the underlying market as investors are assured of getting in and out of a position without much difficulty. Furthermore, Bekaert, Harvey, and Lundblad (2004) also show that foreign investors pressure local institutions to adhere to international standards, which improves local corporate governance and reduces the division between internal and external finance.

In a nutshell, capital account liberalization in developing countries is equivalent to an IPO (Martell and Stulz 2003) which boosts access to capital and allows for convergence of cost of capital between developed and developing countries.

2.2 Critics

Opponents of liberalization argue that it increases the risk of speculative attacks and increases a country's exposure to international shocks and capital flight. According to Gridlow (2001) the principal of the South African Reserve Bank College "Developing countries in the 1980s and early 1990s had been led to believe that foreign investment in the form of equities and bonds traded on the local markets was more long term in nature than foreign bank lending they attracted in the 1970s. However, huge flight of capital from the emerging markets at times in recent years has exploded that myth." Elsewhere, Baldacci, De Mello, and Inchauste Comboni (2002) observe increased incidences of financial crises following liberalization in Mexico. Kaminsky and Schmuckler (2001) and Tornell et. al. (2004) carry out similar studies, using panel data from emerging markets to show that liberalization results in larger booms and crashes. Stiglitz et. al. (1994) argue that information asymmetries, which are especially endemic to financial markets and transactions in developing countries, can be detrimental to liberalization. They further contend that compared to their developed counterparts, emerging markets do not have the capability to assemble information relevant to financial transactions and thus cannot guarantee that capital will flow where its marginal productivity exceeds opportunity cost.

2.3 Guarded Supporters

The third group consists of conservative advocates for liberalization, who suggest that there are several conditions, not yet met by most developing countries, which are necessary to ensure the success of liberalization. Aghion, Bacchetta, and Banarjee (2000) develop a mathematical model to show that economies at an intermediate level of financial development are more susceptible to macroeconomic shocks. Full liberalization in such economies may lead to destabilization, characterized by chronic phases of growth and capital flight. Rodrik and Velsasco (1999) argue that openness to international capital flows can harm a country if appropriate controls, bundled with a strong macroeconomic and regulatory environment, are not in place. Johnston (1997) argues that governments should develop strong institutions for monetary policy and exchange

rate management pre-liberalization.With this background, we develop a comprehensive growth model meant to capture the possible effects of liberalization on South Africa's economy.

3. Theoretical Model

A fully interacted growth model, similar to ones used in past studies by Bekaert et. al. (2004) and Li (2004) will be employed using data from 1975Q3 to 2005Q1. Data is obtained from the Reserve Bank of South Africa's website and the IMF's International Financial Statistics database. After carrying out unit root tests[5] and all the time series related tests, we arrive at a model that can be expressed as:

$$y_t = \beta_0 + \beta_1 lnturnover_t + \beta_2 lnfpi_t + \beta_3 lnclaims_t + \beta_4 lnhealth_t + \beta_5 lntrade_t + \alpha_0 Lib_t + \alpha_1 (Lib_t * lnturnover_t) + \alpha_2 (Lib_t * lnfpi_t) + \alpha_3 (Lib_t * lnclaims_t) + \alpha_4 (Lib_t * lnhealth_t) + \alpha_5 (Lib_t * lntrade_t) + \varepsilon_t$$

Where y_t (real per capita GDP) is the dependent variable. The independent variables used in this study are widely accepted financial variables that act as proxies for capital account liberalization. In a bid to capture the differential effect of these variables on growth, a time-based dummy variable (Lib_t) is used. (Lib_t) takes a value of '0' pre-liberalization and a value of '1' post-liberalization (Q1, 1995). Table 3 provides a brief description and sources of all the variables employed.

Our study acknowledges the virtual impossibility of controlling for all non-liberalization related causes of growth in an economy as dynamic as South Africa's. Therefore, we track the behavior of liberalization proxies over time. The important proxies for this study are the logarithm of Foreign Portfolio Investment ($lnfpi_t$) and the logarithm of Stock Market Turnover[6] ($lnturnover_t$). Foreign Portfolio Investment (FPI) is a measure of total shares and bonds owned by non-residents on the JSE and the SABE respectively. This variable is a direct proxy for the level of participation of foreigners in the South African financial markets. Economic theory suggests that increased Foreign Portfolio Investment resulting from liberalization is supposed to stimulate economic growth since it boosts the supply of capital and lowers the cost for local investment. Stock market turnover ratio is regarded as a proxy for stock market liquidity. Liquidity refers to the ease with which agents can buy and sell securities. Stock market turnover is expected to have a positive correlation with economic growth (Levine and Zervos 1998). Without adequate liquidity, less investment occurs in high return projects that require long-run commitments of capital. However, the literature has also noted that increased turnover leads to potential instability of capital flows, resulting in unstable funding for investment projects (Tornell et. al. 2004).

