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FIRM INVESTMENT BEHAVIOR IN KENYA

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Abstracts
To promote growth manufacturing industry in Kenya, the government must address various challenges that include low level of investment. But this first require that the policy makers to have understanding of firm's investment behavior to inform possible policy interventions. This paper uses modest panel data analysis to explain how interest rate, firm size, cash flow, uncertainty and locality of a firm impact on firm's investment in Kenya. The study finds that the cash flow has a significant influence on investment and relatively smaller firms invest proporionally more than larger firms. The study thus recommends policy shift towards stimulating investment in small firms, relative to large firms and rolling out financing models to build capacity in emerging firms.

Research paper

Keywords: *Manufacturing sector, investment behavior, cash flows, firm size*

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Introduction

The pace and extent of country's development is largely dependent on strength of establishment of manufacturing sector. The manufacturing sector plays a central role in employment creation and value addition through shifting of resources from low-value commodity dependence to high-value output. The importance of the sector in employment creation and economic growth can be attributed to its relatively higher spillover effects and enhanced opportunities for capital accumulation (Szirmai, 2011). Thus, the sector can provide opportunities for addressing the twin challenges of high unemployment and poverty that Kenya is facing. The Kenya Vision 2030 recognizes the central role of manufacturing sector in propelling the economy to middle-income status (GOK, 2007).

Manufacturing sector contributes about 10 percent of Gross Domestic Product, 37 percent of Kenya's merchandise exports and account for 13 percent of overall formal employment. Despite various policy interventions, this performance of the sector has stagnated at those levels for the last four decades. Kenya's manufacturing enjoyed relatively rapid growth in the early post-independence years, mainly driven by Import Substitution (IS) strategy in which the government provided both direct support and tariff protection for the industry (Chege et al, 2014). The 1970s were the most turbulent years in Kenya's history due to external shocks that resulted in overall deterioration in the country's overall economic performance. By 1980, the government opted for externally driven structural adjustment programmes (SAPs) in order to strengthen competitiveness and reduce excess capacity in the industrial sector that emanated from distortions caused by the IS strategy. Though SAPs policy was successful in liberalizing the market

(Chirwa 2000), local industries were unable to compete with imports. The export orientation strategy in the 1990s was unsuccessful due to poor implementation of fiscal initiatives and macro-economic mismanagement. A number of reforms have been undertaken since 2003, particularly on improving business environment, which have stabilized industrial production but various challenges remain in the sector.

At macro level, the country has not gone beyond the business environment challenges, particularly in relation to infrastructure, energy and market access. Further, structural shocks in form of election violence, political competition and ineffective enforcement of regulations have dampened the overall economic growth. The sector-specific challenges include namely, low investment, narrow export base, poor physical infrastructure (mainly energy, water, roads), influx of counterfeits and substandard goods (KER, 2014).

To turn around the fortunes of the manufacturing sector, the government of Kenya has a couple of options it can explore. The government has continuously pursued a fairly strong macroeconomic management in last one decade. More investments in expansion and modernization of ports, rail, roads and ICT continue to be undertaken. However, for these interventions to succeed in increasing the size and growth of the manufacturing sector, accelerating the level of investment in the manufacturing sector is imperative. The factors that influence firm's investment behavior need to be analyzed and therefore the question that this paper attempts to address is what influences firm's investment behavior.

The rest of the paper is laid out as follows. What follows is a section that summarizes literature on determinants of firm's investment behavior

and later, two sections on methodology and results respectively. The last section is on conclusions and policy recommendations.

Review of Literature on Investment Behavior

This section covers two strands of literature; one is the theoretical models on investment behavior and the second is the empirical work on factors that influence investment decisions at firm level.

