

Influence of External Sources of Funding on Corporate Financial Policies in a Pre-Financial Crisis Period in South Africa—A Case Study of Mauritian Enterprises

Chakeel Prayagsing^{1*} & Kheswar Jankee¹

¹ Department of Economics and Statistics, University of Mauritius, Reduit, Mauritius

* Chakeel Prayagsing, E-mail: prayagsic@gmail.com

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Abstract

A number of scholars have been motivated to study the manner to which firms adjust their corporate finance strategies in light of the availability and easiness of accessing external sources of funding. Till recently, researchers have also been interested to analyse the external factors that allow firms to relax their fixed budget and the consequent impact on corporate strategies. These mainly include alterations in the composition of their funding and the second round effects on other corporate decisions such as on investment projects and their dividend policies. External financing can be assessed both from a policy perspective, i.e., via financial liberalisation policies, as well as other development in the financial sector such as availability of alternative bases of finance, both from banks and non-banks. It will thus be pertinent to examine the impact of FL policies as well as availability of financial resources on the capital structure of Mauritian firms and their investment decisions in a post financial liberalization period. A judicious investigation is undertaken and the empirical soundness of our different formulations tested with the techniques of panel data and GMM estimates. We compare and contrast the results in the 7 different sectors notably banking, insurance, leasing, hotel, oil, retail/distributive trade and the construction industry. For a better analysis, the full sample of firms is divided into several subsamples as follows: top 100 companies, firms in group-structure, those which are not in group structures, local firms, international firms, firms with good banking ties, those with good and poor corporate governance, listed and unlisted firms. By employing different econometric investment models, we found that all indices of FL, including the index of money market liberalisation, index of capital account liberalisation and overall financial liberalisation index have do not have any influence on private investment behaviour. In contract, higher amount of money in circulation, bank credit, leasing activities and subsidised financing from the Development bank have a positive impact on private investment expenditures. Development in the financial sector in terms of credit facilities offered

by insurance companies, venture capitals and the stock market activities have not been effective in inducing firms to increase their investment portfolios.

Keywords

corporate finance, strategies, internal finance, external finance, financial liberalisation

1. Introduction

Firms are epitomized as being profit maximisers but are constrained with a fixed and pre-determined budget that hinder optimum decisions in terms of investment, financing and distribution of profits. A number of scholars have been motivated to study the manner to which firms adjust their corporate finance strategies in light of the availability and easiness of accessing external sources of funding. Till recently, researchers have also been interested to analyse the external factors that allow firms to relax their fixed budget and the consequent impact on corporate strategies. These mainly include alterations in the composition of their funding and the second round effects on other corporate decisions such as on investment projects and their dividend policies (see for instance Hamid & Singh, 1992; Chipeta et al., 2012).

External financing can be assessed both from a policy perspective, i.e., via financial liberalisation policies, as well as other development in the financial sector such as availability of alternative bases of finance, both from banks and non-banks. It will thus be pertinent to examine the impact of FL policies as well as availability of financial resources on the capital structure of Mauritian firms and their investment decisions in a post financial liberalization period. A judicious investigation is undertaken and the empirical soundness of our different formulations tested with the techniques of panel data and GMM estimates.

We compare and contrast the results in the 7 different sectors notably banking, insurance, leasing, hotel, oil, retail/distributive trade and the construction industry. For a better analysis, the full sample of firms is divided into several subsamples as follows: top 100 companies, firms in group-structure, those which are not in group structures, local firms, international firms, firms with good banking ties, those with good and poor corporate governance, listed and unlisted firms.

2. Organisation of Paper

Following the introduction in section 1, a review of the literature regarding corporate strategies and external financing is made in section 3. This is followed by section 4 which make a critical analysis of the present literature and contribution of the present research, respectively; conducts some empirical investigations between external sources of finance and private investment; conducts empirical tests between external financing and capital structure choice; analyses the joint interaction between corporate investment, dividend and capital structure and section 5 concludes the chapter.

3. Related Literature Examining External Financing and Corporate Strategies

Several cross-country studies have been conducted to test the influence of financial policies on private investment. While some research have focused in developed countries like Canada, France, Germany, Japan, Netherlands and the UK (see Aggarwal & Zong, 2006; Cleary et al., 2007), some fewer studies have analysed data for some emerging economies like China, Chile, India, Indonesia, Mexico and Taiwan (see Shen & Wang, 2005; Ghosh, 2006). For example, Henry (2000) examined 11 developing countries that opened their stock markets to large investors and showed that firms experienced an increase in private investment Jorgerson and Stephenson (1967) analysed the impact of economic and FL on the corporate sector for the US and found positive effect of financial liberalisation on corporate investment. Gallego and Loayza (2000) used a panel data set of 79 listed companies on the stock exchange of Chile over the period 1985 to 1995 to test for the relationship between FL and investment. Using the GMM estimator to estimate their investment equations, FL was found to reduce the financial constraints of firms. Similar results were also found by Devereaux and Schiantarelli (1990) who used data for UK firms (Note 1). Bond et al. (2007) used data (Note 2) collected by the World Bank Investment Climate surveys over the period 1998-2000 to analyse the relationship between investment and FC in Brazil and China. A structured investment model was derived, whereby borrowing was expensive but crucial for investment. It was found that the likelihood of being financially constrained was about 0.45 for Brazil and 0.33 for China. A reduction in the cost of external financing impacted on borrowing and firm investment. Chan and Dang (2012) analysed the impact of financial reforms on FC from publicly listed Chinese firms. By computing both a FL index and an index of capital account over the period 1996-2007, it was found that larger firms faced no credit constraints while small firms were financially constrained. Yet, further financial reforms retarded the accumulation of private investment because the advantages accrued to these large firms with reforms are gradually eliminated.

Sundarajan (1987) examined the linkages among interest rates, debt/equity ratios, cost of capital, savings, investment and growth in Korea from 1963 to 1981 and found dynamic interaction among these variables. Any change in interest rates affected the debt-equity choices of firms and their WACC. In a series of paper, Dermirguc-Kunt and Maksimovic (1994), by using indicators of financial sector development and stock market development, showed that stock market development did not lead to lesser leverage and firms increased their borrowings in the external market. Genench (2003) found similar results for Turkish institutions.

However, in a study of 1500 Indian firms over the period 1981-1990, Cobham and Subramaniam (1998) found no significant difference in the financing patterns between large and small firms. Moreover, it was found that bank loan and internal sources of finance were the two most important sources of finance. Agarwal and Mohtadi (2004) found opposite results by empirically exploring the effects of financial market development on the financing choice of firms for a sample of 21 emerging markets from 1980-1997. They reported that stock market development was significantly and negatively associated with the firms' debt levels relative to their equity position, while banking sector variables

were significantly and positively associated with debt to equity ratio. Cook and Tang (2010) showed that financial constraints of firms played a key role in explaining the convergence of capital structure to a targeted level. It was observed that firms could adjust their capital structure faster when macroeconomic conditions were favorable. Amee (2013) studied FL and firm's capital adjustments using evidence from South East Asia and South America. They studied the impact of FL on the adjustment of debt ratios on 12 emerging markets using firm level data from 1991 to 2004 and found that the speed of adjustments were relatively faster in South American countries than South East Asian countries. An uneven impact on firm's financing behaviour in Asian Countries.

