

# **Private Investment for Structural Transformation and Growth in Africa: Where do Small and Medium-Sized Enterprises Stand?**

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## **Abstract**

This paper examines the relationship between private investment and structural transformation and growth in Africa, with a special focus on small and medium-sized enterprises (SMEs). The results from the trend analysis show that private investment rates have increased modestly in recent times. At the same time, per capita income growth has moved from negative to positive. The empirical growth and structural transformation models suggest private investment exerts a positive and statistically significant impact on per capita income growth and the industry-to-agriculture sector output ratio. Major factors that determine the employment growth of SMEs in Africa are the firm's age, initial size, new investment occurrence, and business practices (such as networking). The SME's share of employment suggests that the sector's growth could facilitate the structural transformation process. The major policy implication is the need to ensure a functional and enduring investment climate in order to encourage private investment in Africa. Access to finance, tax breaks, training assistance, and exposure to technology by SMEs would be good incentives to encourage their establishment and growth in Africa.

## **1. Introduction**

Empirical evidence suggests that countries with high standards of living are those that have successfully altered their production structures from dependence on agriculture to more diversified ones, with manufacturing and services as lead sectors. Integral to the process of structural diversification is a

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commitment to both private and public investment. For African countries, a major challenge is how to provide an enabling environment for investments by the private sector, given the current development paradigm of making the private sector “the engine for growth”. While a sizable number of firms in the private sector tend to be of small size, there is a possibility for growth into medium sizes over time.<sup>1</sup> Arguably, such a growth can contribute to the structural transformation process much needed in Africa. Against this backdrop, this paper examines the relationship between private investment and structural transformation and growth in Africa, with a special focus on small and medium-sized enterprises (SMEs).

The specific objectives are to: (i) Analyse trends in private investment in general and SMEs in particular (in terms of investment climate constraints, financing sources for new investments, employment growth, capacity utilisation, innovation, corruption, and crime); (ii) estimate the impact of private domestic investment on growth and structural transformation in Africa (using manufacturing-to-agriculture sector output ratio and industry-to-agriculture sector output ratio as proxy); (iii) examine the role of SMEs in the structural transformation and growth processes in Africa; and (iv) highlight the policy implications based on the empirical analysis conducted.

The rest of the paper is organised as follows. Section 2 provides a brief literature review, followed by a section on data and methodology. Section 4 analyses trends in private sector investment in Africa. Some emerging facts on private sector investment, growth, and structural transformation are presented. The major features of SMEs are also highlighted. The investment rates by firms in the SME sector are discussed and linked to growth in these firms. Section 5 presents the results from the empirical estimates. At the macro level, the impact of private investment on growth per capita and manufacturing/agriculture output ratio is examined. At the firm level, the determinants of employment growth in the SME sector are studied. The section further discusses the specific investment and development constraints confronting the operations of SMEs. Finally, conclusions and policy implications are drawn.

## 2. Brief Empirical Literature Review

A considerable amount of work has been done on the determinants of investment in general, and particularly private investment. In the context of countries in the developing world, the relationship between private and public investment (in terms of “crowding in” and “crowding out”) has been a

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1. Defining small firms to be those employing 1-19 workers, the survey of private enterprises by the World Bank between 2002 and 2006 suggests that about 52 percent of firms in low-income countries in Africa could be regarded as small-sized firms. In the case of middle-income countries in Africa, 46 percent of the firms fall into the small-sized category. See Appendix Figure A1 for a size-based frequency distribution of firms in Africa.

major focus of analysis. Beyond the relationship between private and public investment, analysis on private investment impact on growth has been pursued. Among the authors who have contributed to investment analysis in Africa are Oshikoya (1994), Mlambo and Oshikoya (1999), Devarajan *et al.* (1999), Mataya and Veeman (1996), Khan and Reinhart (1990), and Gunning and Mengistae (1999).

Writing on the macroeconomic determinants of domestic private investment in Africa, Oshikoya (1994) found a positive relationship between public investment and private investment. The study covered the 1970-1988 period, and examined seven African countries, namely, Cameroon, Mauritius, Morocco, Tunisia, Kenya, Malawi, and Tanzania.