Theoretical Models

There are four models of investment, namely, the accelerator model, neoclassical model, Tobin's Q model and cash-flow model (Mohd adib ismail et al 2010) which have been extensively used for analyzing the determinants of firm's investment behaviour. The accelerator model begins with the notion that a given level of economic activity requires the support of a certain amount of capital and since the capital stock observable, at any point in time, is sum of net value of capital stock in previous period plus investment then:

$$I_t = \lambda_t Y_t - (1-\delta)K_{t-1}$$

where I_t *is Investment,* λ *is the accelerator and represents a constant of proportionality between the capital stock* K_t, δ *is the rate of depreciation and* Y_t *is the Gross Domestic Product. Thus, the accelerator model predicts that investment is proportional to the change in output. The accelerator model is a macro model and is not appropriate for this study which utilizes firm-level data track firm's investment behavior.*

The neoclassical model suggests that investment depends on marginal product of capital and the real cost of capital (product of interest rate plus depreciation rate and relative price of capital). Thus:

$$I_N = I_n[MPK - (P_K / P)(r + \delta)]$$

where I_N *is the net investment and* I_n *is a function showing how net investment responds to the incentive to invest, MPK is marginal product of capital,* P_K *is nominal price of capital and P is the average price such that* P_K/P *is the relative price of capital, r is the real interest and* δ *is defined as the fraction of value lost per period (depreciation rate) such that* δK *is the amount of depreciation. If the MPK exceeds the cost of capital, firms will add to their capital stock. An increase in r raises the cost of capital, reduces the profit rate and reduces investment. An increase in MPK increases the profit rate and increases investment at any given interest rate. Given the limitations on data to compute MPK and relative price of capital, the neoclassical model is not applied in this study.*

James Tobin (1969) proposed that firms base their investment decisions by comparing the market value of physical assets relative to their replacement value, i.e. the ratio referred to as Tobin's ***q****. Thus, the choice to invest or not depends on whether* ***q*** *is greater or less than 1. If* ***q*** *>1, firms may raise the value of their stock by increasing capital, and if* ***q*** *< 1, the stock market values capital at less than its replacement cost and thus, firms will not replace their capital stock as it wears out. However, the* ***q*** *ratio has been criticized for failing to accurately predict investment (Henwood, 1977).*

The cash-flow model postulates that the choice to invest is based on assessing the present value of its expected future cash flows against the market price of intended investment. The cash flow variable may be inferred as a measure of internal funds, which are less costly than external funds if the capital market is imperfect. Thus, an investment choice is undertaken if the Net Present Value (NPV) i.e. the Present value of Cash flows – Investment Outlay is positive. The use of NPV for capital budgeting decisions has been criticized in literature because of its static nature as it does not capture managerial flexibility in a dynamic and uncertain environment (Bulan 2004).

Empirical literature

The theoretical underpinnings highlighted in the above section indicate that a firm's investment decision is dependent on uncertainty revolving around output demand and price, in addition to sources of finance available to the firm. Thus, the paper focus its empirical literature review on research undertaken to determine how uncertainty and financial challenges affect firm's investment behavior.

The investment-uncertainty relationship*: There is exists a wide range of literature that suggests that firm's investment decisions are dependent on how a firm perceives the likely future developments in terms of product demand and output price, which basically affects expected returns from investment. Decision making is normally based on future expectations (Fuss and Vermeulen 2004). Thus, the investment process requires that the potential investor evaluates the expected future income flows that an in-*

vestment project will yield. Pindyck (1993) work suggests that motivation to investment is positively related to level of uncertainty, assuming existence of constant returns to scale and infinite elasticity of profit function to capital stock. This is in line with the views of Lee and Shin (2000), Caballero (1991) and Hartman (1973) who also found a positive relationship between investment and uncertainty. However, Nickel (1978) and Abel (1983) found that under a set of conditions, uncertainty impacts negatively on planned investment. With increasing returns to scale, the entrepreneur is more inclined to dislike uncertainty due to benefits associated with decreasing marginal costs. Using firms' subjective qualitative expectations to measure uncertainty, Fuss and Vermeulen (2004) also found that demand uncertainty depresses planned and realized investment. Greenwald and Stiglitz (1993) argued that increased uncertainty about future profitability increases the risk of bankruptcy so that firms may lower their investment due to external financing constraints.