There currently exists a large body of literature examining the relationship between external financing on corporate finance decisions such as investment and capital structure adjustments in developed countries like the U.S, U.K (e.g., Fazzari et al., 1988 (Note 3); Cho & Yoo, 2007; Aghion et al., 2007; Azamand, 2011; Prasad et al., 2001; Pandey, 2001; Jørgensen & Terra, 2003), in contrast with developing countries in Africa such as Mauritius where no such results are available. Of the existing results, most of them have tested the impact of FL, rather than FSD on private investment. Researchers have missed a number of pertinent variables that explicitly measure development in the financial sector. A careful analysis of the literature divulges that most work has concentrated in on the manufacturing sector and based on the Q model of investment. By using different sub-samples, the results are very puzzling, inconsistent and sometimes confusing (Note 4). Moreover, most of the times cross sectional and panel data models have been used. More advance econometric analysis is thus needed in a dynamic setting.

This paper supplements to the existing literature and fills the missing gap in the literature and undertakes such a study in a small island developing state in Mauritius. Using a unique data set, it tests the influence of the alternative sources of finance from the non-banking financial sector on private investment and leverage, an issue that many researchers have missed. These include finance from banks, insurance companies, leasing, venture capital, stock market and subsidized financing from the DBM. A range of investment models are used. A sensitivity analysis is undertaken in the 7 different sectors: banking, insurance, leasing, hotel, oil, retail/distributive trade and the construction industry. Moreover, the following classification of firms is done: listed and unlisted firms, those belonging in corporate groups and those with good corporate governance practices. It determines whether financial liberalization (market forces effect), or rather financial development (development of institutions) influences investment level. An improved measure of liquidity (net-liquidity) is also used.

4. Methodology

4.1 External Sources of Finance and Changes in Private Investment

We augment the different investment models of Cho (1995) to include in the different regressions, an index of FL and FSD. The different augmented econometrics equations therefore become as follows:

4.1.1 Empirical Results with Sales-Accelerator Model

Our augmented Sales-Accelerator model from Cho (1995) is as follows:

$$[I_{it}/K_{it}, t-1] = \rho [I_{it}/K_{it}, t-2] + \beta_0 [Y_{it}/K_{it}, t-1] + \beta_1 [Y_{it-1}/K_{it}, t-2] + FL_{it-1} + FSD_{it-1} + \alpha_i + \alpha_t + v_{it} \quad (1)$$

In order to get a thorough analysis of the impact of financial policies on private investment, this research innovates, measures and differentiates between the impact of banks as well as non-banking sector development on private investment decisions. Moreover, it tests for the impact of FL and FSD on corporate investment separately (Note 5).

Table 1 below presents the results from the GMM estimates of the sales-accelerator model using an unbalanced panel data set spanning from the year 1994 to 2007 with 298 companies. The dependent variable is private investment, $I_{it}/K_{it}, t-1$, while output (sales), lagged investments values and the different financial policy variables (FL index, FSD) are the main independent variables. To test the validity of the regression results, the p values of the different diagnostic tests like Wald test, Sargan tests and first and second order serial correlation are reported (Note 6).

Column 1 presents the results of the basic investment specification of model 1 where the coefficient of the lagged dependent variable is positive and highly significant at the 5% level, implying that investment made in the previous period influences actual investment level, probably due to habit formation by the firm. Once the firm has implemented a particular project in the previous period, it is in some way coerced to make another investment project in the following period in order to preserve employment level already created by the previous project, maintain the demand or simply to maintain good cash inflows in the business.

Moreover, current output level positively increases investment level, in line with the acceleration principle. Higher demand increases investment level, assuming that all the necessary assumptions of the accelerator model holds. First and second order autocorrelation values do not seem to be problematic with very low p values while the high Wald Test (Note 7) coefficient implies that the group of variables rightly explain the equation. The identifying restrictions are valid with very low p values of the Sargan test.

In column 2, we add the Index of Money Market Liberalisation (IMML) as another independent variable and find to find insignificant effect. This implies that development in the money market; such as open market operations, interest rate liberalisation or changes in the CRR have not affected private investment in Mauritius. The index of Capital Account Liberalisation (ICAL) has a larger but insignificant coefficient, implying that capital account openness also does not increase investment level. In column 4, the effect of the overall index of financial liberalisation is tested and insignificant effects are still found. The different diagnostic tests discussed above are good indication that efforts to liberalise the financial system have not been effective in influencing and promoting private investment. Column 5 includes the index of M2/GDP as another independent variable and a positive and significant impact on investment is noted, indicating that the larger the amount of money in circulation, the higher is private investment. Such a view is reinforced with an appropriate p value of 0.00 of the Sargan test,

joint significance of the model (p value of 0.00) and no serial autocorrelation. This is also the case in column 6, which includes the amount of bank credit to the private sector (BKCRE) over GDP as another independent variable to the basis equation.

A highly positive and significant coefficient is found which implies that the higher amount of credit allocated to the private sector by banks, the higher is their level of investment. This follows the idea whereby the higher amount of external capital available allows firms to invest more. The coefficient of stock market capitalization to GDP (MKTCAP/GDP) in column 7 is positive but highly insignificant. Development of the stock market has therefore been ineffective in promoting private investment. Capital interlocking and a lack of diversification on the local market could explain such behaviour. Moreover, transaction and information costs are very high in our local market.

In column 8, we test the impact of the amount of loans given by insurance companies on private investment by incorporating another variable, INSCRE/GDP in equation 1. We find the coefficient to be positive but insignificant, implying that insurance companies in Mauritius do not contribute to increase private investment. The model is accepted at the margin with a Sargan p value of 0.35 and a Wald test p value of 0.45. Moreover a p value of 0.35 for the second order autocorrelation implies that it was a valid model to be estimated.

In column 9, we include the amount of lease given by leasing companies over GDP (LEASE/GDP) as an independent variable and observe a positive and significant coefficient of the variable on investment. A very high value of the Wald statistic was noted, reinforcing the validity of the model estimated. Moreover, a p value of 0.00 for the Sargan test implies that the identifying restrictions are valid. Leasing companies are effective in providing appropriate solutions to companies in the investment ventures. Companies find it easier and cheaper to lease assets on a long term rather than resorting to other sources of finance, such as stock market and loans.

Column 10 includes the ratio of venture capital investment by venture capitalists over GDP as an independent variable and we observe an insignificant coefficient. Venture capitalist is still at its embryonic stage in Mauritius for private investment.

However, the government bank, Development Bank of Mauritius is highly effective in the promotion of private investment. A wide range of tailor made products is available to different sector at concessionary interest rates. This is evidenced by a positive and significant coefficient of variable GVTLOAN/GDP, which is the amount of loans disbursed by the DBM over GDP.

The overall index of financial sector development, which is an average of the different financial development indices used (OVERFIN, column 12), turns out to be positive and significant, implying that as the financial sector develops, private investment increases with the availability of more external financing and other products. The latter model is accepted with the different diagnostic tests reported, even though the test for second order autocorrelation is acceptable at the margin (p value of 0.415).

We reinforce this view by including another variable to equation 1, the interaction between the index of financial sector development and index of financial sector liberalisation. We observe a positive but

much lower coefficient than the coefficient on the financial development index. This is the result of the insignificant financial liberalisation index. The coefficient in column 13 is significant suggesting that private investment is boosted up with development in the financial sector. In the last column we regress all variables discussed together on investment level. Statistical tests reveal that the model can be accepted and the results are consistent as discussed above.