Though public investment ratios had fallen in some of the countries, particularly in Mauritius and Morocco, a strong positive impact of public investment on private investment was observed. The results suggested that “the productivity of these types of investment may be as important as their magnitude in influencing private investment” (Oshikoya 1994, p. 589). Along the same theme, Mlambo and Oshikoya (1999), using a sample of 18 African countries for the period running from 1970 to 1996, found that fiscal, financial and monetary policy, macroeconomic uncertainty, and trade variables were significant determinants of private investment in Africa. The study also found political stability to be a major factor in the determination of private investment rates in Africa.

In an analysis on the relationship between governance, transparency, and private investment in Africa, Emery (2003) observed that private investment in a country had positive effects, not only on growth, but also on poverty. While private investment has favourable outcomes, its level and nature is influenced by the quality of governance. The author notes that complex administrative regulation of business tends to create a high level of corruption and poor governance.

Growth accounting by the World Bank (2006), suggests low capital investment in Africa. The growth in capital per worker in Africa has generally been below the world’s average. Between 1990 and 2003, Africa registered a negative growth in capital per worker (i.e, -0.05 percent) compared to the world’s average of 0.93 percent. With an improvement in education, the contribution of human capital to growth increased by 0.4 percent in Africa from 1990 to 2003. With an estimated growth in output per worker of -0.09 percent, total factor productivity is estimated to be negative (i.e, -0.44 percent) for the 1990-2003 period. The world’s average for total factor productivity was 0.67 percent. Based on these trends, the World Bank (2006, p. 6) indicated that Africa was “the slowest growing region in the world”.

Drawing from empirical studies on the role of small firms in economic growth, the World Bank (2005) noted that while SMEs jointly created more jobs than large firms, they also experienced higher layoff rates. Large firms, on

the other hand accounted for a greater share of net employment.<sup>2</sup> The share of net job creation by large firms in the early 1990s was 76 percent in Zimbabwe, 74 percent in Kenya, and 56 percent in Ghana. In terms of opportunities for low-skilled workers, the World Bank observed that a larger role was played by SMEs.

The importance of SMEs in the creation of jobs was also emphasised by Albaladejo (2002). He observed that through the expansion of existing firms and the creation of new start-ups, SMEs in Africa accounted for most of the private sector jobs available. Other advantages associated with SMEs include: Contribution towards a more equitable distribution of income; serving as stimulus for local and regional development as they tend to agglomerate to make an effective and rational use of resource endowments; and the promotion of a culture of entrepreneurship and other business-related skills by virtue of low entry barriers (Albaladejo 2002).

Ayeles (2006), on the other hand, examined whether investment incentives influenced the location of industries in the SME sector. Using a country case study on Ethiopia for the 1992-1998 period, the author found that import and income tax exemptions were “weak policy instruments of indigenous SMEs and regional development in Ethiopia” because most SMEs founders set up enterprises where they lived, worked, and in industries that were relevant to their training or experience (Ayeles 2006, p. 12). What seemed to be the driving force for the start-up of enterprises in Ethiopia were better infrastructure, market, and a broader enabling environment.

In their study on small enterprise employment growth in rural Africa, Liedholm *et al.* (1994) found that an average of about 27 percent of enterprises surveyed experienced growth. About 23 percent of jobs occurred through net firm expansion, while the rest came from new start-ups. Countries included in the study were Botswana, Kenya, Malawi, Swaziland, and Zimbabwe. Using data generated from baseline surveys, the percentage of enterprise that grew in each of the countries was as follows: 19 percent in Botswana; 35 percent in Kenya; 23 percent in Malawi; 17 percent in Swaziland; and 20 percent in Zimbabwe. An average of about one percent of the smallest firms were found to have graduated (i.e, grown from employing four or less people to over 10 workers). Liedholm *et al.* (1994) concluded that while small enterprises formed a dynamic part of rural African economies, a high percentage of new firms disappeared within the first three years of operation.