Despite variations in findings on the nature of relationship between investment behavior and uncertainty, there is convergence of researchers' thoughts on what affects this relationship. One of the factors that influence how uncertainty impacts on investment is the degree of market competition. An entrepreneur in an imperfect market environment is likely to be more cautious in making new investment in face of uncertainty. His/her future profitability is strongly linked to the extent of market imperfection and is exceptionally careful in investment choices. Indeed, Miller and Modigliani (1961) suggests that under perfect capital market environment, there is absence of transaction costs as all market participants have homogeneous expectations due to information symmetry. Under an imperfect competitive

environment, Caballero (1991) presupposes that demand uncertainty has a negative effect on investment plans and realized investment.

The other factor crucial in uncertainty-investment relationship is the degree of risk aversion. Entrepreneurs that are risk takers are likely to react positively on uncertainty. Moreover, the uncertainty can lead to an increase in firm activity if managers are risk neutral and firms are operating under perfect competition. As Leland (1972) and Sandmo (1971) observe, the motivation to invest for risk-averse firms relates inversely with the level of uncertainty. Firms that are risk-averse will demand a high return from their investment than who are not risks averse. As a result, faced with high level of uncertainty on the investment returns, risk-averse firms' investment grow slowly.

Further, the nature of adjustment costs influences uncertainty-investment relationship. If firms are experiencing constant returns to scale, Hartman (1973), Caballero (1991), Lee and Shin (2000) note that investment level increases with degree of uncertainty; arising from convexity of the adjustment cost function. The concept of adjustment costs in investment theory assumes that capital inputs are adjustable, but at a cost, the adjustment cost. One possible source of this cost is the temporary decrease in productivity arising from reorganization of production line upon installation of new machinery. Looking specifically at investment behaviour of firms in Africa, Soderbom and Teal (2000) concurs that firms have non-linear adjustment costs, leading to lumpy/spiky investment patterns. Firms rarely adjust their investment plans continuously to changing market conditions, but ordinarily choose to make large (lumpy) investments which are not related to the indivisibility of the investment being undertaken.

Since a large firm is likely to have more expertise and access to more information than do small firms, large firms are able to deal with uncertainty and investment may actually increase with uncertainty. Large firms may further have opportunity to hedge against risk and uncertainty while small firms do not have this opportunity. Thus, investment will increase with uncertainty for large firms whereas it will decrease among the small firms. In analyzing how various factors impact on investment behavior, Neil Rankin et al (2002) used a probit regression model and observed that firm size is one of the most important factors influencing the probability of investment. As Gertler and Gilchrist (1994) observe, it is also plausible to assume that small firms may be constrained from external financing to a greater extent than large firms so that the relationship between uncertainty and investment will be negative and stronger for small firms.

Related to the impact firm's size has on uncertainty-investment relationship is network formation. Indeed, the decision-making situation faced by small and medium-sized enterprises (SMEs) features much greater constraints on the ability to gather information in order to reduce uncertainty about their investment opportunities, compared with that faced by large companies due to latter's ability to gather information on strength of strong networks.

Access to Finance and Firm Investment: *In addition to the element of uncertainty, there are other factors that impact on firm's level of investment. This includes access to finance. Not only does a developed financial system relaxes a firm financing constraint, it also serves as a mechanism for ensuring that investors have access to information about firm's activities. However, in analyzing the impact of underdeveloped financial sector and*

segmented financial market on firms' investment in Kenya, Soderborn (2002) found that despite government efforts in reforming the financial sector, the impact of such reforms on industrial development has been minimal. Soderborn (2002) estimated a neoclassical investment function to analyze investment behavior of manufacturing firms in Kenya and found that financial constraints have minimal effect on investment in Kenya. Similar analysis shows that the financial liberalization did not induce investment by Turkish firms (Sancak 2002). Firms investment behavior is also influenced by liquidity i.e. the liquid assets a company has on hand plus the cash flow it is currently generating (Gomes 2001). Due to limited financial access, firms may primarily rely on internal funds to finance investment.