Table 1. Determinants of Investment-GMM Estimates of the Accelerator Model (Arellano and Bond in First Differences)

Regressions:	1	2	3	4	5	6	7
[I _{it} , t-1/K _i ,t-2]	0.85 (4.6)*	0.32 (5.2)*	0.58 (4.2)*	0.69 (3.9)*	0.22 (4.8)*	0.66 (3.6)*	1.65 (4.0)*
[Y _{it} /K _i ,t-1]	1.32 (6.3)*	1.65 (5.1)*	1.48 (9.0)*	0.65 (1.9)**	1.24 (2.2)**	1.03 (4.6)*	0.95 (7.3)*
[Y _{it} -1/K _i ,t-2]	1.03 (5.5)*	0.65 (3.9)*	0.36 (12.4)*	0.24 (6.6)*	1.24 (2.0)**	0.25 (9.7)*	0.65 (15.3)*
INMMLIB		0.01 (0.3)					
INCAL			0.04 (0.5)				
OVEINDLIB				0.01 (0.4)			
M2/GDP					2.05 (7.5)*		
BKCRE/GDP						1.65 (4.0)*	
MKTCAP/GDP							0.02 (0.7)
Number of observations	2086	2086	2086	2086	2086	2086	2086
Number of firms	298	298	298	298	298	298	298
Wald Test of joint signify (p)	0.00	0.001	0.3	0.00	0.00	0.00	0.75
Sargan Test (p)	0.82	0.68	0.92	1.00	1.00	0.69	0.94
Arellano-Bond test of 1st order autocorr (p)	0.000	0.000	0.0003	0.002	0.0001	0.0002	0.0004
Arellano-Bond test of 2nd order autocorr (p)	0.03	0.02	0.05	0.08	0.42	0.270	0.452

Note. Dependent variable: [I_{it}/K_i,t-1]; Sample period: 1994-2007; t-statistics denoting significance are

reported in parentheses; * means significance of variable at the 1% level; while ** means significance at the 5% level.

Source: Author.

Table 1 (Continued). Determinants of Investment-GMM Estimates of the Accelerator Model (Arellano and Bond in First Differences)

Regressions:	8	9	10	11	12	13	14
[Ii, t-1/Ki,t-2]	1.26 (3.3)*	0.56 (5.1)*	4.15 (4.2)*	0.37 (2.9)*	0.69 (2.6)*	0.65 (4.2)*	0.25 (2.8)*
[Yit/Ki,t-1]	0.89 (12.3)*	1.69 (4.3)*	1.25 (5.6)*	0.68 (1.9)*	1.87 (5.9)*	1.02 (2.7)*	1.68 (5.4)*
				*			
[Yit-1/Ki,t-2]	0.47 (4.0)*	0.35 (2.1)**	0.35 (6.3)*	0.02 (5.4)*	1.38 (8.2)*	0.04 (8.5)*	0.47 (9.1)*
INMMLIB							0.04 (0.04)
INCAL							0.14 (0.25)
OVEINDLIB							0.17 (0.9)
M2/GDP							1.7 (8.8)*
BKCRE/GDP							0.58 (3.6)*
MKTCAP/GDP							0.05 (0.8)
INSUCRED/GDP	0.08 (0.4)						0.47 (0.08)
LEASE/GDP		0.021 (5.3)*					0.004 (5.55)*
VENTU/GDP			0.47 (0.24)				0.00 (0.1)
GVTLOAN/GDP				1.23 (6.2)*			0.98 (7.4)*
OVEFINDEV					0.02 (3.8)*		0.05 (3.8)*

FIN.LIB* FINDEV						0.21 (5.1)*	0.04 (12.4)*
Number of observations	2086	2086	2086	2086	2086	2086	2086
Number of firms	298	298	298	298	298	298	298
Wald Test of joint significance (p values)	0.45	0.00	0.54	0.00	0.00	0.00	0.00
Sargan Test (p values)	1.00	1.00	0.68	0.74	0.76	1.00	1.00
Arellano-Bond test of 1st order autocorrelation (p values)	0.000	0.004	0.000	0.000	0.000	0.000	0.000
Arellano-Bond test of 2nd order autocorrelation (p values)	0.365	0.421	0.214	0.354	0.415	0.000	0.000

Note. Dependent variable: [lit/Ki,t-1]; Sample period: 1994-2007; t-statistics denoting significance are reported in parentheses; * means significance of variable at the 1% level; while ** means significance at the 5% level.

Source: Author.

a) Sensitivity analysis

We undertake a similar study using two more investment models, the error correction model and the Euler Equation (Note 8). The models are satisfactory as per the statistical tests and the error correction term is negative and significant throughout the various specifications. Investment level, which is above the long run desired level in period 1, is associated with a lower level in the following period. Strong evidence is found to support the fact that it is financial development rather than financial liberalisation that influences private investment. The results confirm that financial liberalisation has been rather ineffective in influencing private investment, unlike financial development.

4.1.2 Empirical Test between External Financing and Capital Structure Choice

We test the empirical relationship between availability of external financing such as FL policies on corporate capital structures. Based on the determinants of capital structure, this study moves from a general to a specific model. The following hybrid model of capital structure is considered:

$$\text{LEV}_{it} = \beta_0 + \beta_1 \text{TANG}_{it} + \beta_2 \text{PROF}_{it} + \beta_3 \text{SIZE}_{it} + \beta_4 \text{LIQUIDITY}_{it} + \beta_5 \text{AGE}_{it} + \beta_6 \text{NDTS}_{it} + \beta_7 \text{RISKS}_{it} + \beta_8 \text{GROWTH}_{it} + e_{it}(5)$$

where LEV is a measure of corporate leverage, TANG measures asset tangibility, PROF is a measure of firm profitability, SIZE measures the relative sizes of firms, LIQUIDITY measures firms' internal cash flow (based on fair valuation as per IFRS), AGE measures the relative age of firms, NDTS measures the amount of non-debt tax shields, RISKS measures firms' risks, GROWTH measures the growth opportunities of firms and e is the random error term. i measures company element while t is the time dimension ranging from 1994 to 2007. β_0 is a constant of the model, β_1, β_8 are the different coefficients to be estimated.

Model 5 above is augmented to include macroeconomic variables, more specifically financial variables.

As a novelty in this study, the impact of FL and FSD on capital structure is tested separately.

This Paper differentiates between the impact of the index of Money Market Liberalisation (IMML), the index of Capital Account Liberalisation (ICAL) and the Overall index of Liberalisation on capital structure. These have been computed using the PC method in appendix 5. Market clearing interest rates are expected to increase the supply of loanable funds in the market and may positively impact on leverage. Moreover, relaxation of monetary policy rules, such as reduction in the CRR of banks better allow them to release more credit in the financial system to ultimately impact on corporate leverage.

Regulated financial markets force firms into self-financing and result in less efficient ventures. Liberalisation of the capital account might have similar impact through its channel. Moreover, there is a theoretical link between interest rates and the financial structure of firms. Interest rates affect their cost of capital to the investor as well as returns to various groups of savers. Any change in interest rate affects the WACC and consequently the debt/equity choice of firms. In general, the desired debt/equity ratio will be positively related to financial liberalisation and market deregulation.

Financial Sector Development also impacts on corporate leverage. Various channels and transmission mechanisms via which FSD affects the debt/equity ratio of firms are considered. The impact of banking sector development and non-bank financial sector development on corporate leverage is analysed. Financial institutions have emerged with development in the economics of information and transaction costs. Besides their roles of asset transformation, they act as portfolio managers aiding firms choose their portfolio on the basis of returns and risks that they face in the market (Chant, 1992).

Moreover, they offer transformation services and alter risks and returns by applying resources to better acquire and sell information, reap economies and scale and overcome transformation costs. They can also identify good quality firms, mitigate the moral hazard problems, and monitor projects. These together enable firms to borrow more and increase their leverage. Government banks provide loans at concessionary rates and influence their debt/equity ratios.

The stock market plays (Note 9) a crucial role in corporate financing decisions and choices. It provides companies with additional, lower costs financial instruments according to their risk appetites and liquidity needs. It is also argued that stock markets sell information on firms that reduce costs of information searches to firms. Furthermore, companies diversify their investment risks by holding a portfolio of investments and thus might be more willing to hold equities rather than debt instruments, accentuated by a constant liquidity on the stock market. Efficient share markets better discipline firms.