Ramachandran and Shah (1999) examined the link between minority entrepreneurship and firm performance in sub-Saharan Africa. They found that the educational attainment of managers influenced the performance of firms. Among the group of firms owned by Africans, a higher growth rate occurred for those that had managers with secondary or university levels of education. The study noted that generally, firms owned by non-indigenous Africans began with large sizes and grew faster than firms owned by indige-

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2. Large firms as used in this context refer to those employing more than 100 people.

nous Africans. The study focused on Tanzania, Kenya, Zimbabwe and Zambia, and used 1992 and 1994 data from the Regional Program on Enterprise Development.

In summary, a quick review of the empirical literature shows that most of the studies on private investment effects on macroeconomic variables are based on data that goes only up to the first half of the 1990s. This study goes beyond the existing ones by capturing recent investment trends and quantitative impact on some macro variables for the period starting 1990 through to 2004. Moreover, it appears that the evidence on SMEs in Africa is relatively sparse, and until recently, there had been limited firm-level data on the SME sector in Africa to allow for in-depth analysis on growth performance of SMEs. With the availability of World Bank's enterprise survey data for a number of private sector firms in Africa, and with the appropriate standardisation of these datasets, this study provides recent insights on SMEs in Africa.

### 3. Data and Methodology

The study uses two levels of data: Macro and micro. The macro data source comes from the World Bank's African Development Indicators, while the micro level data is obtained from the World Bank's Private Enterprise Surveys conducted between 2002 and 2006.

The methodology involves a cross-country analysis of 36 African countries. The choice of sample size is based on data availability for key variables of interest to our study. In estimating the impact of private domestic investment on growth and structural transformation, three five-year averages of key variables were created from annual data from 1990 to 2004, and modelled in an econometric framework involving the use of ordinary least squares and two-stage least squares techniques. The use of five-year averages is meant to iron out cyclical fluctuations. Following Devarajan *et al.* (2001), the major variables included in the models on per capita income growth rate are private investment ratio, public investment ratio, and initial per capita income. Our model also includes incidents of civil liberty, time, and low-income status dummy variables. Data for this aspect of our paper is from the World Bank's African Development Indicators 2006.

Our analysis on SMEs is based on data from the World Bank's Private Enterprise Surveys conducted between 2002 and 2006. These surveys cover 29 countries in Africa. The absence of certain observations on some key variables, notably employment growth rates, sets a limit on the degree of inclusion of all the 29 countries in the analysis on SMEs. The surveys provide a rich information base on private sector firm characteristics, investment climate constraints, finance, capacity utilisation and innovation, labour relations, and business-government relations among other firm operation variables.

In 2003, the World Bank surveyed firms in six African countries, namely Kenya, Uganda, Tanzania, Senegal, Mali, South Africa, and Lesotho. Data from these countries (with the exception of Lesotho) are pooled and used in a cross-country micro-level growth analysis. The standardised threshold for SMEs is employment of less than 100 workers. Small firms are defined to be those employing 19 or less workers. Medium firms employ between 20 and 99 workers, while large companies employ more than 100 workers.

Two growth performance measures are used in the SMEs models. The first is the growth rate of employment in enterprises, and the second measure is the occurrence of net employment. We focus on growth performance of manufacturing sector firms. As noted by Tybout (2000, p. 11), the manufacturing sector is viewed by policy makers in the less developed countries “as the leading edge of modernisation and skilled job creation, as well as a fundamental source of positive spill-over”. According to Sleuwaegen and Goedhuys (2002) and Liedholm *et al.* (1994), the growth rate of employment in manufacturing sector SMEs is estimated by OLS, with firm’s age and size as the major independent variables. The model estimated also includes additional variables, notably occurrence of new investment, networking, current best-practices in business communication (i.e, use of email), sector dummies, and country dummies. The latter measure is constructed as a dummy variable with a value of 1 if the firm under consideration recorded a (positive) net employment in the most recent period under consideration.<sup>3</sup>