Methodology

Theoretical Framework

With none of the models in theoretical literature section appropriate for this study, this paper derives a theoretical model of investment behavior from standard assumption of firm's objective of maximizing profits. Building from a simple Cobb-Douglas production function, a representative firm's input-output technical relationship may be specified as:

$$Y_t = A_t K_t^{\alpha_1} L_t^{\alpha_2} M_t^{\alpha_3}$$

Such that $0 < \alpha_1, \alpha_2, \alpha_3 < 1$

Where Y is aggregate output, K is physical capital stock, L is number of workers and M is measure of materials and supplies in period t. A is an index of the efficiency with which all factors of production, in this case labor, materials and capital, are used (it is therefore an index of Total Fac-

tor Productivity, TFP); α_1, α_2 *and* α_3 *are the output elasticities of physical capital, labor, materials and supplies respectively.*

Assuming market clears such that no firm has output inventories, $Y_t P_t$ *may be viewed as value of output that constitute the firm's revenue in time t for a given product price* P_t.

In the short run, capital, both physical embodied in plants and machinery and human capital (in form of talents, skills and knowledge within the permanent staff) are fixed and labor and materials/ supplies are the only variable resources. Thus $Y_t P_t$ *less the costs of materials and supplies will constitute the value added which is paid out to owners of capital (dividends), labor costs and investment* I_t *(assuming all retained earnings are invested), i.e.*

$Y_t P_t$ *- [Materials and supplies costs]* $= D_t + w_t L_t + I_t$

Where w_t *is the wage rate.*

Now, D_t *is the return on investment such that:*

$D_t = [Y_t p_t$ *- Materials & supplies costs]* $- w_t L_t - I_t$

The goal of the firm is to maximize the discounted values of D_t *which constitutes the value of the firm in period t. If the sum of discounted values of future dividends is denoted as* V_t *then*

$$V_t = \sum_{t=1}^{n} \frac{1}{(1+r)^t} D_t$$

From equation 5 and equation 6 we replace D_t *with* V_t*, i.e. discounted dividends (cash flows), in equation 3 and re-arranging it we get:*

$$I_t = [Y_t P_t - \text{Materials \& supplies costs}] - V_t - w_t L_t$$

The term $[Y_t P_t$ *- Materials & supplies costs] in the expression represent the uncertainty facing the firm as it relates to product demand and output price whereas* V_t *indicates the extent the firm depends on internal funds to finance investment (financial constraint). In a perfectly competitive environment, information symmetry ensures absence of transaction costs in capital markets. This suggests that financial sourcing (liquidity) does not influence investment decision of a firm. However where an underdeveloped financial system and imperfect financial market characterize the economy, like is the case in Kenya, financial sourcing is a constraint to investment. In the same context,* $w_t L_t$ *can be inferred to be a reflection on how firm size affects investment.*

The above principles set the basis upon which we choose the model used to study investment behavior as indicated in model specification section.

Data, Sample and Model Specification

Description and sources of firm-level data

To build insight into dynamics of firm's investment behavior requires a panel of firm-level data. In absence of such data, this study uses 2002/2003 Regional Programme on Enterprise Development (RPED) data set. The survey covered 282 firms out of 368 firms sampled from the food, metal, textile, wood, plastic, construction, chemical and paper sub-sectors.

This survey was done by Kenyan Policy Research Institute (KIPPRA) in conjunction with RPED, which is based in the Africa Private Sector Group of the World Bank.