The rest of the independent variables introduced into the model are consistent with economic theory on financial and economic development. The logarithm of the ratio of household health expenditure to total household expenditures ($lnhealth_t$) is used to control for human capital. Based on economic theory, as household health expenditures increase, per capita GDP will increase due to improved productivity associated with development of human capital. The

logarithm of openness to trade (*lntrade*$_t$), which is measured as the ratio of imports and exports to GDP, is also included as a control for the effect of macroeconomic policy on growth. Most studies associated openness to trade with improved economic growth; therefore the coefficient for trade openness is expected to be positive.

Given that stock market liberalization can be interpreted as an outgrowth of the financial system of a country (Bekaert 2004, Li 2004), our model uses the logarithm of total bank claims (*lnclaims*$_t$), defined as all banking institutions' claims to the private sector, to control for banks sector development. This variable also gives us more insight into the effects of liberalization given that a significant proportion of bank loans to the private sector in South Africa are owned by foreign lenders. It is expected that as claims increase, investment should increase and stimulate economic growth (Li, 2004).

The objective of the model is to demonstrate that there was a structural shift in economic growth that took place in 1995 as a result of liberalization. The model also attempts to investigate whether increases in liquidity (stock market turnover) and foreign participation on local markets (*fpi*) stimulated economic growth.

Whereas the model used in this study is robust, it lacks an important control for the political developments in South Africa that were closely intertwined with financial liberalization. An effort to use important political dates as control variables for political liberalization results in multicollinearity given the proximity of the dates. Other proxies for political development such as the International Country Risk Guide (ICRG) index as were not used given their frequency and time frame.

4. Empirical Results

The full regression results are displayed in Table 2. The results provide compelling evidence that increased stock market liquidity along with increased non-resident participation on South Africa's capital markets post-liberalization did not stimulate economic growth. A subset of the results of the fully interacted model [Panel C of Table 2] shown in Table 1 concludes that the overall effect of increased *turnover*, post-liberalization is negative. According to the results, a 1% increase in turnover growth leads on average to a -0.02% drop in per capita GDP growth in South Africa *post*-liberalization. Interestingly, a positive *pre*-liberalization coefficient for turnover based on our results suggests that increase in turnover on the JSE contributed positively to economic growth when there were active controls to capital flows. Our results suggest that increased liquidity (measured by *turnover*) on the JSE post-liberalization might have led to increased volatility and resulting capital flight.

The results also show that increased integration of the JSE, captured by increased foreign participation (*fpi*) has had a negative effect on economic growth. On average, a 1% increase in foreign portfolio investment growth has led to a 0.009% drop in per capita GDP growth rate. Similarly, *pre*-liberalization foreign portfolio investment had a positive and significant effect on economic growth. Fortunately, results for bank claims conform to economic theory. The overall

post-liberalization effect of bank *claims* on economic growth is positive. Our model predicts that a 1% increase in the growth rate of bank claims corresponds to a 0.071% increase in per capita economic growth rate. A positive result for bank loans might be due to the long-term nature of elements of bank claims, such as long term loans.

Briefly following are our findings about the effects of *trade* and *health* on the economic growth during the time period of our analysis (refer to Panel C of Table 2). Our model does not allow us to make significant conclusions about the differential effects of trade.[7] However, the coefficient for *health* expenditure *pre*-liberalization is negative and significant at the 1% level. The negative coefficient is most likely a result of the AIDS epidemic that has forced South Africans to direct most of their health expenditure to the mere sustenance of AIDS[8] patients rather than towards the positive development of human capital. It is however encouraging to note the significant improvement in the health coefficient post-liberalization, which suggests improvement in health accessibility and policy efficiency.

In summary, our results show that liberalization of the equity and bond markets in South Africa did not contribute positively to economic growth.[9] Our findings are consistent with studies reviewed earlier, which have also demonstrated that liberalization can be detrimental to economic growth if there are no appropriate foundations set to stabilize the real economy.