In modelling the determinants of net employment among SMEs, we use a probit model of the following form:

$$\begin{aligned} NEM_i^* &= x_i\beta + \epsilon_i, \quad i = 1, \dots, n \\ NEM_i &= 1 \text{ if } NEM_i^* > 0 \\ NEM_i &= 0 \text{ if otherwise} \\ \epsilon &\approx N(0, 1) \end{aligned} \quad (1)$$

$NEM_i$ , the net employment status, is a binary response indicator of the  $i^{th}$  firm determined by the underlying latent variable  $NEM_i^*$ .  $x_i$  is a vector of explanatory variables (firm’s age, investment incidence, networking, sector of operation, and country characteristics), while  $\beta$  is a vector of unknown parameters to be estimated.  $\epsilon_i$  is the error term. The coefficients obtained in the probit estimation only serve to provide a sense of the direction of the effects of the covariates on the dependent variable, and cannot be used for impact analysis. To examine the magnitude of impact, the marginal effect of the explanatory variables on the probability of net employment are provided. We turn our attention now to a trend analysis on private investment in Africa and growth dimensions.

3. Net employment in 2001 is measured by the number of new employees hired *minus* the number of employees dismissed or laid off *minus* employees who left due to sickness or death *minus* employees who left the firm for other reasons. If the result from this calculation is greater than zero, then a positive net employment is said to have occurred.

## 4. Private Investment, Growth, and Structural Transformation Trends

### 4.1. *Macro trends*<sup>4</sup>

Private investment ratios are higher in middle-income African countries than in low-income states. A similar trend occurs in the case of per capita income growth, as shown in Figure 1. The investment climate in specific countries tends to influence the incentive to invest, and therefore the private investment rate realised. The gains from an improved investment climate are not confined to only large countries, as noted by the World Bank (2005). Generally, private investment increases when improvements occur in investment practices. Both of these processes tend to be positively associated with growth.<sup>5</sup>

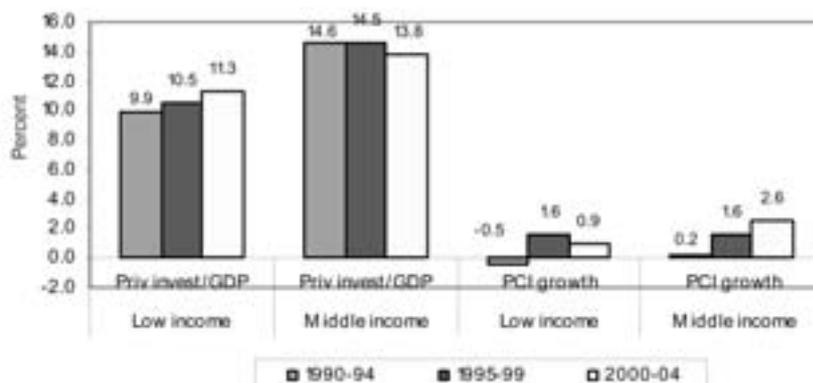
Figure 1 shows that private investment rate in low-income Africa increased from 9.9 percent in 1990-94 to 11.3 percent in 2000-04 (based on a sample of 26 low income countries in Africa). Per capita income growth, which was negative in the early 1990s, became positive during the second half of the 1990s and thereafter. In middle income Africa, we observe that though investment rates were higher than in low-income Africa, they fell from 14.6 percent in the early 1990s to 13.8 percent in 2000-2004. However, per capita income growth for the middle-income region increased from 0.2 percent to 2.6 percent. These trends suggest that it is not only the level of investment that matters, but also its quality or productivity. A scatter-plot showing the relationship between per capita income growth and private investment rate is displayed in Figure 2. There is a positive association between these two variables. The correlation coefficient for per capita income growth and private investment in low-income Africa is 0.55.