Model specification

For the choice of the model, this study borrows from empirical and theoretical literature summarized in the previous section. The reviewed literature suggests that investment is determined by a couple of factors. Building on our conceptualization in equation 7, we note that investment is dependent on product demand and output price expectations, firm size and cash flows (which is a reflection of financial constraints). Further, the neoclassical model summarized in equation 2 suggests that investment is a function of marginal productivity of capital and real cost of capital. We thus postulate that investment is dependent on the cost of capital, marginal productivity of capital, demand and price uncertainty (measured by the firms report on their own expectations of future demand and output price changes) and firm size. The inclusion of firm size is also informed by other studies that show large firms have more capacity to acquire new information on future market expectation due to higher density of networks (Ng'ang'a 2008). Beyond networks, spatial proximity between firms can potentially influence new investment due to costs-reduction gains emanating from relatively better infrastructure. Because of the impact the interest rate has on cost of capital, we use it as a proxy for cost of capital. Now, if we take that the cash flow signals future marginal productivity of capital since capital productivity increases the expected future output (hence boosting the optimal future path of capital stock), we can use cash flow variable as a proxy to marginal productivity of capital.

Thus, in this study, the following model is estimated:

$$\ln I_{it} = \alpha + \beta_1 \ln r_{it} + \beta_2 \ln CSF_{it} + \beta_3 \ln L_{it} + \beta_4 \ln CM_{it} + \beta_5 \ln S_{it} + \lambda_{it}$$

Where I is the investment rate defined as the ratio of investment to capital stock (K) for firm i *at time t,* r *is the interest rate,* L *is the firm size, CSF is the cash flow, CM is uncertainty measure (proxy) for product demand and price uncertainty,* S *is a proxy for location (taking a value of 1 if a firm is located in export processing zone and a value 0 for a firm is outside EPZ) and* λ *is the error term.*

Definition and measurement of variables

Investment: In this paper, investment is construed as fixed capital formation i.e. change in capital stock during a given period of time. Investment, therefore, constitutes businesses' spending on equipment and structures for use in production. We measure the investment flow in a period as the difference between the capital stock at the end of the period and the capital stock at the beginning of the period. Thus, the investment flow at time period t can be defined as:

$I_t = K_t - K_{t-1}$

where K_t *is the stock of capital at the end of period t and* K_{t-1} *is the stock of capital at the end of period t-1 (and thus at the beginning of period t). In analyzing firm's investment decisions, we therefore take demand for investment as the amount of investment goods a firm wishes to purchase in a given period. To separate firm size effects on level of investment, we shall use investment rate to capture changes in investment measured as a ratio of investment to level of capital stock.*

Cash flow: Cash flow (CSF) is calculated as stream of net profits.

Measuring uncertainty: Following the footsteps of Catherine Fuss and Vermeulen (2004) approach of measuring uncertainty, we use firms' expectations about their own future demand and price changes to construct demand and price uncertainty measures. An entrepreneur's perception of future scenarios of demand and price shows his/thoughts on how external factors affect the firm's demand, i.e. shocks that shift the demand curve and possible scaling up/down of output which ultimately influence price. In this context then, the uncertainty measures represent rational expectations of the variability in the firm's profits over year t. Thus, our measure of demand and price uncertainty is based on the answers to the following question:

Are you more optimistic today than one year ago regarding profits in the near future?

The answers to the question above capture the firm's own subjective expectation of the value of a future demand shock. These answers are qualitative and are used to construct a measure of demand and price uncertainty.

An alternative measure of uncertainty employed by other researchers is the volatility of a firm's stock returns. The use of this alternative is based on argument that volatility in the product markets is translated into increased volatility in the stock market (Pindyck 1991). Lack of data on stock performance of the sampled firms in the dataset compromises our choice of this measure of demand and price uncertainty.