On the basis of theoretical underpinnings regarding the possible impact of financial sector development/liberalization on debt/equity ratios, equation 5 above is augmented by including financial liberalisation indices and financial sector development indicators as additional determinants of corporate debt, as explained below:

a) Augmented model

$$\text{LEV}_{it} = \beta_0 + \beta_1 \text{TANG}_{it} + \beta_2 \text{PROF}_{it} + \beta_3 \text{SIZE}_{it} + \beta_4 \text{LIQUIDITY}_{it} + \beta_5 \text{AGE}_{it} + \beta_6 \text{NDTS}_{it} + \beta_7 \text{RISKS}_{it} + \beta_8 \text{GROWTH}_{it} + \beta_9 \text{FINLIB}_{it} + \beta_{10} \text{FINDEV}_{it} + \text{eit}(6)$$

Data collection and sensitivity analysis

Data has been collected from the financial statements of companies available at the Registrar of Companies, Port Louis where firms have been filing their detailed financial statements since 1994. Some other pertinent data have been obtained from the SEM FactBook 2008 and the top 100 Companies Magazine 2008 Edition. Table 2 explains the variables used in our hypothesis.

For a more comprehensive analysis of debt/equity choices of firms in Mauritius and also to perform some robustness checks, a sensitivity analysis in some different sub-samples is undertaken. Data from an unbalanced sample of 298 firms across different sectors have been collected and classified according to good corporate governance, poor corporate governance, those in group structure v/s independent companies, international and domestic enterprises and listed v/s unlisted companies. The sample has further been sub-divided into the top 100 companies and “other companies”. To conduct a sectoral analysis, this study is undertaken in the study in the banking, insurance, hotels, manufacturing, construction, leasing, retail/distributive trade and oil industry. The variables used in this study are shown in Table 2 below:

Table 2. Definition of Variables Used

Variables	Indicator used
Leverage	Summation of short and long term liabilities
Tangibility	Amount of fixed assets
Size	First difference of total assets
Net-Liquidity	Cash flow plus short-term illiquid investments and any liquid asset for which there is a readily available market
Age	Number of years since existence
Non-debt Tax Shield	Corporate tax relief available
Risks	Variability in annual turnover
Growth	Growth in turnover
Profits	Earnings (including interest payments, taxes and amounts for fall in the value of fixed assets)
Financial Liberalisation	Financial Liberalisation Index computed from the PC method. It is also decomposed between the index of capital account liberalisation and the index of money market liberalization
Financial Development	The following sensitivities: the ratio of M2 over GDP, total bank credit over GDP, market capitalization over GDP, total amount of corporate loans disbursed by insurance companies over GDP, investment in leasing activities over GDP, ratio of total investment by venture capitalists over GDP and total loans disbursed by government bank over GDP

Source: Author.

A panel data methodology is adopted. Several diagnostic tests like the Hausman tests, Panel unit root tests, tests for model specification via the Ramsey test, we check for multicollinearity between our variables and also tests for presence of any heteroscedasticity.

b) Analysis of results

Econometric results of equations 6 above are shown in Table 3 below. Corporate leverage (debt/equity ratio) is used as explained variable and is computed as the sum of short term and long-term corporate liabilities. It is believed that this is a better measure of debt, as it envelops firms' ability to borrow in the external market. The independent variables included are described in Table 3 above. Empirical results in the different sub-samples are reported in columns 1 to 22 in Table 3.

Table 3. Influence of Financial Policies on Capital Structure of Firms

Regressions	1	2	3	4	5	6	7	8
Dependent variable:	Total	Total	Top 100	Other	Group	Non-gro up	Local	Inter.
LEV								
Constant	-0.52 (-3.5)*	-0.43 (-1.9)**	2.58 (7.5)*	0.29 (2.2)	0.70 (0.8)	-2.60 (-2.9)*	8.75 (7.5)*	6.70 (4.9)*
TANG	0.11 (10.4)*	0.33 (3.2)*	0.54 (5.2)*	0.58 (10.5)*	0.34 (12.3)*	0.47 (25.9)*	0.32 (5.6)*	0.24 (4.1)*
PROF	-6.84 (-5.4) *	-4.54 (-8.8) *	-0.002 (-6.5) *	-5.24 (-3.6) *	-0.005 (-4.2) *	-8.65 (-5.8) *	-7.86 (-6.8) *	-0.65 (-5.5) *
SIZE	-0.27 (11.6)*	-0.03 (6.5)*	-0.09 (0.64)	-0.36 (0.6)	-0.23 (0.1)	-0.31 (1.8)	-0.17 (1.6)	-0.49 (3.1)*
LIQ	-0.15 (4.1) *	-3.54 (5.2) *	-1.26 (3.5) *	-6.25 (-10.2) *	-0.03 (-15.2) *	-12.54 (-3.5) *	-6.41 (-3.6) *	-0.002 (-6.2) *
AGE	0.001 (2.3)**	0.01 (2.0) **	0.01 (1.6)	0.02 (1.9)**	0.34 (2.0)**	0.02 (0.04)	0.05 (0.13)	0.58 (1.7)
NDTS	0.054 (1.0)	0.002 (0.65)	0.04 (1.0)	0.02 (0.5)	0.35 (0.6)	-0.24 (0.4)	-0.01 (0.3)	0.21 (0.3)
RISKS	-0.21 (3.6) *	-0.01 (2.9) *	-0.66 (0.8)	-0.54 (6.5) *	-0.004 (11.2) *	-0.36 (6.8) *	-3.25 (5.2) *	-0.54 (3.4) *
GROWTH	-0.10 (4.3)*	-0.24 (16.0) *	-0.32 (6.2) *	-0.254 (8.8) *	-0.24 (9.9) *	-0.31 (11.2) *	-0.45 (7.6) *	-0.845 (3.5) *
IMML		0.52 (1.2)	0.02 (0.1)	0.77 (1.1)	0.36 (0.8)	0.96 (0.1)	0.21 (0.05)	0.01 (0.08)
ICAL		0.01 (0.2)	0.20 (0.2)	0.50 (1.3)	0.002 (0.1)	0.32 (1.0)	0.69 (0.8)	1.21 (0.12)