5. Conclusions and Policy Implications

The results presented in section 4 show that liberalization of the equity and bond markets in South Africa did not stimulate economic growth. Popular policy studies on liberalization advocate for a wise coordination between liberalization of the capital account and reforms aimed at strengthening the real sector of the economy. Most studies argue that liberalization of the capital account should follow that of the domestic financial system and the current account together with stabilization of the local macro-economy.[10] Johnson et. al. (1997) argue that there exists a set of instruments that is essential for liberalization to be effective. Governments are encouraged to develop strong institutions for management of monetary policy and exchange rates before liberalization. This is because high capital mobility resulting from liberalization strongly affects the effectiveness of different instruments meant to achieve monetary policy objectives. Liberalization in South Africa occurred within a year after the ANC government took over an economy burdened with remnants of the segregationist policies of apartheid. The economy experienced great instability and was potentially vulnerable to both internal and external shocks. In addition to having a huge budget deficit (9.2% of GDP in 1994), South Africa's inflation rate was higher than that of most of its trading partners (9.1% in 1994). High inflation and uncertainty caused by radical political changes resulted in increased instability and weakening of the rand.[11] South Africa's government debt reached 50% of GDP in 1996 and annual interest payments for the debt consumed nearly 20% of government revenue. The Reserve Bank's Net Open Forward Position (NOFP), which presents a major source of vulnerability through short term exposure to foreign currency, was very high, at $US25 billion in 1994. In addition, apartheid's discriminatory policies in education and health reduced the efficiency of human capital, leading to high skilled-labor prices, high unemployment rates and crime rates. Severe

poverty led to low savings rates and reduced participation of South Africans in the local financial markets. Little investment by locals meant there was no buffer against volatility of international capital upon liberalization. Finally, investor uncertainty was high because the ANC government did not have, according to Abedian (2004), "an integrated macroeconomic policy framework" (Abedian, pp.1).

Lifting of controls for non-residents undoubtedly led to a sharp increase in capital flowing into South Africa. However, investor speculation, caused by an unhealthy macro-economic environment and political uncertainty led to huge fluctuations of capital flows, characterized by huge capital flows and subsequent capital flight. Capital flight stalled economic growth and deprived local businesses of a more permanent capital supply.

This study suggests that the South African government should have put in place stabilization measures to offset the volatile flows of foreign capital before lifting capital controls on non-residents. These Measures should have included, inflation control, exchange rate stabilization, reduction of the NOFP, and stimulation of local investment.

Fortunately, South Africa has taken bold steps towards macroeconomic reform and improvement of local investor participation. An inflation targeting policy adopted in February, 2000, has managed to keep inflation between 3% and 6%. In 2001, a commission was appointed to investigate the fall and instability of the rand. The reforms based on the commission's recommendations have led to a massive comeback and reduced volatility of the rand. Public debt servicing costs in 2004/5 were reduced to only 15.3% of the annual revenues compared to 21.2% in 1998/9. By 2002, the government deficit had been reduced to only 1.4% of GDP. The NOFP is zero as of 2003. Such bold reforms have put the country in a favorable position to start benefiting from foreign capital flows resulting from liberalization.

In conclusion, this study aims to demonstrate that liberalization of the capital account is a necessary, but not sufficient requirement for economic development. We strongly urge developing countries to adopt a careful and properly timed approach for lifting of controls for non-resident investors. In addition, liberalization should be cautiously coordinated with reforms that are aimed at strengthening and stabilizing the local real macro-economy in order to ensure its effectiveness.

**   Alan R. Holmes Professor of Monetary Economics, Department of Economics, Middlebury College, Middlebury, VT 05753. Email: pardee@middlebury.edu. http://www.middlebury.edu/academics/ump/majors/econ/hours/spardee.htm

**+   *Corresponding Author:* David K. Smith Professor of Applied Economics and Research Fellow at *IZA* (Bonn, Germany) Department of Economics, Middlebury College, Middlebury, VT 05753.
       Email: wunnava@middlebury.edu http://www.middlebury.edu/~wunnava

1.   Capital account liberalization refers to the relaxation of capital restrictions such as exchange controls, direct investment controls, and off-shore borrowing and lending, among other restrictions. (Li, 2004).

2.   The release of Mandela from prison was followed by the official end of apartheid and the lifting of international economic sanctions previously imposed on the apartheid government in December, 1992.

3.   The JSE is Africa's largest Stock Exchange. It is the 17th largest stock market in the world with approximately 399 listed companies and 921 securities.—(*source*: JSE Stats, March 2005).

4.   Capital markets consist of debt (bond) and equity markets.

5.   Univariate unit root tests were carried out on all the variables. As a result of the presence of unit roots, we take a first difference approach to the growth model. Results are available upon request.

6.   In more simpler terms, a positive and significant coefficient for the dummy variable representing liberalization will simply imply higher growth rates, which cam not necessarily be attributed to liberalization but to other potential factors that the model did not control for.

7.   Teoh, Welch, and Wazzan (1999) argue that sanctions in South Africa did not have drastic negative impact on the country's economy and trading. They only resulted in a transfer of resources from socially responsible investors to those who don't prioritize social investing.

8.   Based on its sample of more than 16,000 women attending antenatal clinics across all nine provinces, the South African Department of Health Study estimates that 29.5% of pregnant women were living with HIV in 2004.