Spatial location: In this study, we stipulate that infrastructural benefits that a cluster of firms attracts from the government are in themselves an influencing force in firm's investment decisions. Since the element of loca-

tion is categorical (i.e. non-quantitative), we use a dummy variable S *taking a value of 1 if a firm is located with export processing zone and 0 for all other locations outside EPZ. The specified model assumes that the firm had not changed location within the study period.*

Interest rate: Interest rate charged by the lending institution captures the cost of capital borrowed for investment. In most cases, the applicable interest rate on funds borrowed by a particular firm is a negotiated rate between the lending institution and the firm, subject to base lending rate and credit worthiness requirements given to potential borrower.

Labour: We use the number of employees to measure firm size. There are a number of other variables that may be used to measure firm size that include firm assets, sales and market value. The choice of using number of employees the measure of firm's size is, in this study, governed by the availability of data.

Analytical methods

The benefits of using a panel data is well captured by Gujarati (2004). In this study, panel data analysis assist in analysing firms in diverse (heterogeneity) areas of production and also covers firms dynamics, in addition to enriching data size. However, choice has to be made on whether to use Fixed Effect Model (FEM) or Random Effect Model (REM) as we control for unobserved factors which may be correlated with the regressors. FEM assumes that intercepts vary across firms but for each firm, the intercept remain fixed over time. But REM assumes that for each firm, intercept does not remain fixed over time but varies as random variable averaging to specific value typical to (similar for) all firms. Thus in FEM,

each crossection unit has its own (fixed) intercept value but in REM the regression intercept represent the mean value of all cross-section intercept with a component error that shows the random deviation of individual intercept from this mean value (Gujarati 2004). Use of REM therefore suggests that the sample used for the analysis was randomly drawn from a largely homogenous population of firms.

The use of REM is inappropriate in this study because of its implicit assumption that firms were sampled from one population of similar firms. This isn't the case, given firms difference in terms of both size and lines of production. The study therefores uses the fixed effects regression model (within-group variation) for analysis, taking into account that any two observations, say on cash flow from the same firm will be more similar compared to two similar observations from different firms. Thus, factors that can simultaneously affect investment and its influencing variables, such as cash flow, interest rate, firm size etc are assumed to be time invariant.

Results And Discussion

This section summarizes the findings of the estimated model specified in the methodology section.

Characteristics of key drivers of Firm's Investment Behaviour

Investment over the 2000-2002 period was fairly low, averaging 15 per cent of the capital stock (Table 1). Coincidently, this was the period that marked the end of a decade that saw the economy in its worst performance. Despite implementation of a number of macroeconomic reforms in 1990's, that included a series of export platforms to promote manufacturing exports, the the study findings show that the investment level was still low by 2002. The cost of borrowing ranged from 2 percent to 36 percent, and the wide range possibly indicate existence of different financial sources available to different firms. The average of 16 percent interest rate during the period of analysis suggests financial access was as challenge to most firms.

An analysis of firms' cash flows indicate that, whereas some firms experienced growth in earnings, the market environment deteriorated for others, implying that the worsening macro environment was more punitive to some sectors than others.

Table 1. *Descriptive statistics*

Variable	*Obs*	*Mean*	*Mean Std. Dev.*	*Min*	*Max*
Investment (I)	*460*	*.156344*	*.4827239*	*-3.649321*	*5.785714*
CSF	*430*	*5.38e+10*	*6.43e+11*	*-6.26e+08*	*8.10e+12*
Located(S)	*477*	*.0251572*	*.1567669*	*0*	*1*
Interest	*219*	*15.82096*	*6.594102*	*2*	*36*
Labor	*454*	*129.0485*	*234.8188*	*0*	*1543*
Certainty(CM)	*477*	*.8176101*	*.386571*	*0*	*1*