FINLIB		0.95 (1.0)	0.67 (1.1)	3.25 (0.3)	1.54 (0.01)	3.21 (1.3)	0.59 (0.9)	0.27 (0.01)
M2/GDP		0.71 (21.4) *	2.64 (13.1) *	0.36 (3.0) *	0.37 (4.01) *	0.95 (11.1) *	0.36 (9.0) *	0.03 (4.01) *
BKCRE/GDP		0.01 (3.2) *	0.55 (12.3) *	0.01 (5.6) *	0.15 (5.5) *	0.10 (3.2) *	0.22 (4.6) *	0.33 (9.2) *
MKTCAP/GDP		0.24 (0.1)	0.21 (0.25)	0.2 (1.35)	0.002 (1.6)	0.005 (1.2)	0.12 (.1)	0.32 (1.3)
INSCRED/GDP		0.01 (0.1)	0.01 (0.3)	0.24 (1.5)	0.25 (0.14)	0.32 (0.02)	0.24 (2.01)	0.32 (1.6)
LEASE/GDP		0.001 (18.1) *	0.005 (3.2) *	0.007 (3.4) *	0.02 (15.2) *	0.05 (9.7) *	0.98 (9.7) *	0.021 (10.4) *
VENTU/GDP		0.02 (0.3)	0.01 (0.05)	0.01 (1.3)	0.02 (2.0)	0.002 (1.0)	0.95 (0.5)	0.24 (2.0)
GVTLOAN/GDP		0.02 (5.2) *	0.06 (4.2) *	0.04 (8.2) *	0.06 (6.2) *	0.547 (12.5) *	0.00 (6.5) *	0.0041 (99.3) *
OVEFIN		2.54 (3.5) *	3.54 (4.2) *	2.01 (7.7) *	3.24 (6.2) *	4.24 (3.2) *	6.24 (7.4) *	2.34 (8.0) *
DEV								
FIN.LIB* FINDEV		0.95 (2.0) **	1.24 (3.6) *	0.68 (8.2) *	0.35 (7.1) *	0.67 (3.9) *	3.95 (5.2) *	4.66 (6.0) *
Number of observa	3874	3874	1300	2574	2580	1079	2535	1339
Number of firms	298	298	100	198	215	83	195	103
Hausman test statistics	0.9997	0.5490	0.9981	0.9988	0.1123	0.9994	0.0068	0.5944
R2	0.774	0.8769	0.767	0.896	0.761	0.892	0.998	0.725
Methodol	GLS	GLS	GLS	GLS	GLS	GLS	OLS	GLS
FE or RE	RE	RE	RE	RE	RE	RE	FE	RE
Diagnostic test for	Chi2(1)	Chi2(1)	Chi2(1)	Chi2(1)	Chi2(1)	Chi2(1)	Chi2(1)	Chi2(1)
Heteros	=4.02	=3.17	=2.93	=4.68	=5.68	=6.02	=3.58	=2.69
	Prob>Chi	Prob>Ch	Prob>Ch	Pr>Chi=	Prb>Chi	Prb>Chi	Pr>Chi	Pr>Chi
	=0.96	=0.40	=0.22	0.35	=0.24	=0.254	=0.32	=0.28
Ramsey test of model	Prob>F	Prob>F	Prob>F	Prob>F	Prob>F	Prob>F	Prob>F	Prob>F
specific	=0.28	=0.31	=0.07	=0.16	=0.193	=0.282	=0.148	=0.08

Note. Sample period: 1994-2007; t-statistics denoting significance are reported in parentheses; * means significance of variable at the 1% level; while ** means significance at the 5% level.

Source: Author.

Table 3 (Continued). Influence of Financial Policies on Capital Structure of Firms

Regressions:	9	10	11	12	13	14	15
	Good	Poor Banking	Good	Cor.	Poor Cor.	Listed	Unlisted Banks
	Banking Rel.	Rel.	Gov	Gov			
Constant	6.28 (6.7) *	0.54 (2.5) *	0.83 (0.5)	0.77 (4.8) *	1.12 (10.) *	1.09 (4.6) *	1.41 (4.3) *
TANG	0.33 (5.6) *	0.85 (3.5) *	0.52 (6.1) *	0.48 (3.0) *	0.21 (6.8) *	0.04 (3.01) *	0.35 (5.3) *
PROF	-10.14 (-3.8) *	-0.25 (-3.7) *	-0.02 (-8.7) *	-5.2(-4.5) *	-0.3(-6.4) *	-4.7(-7.7) *	-0.18 (-4.8) *
SIZE	-0.49 (1.2)	-0.49 (9.7) *	-2.12 (2.9) *	-0.98 (13.) *	-1.25 (3.8) *	-0.79 (3.6) *	-0.04 (4.2) *
LIQ	-0.45(-6.4) *	-15.24 (7.4) *	5.87 (-3.5) *	0.05 (-8.5) *	-0.54 (-10.6) *	-6.44 (-9.8) *	-0.004 (-6.2) *
AGE	0.024 (0.67)	0.08 (2.5) **	0.03 (0.8)	0.08 (2.0) **	0.03 (0.5)	0.002 (2.4) **	0.027 (2.3) **
NDTS	0.007 (0.3)	0.21 (0.2)	-0.02 (-1.2)	-0.34 (0.3)	-0.18 (0.6)	0.14 (0.4)	0.33 (0.4)
RISKS	0.004 (10.2) *	-0.42 (8.2) *	-0.54 (2.8) *	-0.64 (0.2)	-0.36 (5.8) *	-6.98 (5.9) *	-0.01 (-3.3) *
GROWTH	-4.59 (0.1)	-12.59 (17.0) *	-0.44 (3.6) *	-0.22 (0.7)	-0.04 (3.7) *	-0.02 (12.0) *	-6.75 (4.2) *
IMML	0.88 (0.03)	0.16 (0.9)	3.81 (0.1)	1.82 (0.3)	0.11 (0.4)	0.14 (0.1)	0.12 (0.9)
ICAL	0.10 (0.2)	0.18 (0.5)	0.35 (0.1)	0.10 (0.1)	0.67 (0.8)	0.21 (0.1)	0.88 (0.0)
FINLIB	3.45 (0.1)	0.89 (0.9)	0.42 (0.1)	0.47 (0.3)	13.2 (0.6)	0.88 (1.6)	0.12 (0.3)
M2/GDP	0.09 (3.2) *	0.35 (5.0) *	0.04 (16.0) *	0.01 (2.9) *	0.01 (3.0) *	0.48 (7.2) *	0.52 (5.2) *
BKCRE/GDP	0.05 (15.3) *	0.04 (3.1) *	0.25 (3.4) *	0.29 (13.2) *	0.70 (8.8) *	0.66 (14.2) *	16.5 (5.7) *
MKTCAP/GDP	2.14 (1.2)	0.62 (0.6)	0.34 (0.2)	0.54 (2.0)	0.02 (0.5)	0.34 (0.9)	0.31 (0.2)
INSCRED/GDP	0.01 (0.8)	0.06 (0.8)	0.065 (0.5)	0.24 (0.6)	0.32 (0.6)	0.21 (0.2)	0.55 (0.4)

LEASE/GDP	0.87 (14.2) *	1.06 (10.3) *	0.12 (13.2) *	0.54 (10.2) *	0.53 (5.2) *	0.01 (11.2) *	0.39 (15.0) *
VENTU/GDP	0.002 (0.6)	0.21 (0.2)	0.002 (0.84)	0.003 (0.4)	0.008 (0.25)	0.002 (1.54)	0.87 (1.6)
GVTLOAN/GDP	0.81 (14.2) *	0.11 (8.9) *	0.12 (11.8) *	0.96 (13.1) *	0.62 (7.6) *	0.18 (3.6) *	0.006 (3.0) *
OVEFINDEV	6.65 (3.6) *	8.62 (3.6) *	4.74 (3.3) *	1.63 (5.1) *	2.35 (4.8) *	3.07 (4.8) *	1.33 (3.4) *
FIN.LIB* FINDEV	0.52 (2.9) *	3.54 (8.2) *	2.13 (6.2) *	0.80 (3.5) *	0.005 (6.5) *	1.58 (3.6) *	0.68 (3.1) *
Number of observations	2002	1872	1404	2470	494	3380	234
Number of firms	154	144	108	190	38	260	18
Hausman test statistics	0.9744	0.3566	0.990	0.9978	0.9685	0.9738	0.9262
R2	0.687	0.887	0.874	0.587	0.547	0.758	0.547
Methodology	GLS	GLS	GLS	GLS	GLS	GLS	GLS
FE or RE	RE	RE	RE	RE	RE	RE	RE
Diagnostic test for Heteroscedasticity	Chi2(1) =6.74 Prob>Chi =0.09	Chi2(1) =5.64 Prob>Chi =0.06	Chi2(1) =4.02 Prob>Chi =0.069	Chi2(1) =2.35 Prob>Chi =0.098	Chi2(1) =6.12 Prob>Chi =0.125	Chi2(1) =2.44 Prob>Chi =0.35	Chi2(1) =5.14 Prob>Chi =0.54
Ramsey test of model specification	Prob>F =0.06	Prob>F =0.12	Prob>F =0.06	Prob>F =0.158	Prob>F =0.098	Prob>F =0.65	Prob>F =0.14

Note. t-statistics denoting significance are reported in parentheses; * means significance of variable at the 1% level; while ** means significance at the 5% level.