9.   However, some of the recent cross-country based empirical studies show that the capital market liberalization could lead to positive economic growth. See for example, Galindo, Schiantarelli, Weiss (2007), Kose, Prasad, Rogoff, Wei (2006), and Ranciere, Tornell, and Westermann (2006). These studies note that not all countries conform to the general result

of cross-sectional analysis. Our single country time-series study, which includes variables not in the others, such as health shows that South Africa may be one of those exceptions.

10. Some of the advocates for this approach to liberalization are McKinnon 1973, 1982; Edwards 1984; and Johnston 1997.

11. In the 1990s as it became clear that South Africa was heading for majority rule due to the announcement of one reform after the other, uncertainty about the future of the country hastened the depreciation of the rand, which was once stronger than the US dollar. The democratic election further weakened the rand to an all time low of R3.60 to the dollar. Other events that followed such as the election of Tito Mboweni as the governor of the South African Reserve bank and the election of Thabo Mbeki as president caused further decline in the rand. By 2000, the rand was trading over R6 to the dollar. The political unrest in Zimbabwe and the September 11, attacks resulted in an all time historical low for the rand of R13.84 to the US dollar in December 2001.

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Table 1. The Effects of Liberalization of the Bond and Equity Markets on Economic Growth in South Africa

Variable	*Pre-*Liberalization	Interaction Terms	*Post* Liberalization
ln*turnover*	0.025***	-0.045**	-0.02C
ln*fpi*	0.070**	-0.080	-0.009
ln*claims*	0.293***	-0.230*	0.063

Notes:	n = 118
	R-Squared -- 0.215
	***Indicates significance at 1% level
	** Indicates significance at 5% level
	* Indicates significance at 10% level

Table 2. Empirical Results Explaining the Effect of Liberalization in South Africa[a]

Independent Variable *Continuous Variables*	Panel A	Panel B	Panel C
lnhealth	-0.010*** (0.002)	-0.010*** (0.002)	-0.014*** (0.004)
lntrade	0.031 (0.031)	0.029 (0.031)	0.028 (0.037)
lnturnover	0.019** (0.007)	0.018** (0.007)	0.025*** (0.008)
lnfpi	0.047* (0.025)	0.044* (0.025)	0.070** (0.033)
lnclaims	0.197*** (0.068)	0.180** (0.070)	0.293*** (0.103)
Dummy Variable		0.004 (0.004)	0.01** (0.004)
Lib			
Interaction Terms			0.010** (0.005)
(Lib*ln*health)*			
Lib*ln*trade)*			-0.040 (0.069)
(Lib*ln*turnover)*			-0.045** (0.020)
(Lib*ln*fpi)*			-0.080 (0.053)
(Lib*ln*claims)*			-0.230 (0.140)
Sample Size	118	118	118
Adjusted R –Squared	0.179	0.180	0.215

Notes:
[a] Dependant variable is ln (real per capita GDP) Standard Errors are reported in Parentheses. *** Indicates significance at 1% level. ** Indicates significance at 5% level. * Indicates significance at 10% level

Table 3. A Description of Variables

Variable	Explanation
Dependant Variable: *y*	Logarithm of Real per Capita Gross Domestic Product 1975Q3 through 2005Q1 Source: IMF's International Finance Statistics CD-ROM
Dummy-Variable *Lib*	Official Date for the liberalization of the JSE securities exchange (March 13, 1995)
Independent Variables	
Lnfpi	Total of Investments by foreigners either directly (shareholdings) or indirectly. (ADRs and other country funds). Available from 1975Q3 through 2005Q1. Source: Reserve Bank of South Africa www.reservebank.co.za
lnturnover	Ratio of total value of shares traded to market capitalization. Available form 1975Q3 through 2005Q1 Source: Reserve Bank of South Africa www.reservebank.co.za
lnclaims	Refers to financial resources provided to the private sector, such as loans and other claims for repayment. Available from 1975Q3 through 2005Q1 Source: IMF's International Finance Statistics CD-ROM
Controls for Macroeconomic Reforms	
lntrade	Trade Openness ratio measured Total Imports plus Exports as a share of Gross Domestic Product. Available 1975Q3 through 2005Q3. Source: IMF's International Finance Statistics CD-ROM
lnhealth	Total Health Expenditure. Available from 1975Q3 through 2005Q1 Source: Reserve Bank of South Africa website

Table 3. B. Summary Statistics

Variable	*lnGDP*	*lnhealth*	*lntrade*	*lnturnover*	*lnfpi*	*lnclaims*
Mean	9.838	2.583	-0.681	-4.049	9.960	12.824
Median	9.827	2.454	-0.665	-4.261	9.596	12.736
Maximum	10.100	3.144	-0.421	-1.970	11.249	13.730
Minimum	9.696	2.151	-0.980	-6.373	9.003	12.255
Std. Dev.	0.085	0.310	0.136	1.181	0.747	0.415
Observations	119	119	119	119	119	119