Factors that influence investment behaviour

The study results show that the cash flows have a significant and positive influence on investment (Table 2). This is consistent with the findings of many studies that find that investments are strongly sensitive to cash flow. The study findings also indicate that though the interest rate was negatively related to investment, as theoritically expected, interest rate does not significantly influence investment rate. This observation confirms Soderborn (2002) findings that that financial constraint, as measure by cost of capital, has minimal effect on investment in Kenya. Possibly, the reason why cash flow matters for investment is that healthy cash flows reduce financial constraint to investment if capital market is inefficient. Inefficiency in capital market drives up the interest rate, making external finance costly to the firms. Firms may not consider financial institutions as possible sources of funds if they perceive the cost of borrowing as excessive. Thus, internal finance becomes a major source of investment funds when the financial markets perform inefficiently.

Table 2. *Regression results*

xtreg investment CSF Location Interest Labour Certainty, fe

Fixed-effects (within) regression	*Number of obs = 178*
Group variable: year	*Number of groups = 3*
R-sq: within = 0.3593	*Obs per group: min = 59*
Between = 0.6539	*avg = 59.3*
Overall = 0.3566	*max = 60*
	F(5,170) = 19.06
corr(u_i, Xb) = 0.0257	*Prob > F = 0.0000*

investment	***Coef.***	***Std. Err.***	***t***	***P>|t|***	***[95% Conf. Interval]***
CSF	*1.08e-09*	*1.13e-10*	*9.60*	*0.000**	*8.60e-10 1.30e-09*
Location	*-.0198813*	*.1948631*	*-0.10*	*0.919*	*-.4045442 .3647817*
Interest	*-.0025144*	*.0059345*	*-0.42*	*0.672*	*-.0142291 .0092003*
Labour	*-.0003993*	*.0001833*	*-2.18*	*0.031***	*-.0007611 -.0000375*
Certainty	*-.0063364*	*.1047012*	*-0.06*	*0.952*	*-.2130183 .2003455*
_cons	*.1839356*	*1405858*	*1.31*	*0.193*	*-.0935831 .4614544*

* *1% significance* ** *5% significance*

With labour used as a proxy for firm size, we observe that the firm size influences the level of firm's investment. The negative coefficient supports the hypothesis that relatively smaller firms invest proporionally more than larger firms. In the context of accounting for firm's growth, if investment rate is taken as a measure of firm's growth, this finding point to a possible evidence of Jovanovic (1982) observation that emerging firms grow faster, due to learn-by-doing capability, as opposed to the Gibrat's law of sporadic growth patterns.

The study results also show that being located in an export processing zone does not matter in firm's level of investment. One possible inference from the finding is that provision of construction infrastructure alone does not spur investment. This finding has implications in terms of what should accompany establishment of planned special economic zones if they are to be successful.

Conclusions and policy recommendation

The study finding that cash flow has significance influence on investment behaviour suggests that firms in Kenya largely dependends on internal funds for financing investment. This possibly emanates from high cost of credit which is itself, an indication of the imperfection in the capital market. In addition, the study notes that relatively smaller firms invest proportionally higher than larger firms. Another important observation is that being located in a export processing zone does not impact strongly on firm's rate of investment.

These three findings have great implication in terms of policy measures the country should pursue. Consequently, the study recommends the following:

- *Excessive dependence on internal funds for investment financing suggests that the cost of sourcing external finance is exorbitative. This calls deliberate policy intervation to exert downward pressure on the interest rate. Possibility of capping the interest rate spread, in addition to allowing more players in financial market to encourage competiton, should be pursued.*
- *There should be clear a policy shift that target to stimulate investment in smaller firms as opposed to the case in the past where there has been overemphasis in attracting large firms through physical and fiscal incentives, and neglecting emerging relatively smaller firms*
- *Since location within export processing zone does not necessily lead to higher rate of investment, this suggests that the creation of construction infrastructure in special economic zones is necessary*

but not sufficient intervention to spur investment in Kenya. Other considerations, particularly the cost of financing need to incoporated in encouraging investment in special economic zones.

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