Source: Author.

Table 3 (continued). Influence of Financial Policies on Capital Structure of Firms

Regressions	16	17	18	19	20	21	22
Dependent variable:	Insurance	Leasing	Hotels	Manuf	Oil	Dis. Trade	Construction
LEVERAGE							
Constant	-1.41 (-5.2) *	2.77 (2.1)	-2.35 (-1.3)	0.86 (7.3) *	4.91 (13.6) *	9.94 (2.2) *	4.00 (3.3) *
TANG	0.21 (8.1) *	0.87 (4.4) *	0.65 (7.2) *	0.47 (4.1) *	0.21 (6.3) *	0.68 (5.2) *	0.32 (8.1) *

PROF	-0.12 (-5.0) *	-0.47 (-3.4) *	-0.37 (-10.0) *	-0.25 (6.2) *	-0.09 (-4.2) *	-0.57 (-6.2) *	-0.82 (-5.6) *
SIZE	-0.01 (1.8)	-0.04 (1.07)	-0.01 (1.01)	-0.05 (0.5)	-1.16 (0.3)	-1.17 (0.6)	-0.83 (2.4)
LIQ	-0.32 (-4.2) *	-0.87 (-10.6) *	-0.55 (-8.5) *	-0.54 (-4.5) *	-0.54 (-10.3) *	-0.45 (-10.8) *	-3.54 (-6.8) *
AGE	0.04 (2.2) **	0.05 (1.4)	0.01 (0.4)	0.019 (0.4)	0.019 (2.2) **	0.08 (0.18)	0.37 (1.8)
NDTS	0.54 (0.54)	0.21 (1.0)	0.56 (0.3)	0.025 (1.3)	0.21 (1.4)	0.67 (0.8)	0.32 (0.7)
RISKS	-0.003 (-2.8) *	-0.65 (-1.9)**	-0.35 (-5.8) *	-0.01 (-4.9) *	-0.69 (-6.8) *	-0.98 (-8.8) *	-0.84 (-1.8)
GROWTH	-14.3 (9.1) *	-0.49 (20.1) *	-2.56 (20.1) *	-0.13 (7.8) *	-0.01 (14.8) *	-0.92 (0.1)	-0.41 (1.1)
IMML	0.70 (0.1)	(0.01) (0.08)	0.004 (0.4)	0.001 (0.001)	0.09 (1.6)	0.003 (0.001)	0.14 (0.005)
ICAL	0.16 (0.90)	3.81 (1.5)	1.83 (0.31)	0.11 (0.2)	0.011 (0.2)	0.002 (0.11)	0.10 (0.11)
FINLIB	0.16 (0.69)	0.42 (0.8)	0.78 (1.1)	0.28 (0.7)	0.51 (1.3)	0.23 (0.3)	0.15 (0.65)
M2/GDP	0.94 (3.6) *	0.006 (6.2) *	0.01 (6.5) *	.038 (4.2) *	0.15 (5.8) *	0.69 (6.2) *	0.21 (5.2) *
BKCRE/GDP	0.003 (5.2) *	0.001 (6.2) *	0.005 (10.2) *	0.001 (4.2) *	1.77 (15.1) *	1.77 (15.0) *	1.46 (3.2) *
MKTCAP/GDP	0.32 (0.2)	0.120 (0.10)	0.20 (0.1)	0.33 (0.4)	0.86 (0.3)	0.86 (0.0)	0.52 (0.005)
INSCRED/GDP	0.19 (0.28)	0.25 (0.22)	0.51 (0.4)	0.51 (0.2)	0.25 (0.2)	0.28 (0.0001)	0.25 (0.5)
LEASE/GDP	0.005 (12.0) *	0.07 (15.2) *	0.003 (12.0) *	0.003 (11.2) *	0.11 (13.0)*	0.12 (15.3) *	0.32 (13.02) *
VENTU/GDP	0.67 (1.3)	0.36 (0.9)	0.54 (0.2)	0.35 (0.01)	0.83 (1.4)	0.77 (0.16)	0.06 (0.003)
GVTLOAN/GDP	0.18 (7.7) *	0.33 (9.4) *	0.72 (3.6) *	0.96 (3.4) *	0.65 (8.5) *	0.015 (4.2) *	0.62 (8.2) *
OVEFINDEV	3.28 (3.0) *	1.12 (4.0) *	1.09 (6.2) *	0.52 (3.3) *	0.34 (5.5) *	0.21 (385) *	0.31 (492) *

FIN.LIB* FINDEV	1.03 (4.5) *	0.40 (15.9) *	0.15 (6.3) *	0.41 (3.8) *	0.60 (3.1) *	0.11 (2.7) *	0.18 (3.8) *
Number of observations	260	156	845	1196	52	507	858
Number of firms	20	12	65	92	4	39	66
Hausman test statistics	0.005	0.3475	0.0001	1.000	0.0003	0.5353	0.4952
R2	0.658	0.724	0.658	0.865	0.654	0.741	0.658
Methodology	OLS	GLS	OLS	GLS	OLS	GLS	GLS
FE or RE	FE	RE	FE	RE	FE	RE	RE
Diagnostic test for heteroscedasticity	Chi2(1) =7.21 Prob>Chi =0.125	Chi2(1) =4.36 Prob>Chi =0.154	Chi2(1) =6.24 Prob>Chi =0.286	Chi2(1) =4.35 Prob>Chi =0.136	Chi2(1) =2.98 Prob>Chi =0.245	Chi2(1) =8.21 Prob>Chi =0.324	Chi2(1) =6.54 Prob>Chi =0.198
Ramsey test of model specification	Prob>F =0.12	Prob>F =0.065	Prob>F =0.08	Prob>F =0.19	Prob>F =0.097	Prob>F =0.10	Prob>F =0.078

Note. Sample period: 1994-2007; t-statistics denoting significance are reported in parentheses; * means significance of variable at the 1% level; while ** means significance at the 5% level.

Source: Author.

The different models are estimated with either OLS or GLS estimates. Column 1 shows the econometric results estimated from a panel data of 298 companies across different sectors. It is observed that asset tangibility has a significant and positive coefficient on leverage, implying that the more tangible assets firms have, the more their ability to pledge them and thus a higher probability to obtain more credit from the market. Similar results have been obtained across the different sub-samples.

Firm size however, has a significant and negative coefficient on leverage. This might be indicative that firms do not increase their leverage as they grow in size, an embryonic proof of the POH. They prefer to use internal financing that has been accumulated through retained earnings and other reserves over time. Other reasons that might explain this is their difficulty in obtaining finance from the external market and scale diseconomies with growth. However, in some sub-samples (top 100 companies, “other” companies, “group” and “non-group” companies, local and those with good banking relationships), size does not influence leverage. These companies appear to be solid internally and may resort to an internal financial market that might exist within their group.

Age of firms has significant and positive impact on leverage, implying that age might be used as signals of reputation and credibility in the market to better access the credit market and ultimately allows firms to use more credit from the market. However, the coefficient of age is very low throughout all the different regressions, implying that age has a very low influence on leverage. Yet, the coefficients are accepted at the 5% level only in the following sectors: total sample, other, group, poor

banking relationship, poor corporate governance, unlisted firms, banks, oil and insurance companies. Another variable, non-debt tax shield, has also been included in the regressions. An insignificant coefficient is noted across the board, indicating that the benefits available (tax relief) on investments and research and development expenditure do not influence corporate leverage. Infact, such tax benefits are very low in Mauritius and are seldom available. Very few firms undertake such investments to benefit from such tax shields. Moreover, the tax system of the MRA is different from other countries such as the UK and the U.S.A system where companies benefit from non-debt tax shields and they thus significantly influence their propensity to manipulate their debt/equity ratio.

Firm growth has been measured as their growth achieved in the market, indicated by average changes in their turnover. A significant and negative coefficient is found in most samples. This is indicative that there is a negative relationship between market growth and the debt/equity ratio of firms. The same principle explanation as attributed to the relationship between leverage and firm size might explain such a relationship, again reinforcing the preliminary and indirect view that firms in Mauritius follow the POH and prefer to use internal financing to finance growth. However, market growth cannot explain firm leverage in the case of firms with good banking relationship, those with poor corporate governance, firms in the distributive trade and those in the construction sector.

Risk management is a crucial exercise in any enterprise. Empirical research has demonstrated that risks are important determinants of firm debt/equity ratios. We include firm risk as another regressand. A significant and negative coefficient is observed across most sectors, meaning that the higher the risks of firms (measured in terms of earnings variability, either caused by alterations in market conditions adverse changes in operations), the lower leverage they are. They may fear that adverse conditions may end them in insolvency and they would not be able to honour the liability obligations. They therefore prefer not to increase debts level and may resort to internal finance.

However, contrary results are found in the sub sample of firms with good banking relationship. Because of good ties and easy access to bank loans, “risks” are probably regarded as positive signals to banks that the firms are undertaking profitable and viable investments and they therefore get more loans from banks. Insignificant effects of risks are found in the construction sector, those with poor corporate governance and the top 100 companies.

Two variables of internal finance, firm profitability and internal liquidity are included. These variables do not correlate with each other and offer different insights. Profitability is measured with the amount of return on firms’ assets while internal liquidity incorporate the availability of internal cash flow, net liquid assets and short-term liquid investments for which there is a readily available market. This is infact a novelty variable used as independent variable in the study of capital structure theories. A significant and negative relationship between corporate leverage and profitability is observed.

Thus, the higher the profits of firms, the less they tend to borrow from the external market. They prefer to resort to internal financing, as predicted by the POH. Robustness of this result has been verified with the coefficients on the liquidity variable. Again, a significant and negative relationship with leverage is

observed across the board, to reinforce the view that firms follow pecking order behaviour in terms of financing. The coefficients, however, vary across the different sub-samples. A higher coefficient is observed for the “other companies”, indicating that they depend more on internal financing than the top 100 companies.

Group companies illustrate a much lower coefficient than independent companies, reinforcing the view that they have an internal financial market, which they prefer to resort to, rather than borrowing in the external market. Independent companies, however, have no choice. This is also the case for local companies when compared to international companies that might obtain easy finance from their head office company or in the international financial market.

Analysis from a sub sample of firms with very good banking ties reveal that they can easily obtain finance from banks and increase their leverage accordingly. This is also the case for firms with good corporate governance structures, which allow them to credibly signal their quality to finance providers and increase their liabilities to fund projects. Firms in the following sectors resort more to internal financing than others: banks, hotels, distributive trade, and construction sector.

The overall index of financial liberalization has been disaggregated into the index (FINLIB) into the Index of Capital Account Liberalisation (ICAL) and the Money Market Liberalisation Index (IMML) and included in our regression. The different indices have a positive but insignificant impact on corporate leverage. Financial liberalisation programmes cannot explain corporate leverage in Mauritius. In contrast, the overall financial development index has a positive and significant relationship with leverage. Development of the financial sector allows firms a wider choice of financial instruments and products and they increase their liabilities accordingly. The coefficient of broad money liabilities over GDP positively impacts the debt/equity ratio and more money into circulation allows more credit in the financial system. In the same vein, the higher the amount of credit disbursed towards the private sector by banks, the more the debt amount of banks and firms in Mauritius prefer to use bank loans rather than other sources such as equity financing.

They also make use of leasing finance, which has a significant and positive impact on corporate leverage. Our result is therefore different from Singh and Hamid (1992). The coefficient of stock market capitalization over GDP is insignificant across the different sub-sectors to explain corporate leverage. Many companies also resort to government loans such as from the DBM, which positively impact on their debt/equity ratios. The other institutions, such as venture capitals and insurance companies are still at their infancy in explaining the debt/equity ratio of firms.

In this part, we have econometrically analysed the various determinants of capital structure in different sub-samples of firms and have found that the results are different for different categories of firms in different sub samples. The different econometric results are reliable as they have the right coefficient of determination. Moreover, the diagnostic tests confirm that the regressions do not suffer from neither multicollinearity, heteroscedasticity nor from the problem of omitted variables.

5. Conclusion

This paper has provided additional evidence on the relationship between availability of external financing, both from a policy perspective as well as with regard to development in the financial sector on corporate strategies. By employing different econometric investment models, we found that all indices of FL, including the index of money market liberalisation, index of capital account liberalisation and overall financial liberalisation index have do not have any influence on private investment behaviour. In contract, higher amount of money in circulation, bank credit, leasing activities and subsidised financing from the Development bank have a positive impact on private investment expenditures. Development in the financial sector in terms of credit facilities offered by insurance companies, venture capitals and the stock market activities have not been effective in inducing firms to increase their investment portfolios. Thus, the empirical results obtained in this study add to the existing body of knowledge in on the above mentioned hypotheses in the case of a small island developing states. Results from this research, as summarized above serve as the basis for effective policy making at firm levels. We have also tested the impact of FL and FSD on corporate capital structures. We have divided the sample of firms differently, as well as across different sectors and used an improved measure of internal liquidity. Results from a stationary panel data from an augmented capital structure model, with macroeconomic financial variables have shown different results. The main determinants of corporate leverage are asset tangibility, firm size, firm growth, age, growth, risks, profitability and liquidity. However, the relative impact of each of these variables varies across the different sub-samples. Firms in groups and international companies operate an internal financial market and easily obtain finance. This is also the case for those with good banking ties. Further results have shown a nil effect of financial liberalization on capital structure decisions, unlike financial sector development. It has also been proved that the stock market does not influence capital structure choice, results contrary to what Hamid and Singh (1992) found for developing countries. We found that subsidized Government financing and leasing companies increases corporate leverage but other institutions such as private venture capitalists, insurance companies cannot explain leverage. The results obtained in this study are in line with the results obtained by Demirgüç-Kunt and Maksimovic (1992, 1994, 1996), as well as Agarwal and Mohtadi (2004) for the case of developing countries. However, it differs from that of Seetanah and Padachi (2007) who found that stock market development increased debt for non-financial firms while this was not the case for listed financial firms. This can be explained by some pertinent macro variables such as FL and FSD which were not accounted for by these authors. The authorities should therefore adopt appropriate policies to make stock market financing more accessible to firms in the post FL period.

References

- Agarwal, S., & Mohtadi, H. (2004). Financial Markets and the Finance Choice of Firms: Evidence from Developing Countries. *Global Finance Journal*, 15(1), 57-70. <https://doi.org/10.1016/j.gfj.2003.10.004>
- Aggarwal, R., & Zong, S. (2006). The cash flow investment relationship: International evidence of limited access to external finance. *Journal of Multinational Financial Management*, 16, 89-104. <https://doi.org/10.1016/j.mulfin.2005.04.009>
- Aghion, P., Fally, T., & Scarpetta, S. (2007). Credit constraints as a barrier to the entry and post-entry growth of firms. *Economic Policy*, 22, 731-779. <https://doi.org/10.1111/j.1468-0327.2007.00190.x>
- Amee, R. (2013). Financial liberalization and firm's capital structure adjustments. Evidence from South East Asia and South America. *Journal of Economics and Finance*, 37, 1-32. <https://doi.org/10.1007/s12197-010-9158-3>
- Arellano, M., & Bond, S. R. (1991). Some Tests of Specifications for Panel data: Monte Carlo evidence and an Application to employment Equations. *Review of Economics Studies*, 58, 277-297. <https://doi.org/10.2307/2297968>
- Azam, M., & Shah, S. (2011). Internal Financial Constraints, External Financial Constraints and Investment Choice: Evidence from Pakistani Firms Australian. *Journal of Business and Management Research*, 1(8), 18.
- Bank of Mauritius. (n.d.). Various Issues. *Statistical Bulletins*. Bank of Mauritius, Port-Louis, Mauritius.
- Bond, Stephen R., Mans S`derbom, & Wu, G. Y. (2007). *Uncertainty and capital accumulation: Empirical evidence for African and Asian Ormsi*, Mimeo. Department of Economics, University of Oxford.
- Chan, K. S., Dang, V. Q., & Yan, I. K. (2012). Financial Reform and Financing Constraints: Some Evidence from listed Chinese Firms. *China Economic Review*, 23(2), 482-497. <https://doi.org/10.1016/j.chieco.2012.03.009>
- Chant, J. (1992). The New Theory of Financial Intermediation. In K. David, & M. K. Lewis (Eds.), *Current Issues in Financial and Monetary Economics* (pp. 42-65). Basingstake, Hampshire, Macmillan.
- Chipeta C., Hendrik, W., & Vermaak, F., (2012). Financial liberalisation and the dynamics of firm leverage in a transitional economy: Evidence from South Africa. *South African Journal of Economic and Management Sciences*, 15(2). <https://doi.org/10.4102/sajems.v15i2.152>
- Cho, J., Park, S. W., & Yoo, S. (2007). The Value of Outside Directors: Evidence from Corporate Governance Reform in Korea. *Journal of Financial and Quantitative Analysis*, 42, 941-962. <https://doi.org/10.1017/S0022109000003458>
- Cho, Y. D. (1995). *Company Investment Decisions and Financial Constraints*. An Analysis of a panel of Korean Manufacturing firms. University of Oxford Applied Economics Discussion Paper Series.

- Institute of Economics and Statistics, Oxford.
- Cleary, S., Povel, P., & Raith, M. (2007). The U-Shaped Investment Curve: Theory and Evidence. *Journal of Financial and Quantitative Analysis*, 42(1), 1-39. <https://doi.org/10.1017/S0022109000002179>
- Cobham, D., & Subramaniam, R. (1998). Corporate Finance in Developing Countries: New Evidence for India. *World Development*, 26(6), 1033-1047. [https://doi.org/10.1016/S0305-750X\(98\)00025-4](https://doi.org/10.1016/S0305-750X(98)00025-4)
- Cook, D., & Tang, T. (2010). Macroeconomic conditions and capital structure adjustment speed. *Journal of Corporate Finance*, 16, 73-87. <https://doi.org/10.1016/j.jcorpfin.2009.02.003>
- Dermirguc, Kunt, A., & Maksimovic, V. (1996). Stock Market Development and Financing Choices of Firms. *The World Bank Economic Review*, 10(2), 341-369. <https://doi.org/10.1093/wber/10.2.341>
- Dermirguc-Kunt, A. (1992). *Developing Country Capital Structures and Emerging Stock Markets*. The World Bank Working Paper.
- Dermirguc-Kunt, A., & Maksimovic, V. (1994). *Capital structures in Developing countries*. Evidence from ten countries. World Bank Policy Research working Paper.
- Devereux, M., & Schianterelli, F. (1990). Investment, financial Factors, and Cash Flows: Evidence from UK Panel Data? In R. G. Hubbard (Ed.), *Asymmetric Information, Corporate finance and investment*. Chicago: University of Chicago Press.
- Fazzari, S. M., Hubbard, R. G., & Petersen, B. C. (1988). Financing constraints and Corporate Investment. *Brookings Papers on Economic Activity*, 1, 141-195. <https://doi.org/10.2307/2534426>
- Gallego, F., & Loayza, N. (2000). *Financial structure in Chile: Macroeconomic developments and microeconomic effects*. World Bank mimeo.
- Genench. (2003). Capital Structure Decision under Micro Institutional Settings: The Case of Turkey. *Journal of Emergence and Marketing Finance*, 2(1), 57-82. <https://doi.org/10.1177/097265270300200103>
- Ghosh, S. (2006). Did financial liberalization ease financing constraints? Evidence from Indian firm-level data. *Emerging Markets Review*, 7, 176-190. <https://doi.org/10.1016/j.ememar.2005.09.008>
- Hamid, J., & Singh, A. (1992). *Corporate financial Structures in developing Countries* (IFC Technical Paper). International finance corporation, Washington, DC.
- Henry, P. B. (2000). Do Stock Market Liberalisation cause investment Booms. *Journal of Financial Economics*, 58(1), 301-334. [https://doi.org/10.1016/S0304-405X\(00\)00073-8](https://doi.org/10.1016/S0304-405X(00)00073-8)
- Jorgensen, Jan J., & Paulo, R. S. Terra. (2003). *Determinants of capital structure in Latin America: The role of firm-specific and macroeconomic factors* (Working paper). McGill University.
- Jorgenson, D., & Stephenson, J. A. (1967). Investment Behavior in U.S. Manufacturing, 1947-1960. *Econometrica*, 35(2), 169-220. <https://doi.org/10.2307/1909109>
- Pandey, I. M. (2001). *Capital Structure and the Firm Characteristics: Evidence from an Emerging Market* (Working Paper: 2001-2010). Indian Institute of Management, Ahmedabad, India.

- Prasad, S. K., Green, C. J., & Murinde, V. (2001). *Company financing, Capital structure and Ownership: A survey and Implications for Developing countries* (SUERF Studies).
- Seetatanah, B., & Padachi, D. (2007). Stock Market Development and Financing Choices of firms: A Case Study of SIDS. *International Review of Business Research Papers*, 3(2), 305-325.
- Shen, C.-H., & Wang, C.-A. (2005). Does bank relationship matter for a firm's investment and financial constraints? *The case of Taiwan, Pacific-Basin Finance Journal*, 13, 163-184. <https://doi.org/10.1016/j.pacfin.2004.07.004>
- Singh, A., & Hamid, J. (1992). *Corporate Financial Structures in Developing Countries* (IFC Technical Paper). Washington DC: International Finance Corporation.
- Stock Exchange of Mauritius. (n.d.). Various Issues. *Annual FactBook*. Port-Louis, Mauritius.
- Sundararajan, V. (1987). The Debt-Equity ratio of Firms and the Effectiveness of Interest Rate Policy. *IMF Staff Papers*, 34(2), 260-310. <https://doi.org/10.2307/3867136>

Notes

- Note 1. Kadapakkam et al. (1998) found the results for OECD countries, including the US.
- Note 2. 1,848 firms from both manufacturing and services sector were used while for Brazil, 1642 firms from 9 manufacturing sectors were used.
- Note 3. Henforth, FHP.
- Note 4. e.g., controversy on the cash flow variable used.
- Note 5. Financial liberalization policies are expected to impact on the firm by removing and easing financial constraint and allow firms to have easy access to external financing. This is done through a more effective operation of the market forces to determine the allocation of resources, such as interest rates and the availability of finance. In contrast, FSD refers to development if instructions such as banks and whereby more financial resources is made at the disposal of firms.
- Note 6. The Wald test tests the joint significance of the variables in the regression specified and the Sargan test tests the over identifying restrictions. The first and second order autocorrelation of Arrellano and Bond test for first order serial correlation in the residuals.
- Note 7. Statistics not reported due to intensity. Available upon request from author.
- Note 8. Results available from Authors.
- Note 9. See Dermirguc-Kunt and Maksimovic (1996) for a theoretical and empirical review on the impact of stock market development on debt/equity ratio of firms.