The notion of structural transformation is often associated with a shift in economic structure from agriculture to industrial production. The transformation process is seen as an inevitable accompaniment of rapid growth (Cook 2006). To the extent that private investment affects economic growth, it could be seen as an important variable in the structural transformation process in Africa. While the dependence of African economies on agriculture is well-known, there appears to be vestiges of modest shifts from agriculture to

4. The list of African countries used in the macro trend analysis were Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Cote d'Ivoire, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Madagascar, Malawi, Mali, Mauritania, Mozambique, Niger, Nigeria, Tanzania, Togo, Uganda, Zambia, Zimbabwe, Algeria, Botswana, Egypt, Morocco, Namibia, Swaziland, and South Africa.

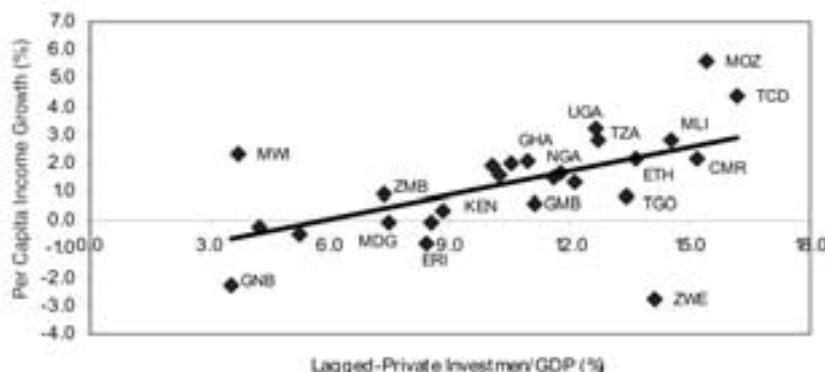
5. The case of Uganda has been cited to illustrate that small countries can benefit from better investment climate. According to the World Bank (2005), macroeconomic stability was achieved by Uganda in the 1990s. At the same time, the government reversed expropriations by previous governments, reduced trade barriers, reformed the tax and court systems, and introduced private sector participation in telecommunications. The results were a doubling of private investment rates and GDP per capita growth of more than four percent from 1993 to 2002 (World Bank 2005, p. 27).

**Figure 1. Private Investment and Growth in Africa: 1990-2004**



Note: Low income Africa is made up of 26 African countries. Middle income Africa is made up of seven countries.  
 Source: Author's calculations based on data from World Bank's Africa Development Indicators, 2006.

**Figure 2. Private Investment and GDP Per Capita Growth Rate in Low Income Africa: 1995-2004**

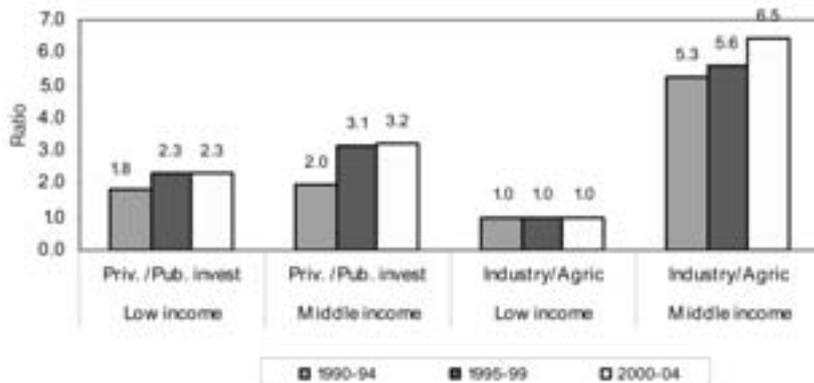


Note: Low income Africa is made up of 26 African countries with per capita income of less than US\$755.  
 Source: Author's calculations based on data from World Bank's Africa Development Indicators, 2006.

industry. The ILO (2007) estimates that employment in agriculture in sub-Saharan Africa fell from 68.1 percent in 1996 to 63 percent in 2006. At the same time, employment in industry dipped slightly from nine percent in 1996 to 8.8 percent in 2006, while employment in services increased from 22.9 percent in 1996 to 28.2 percent in 2006. This suggests, therefore, that the gradual shift in the workforce is more from agriculture to the services sector than to industry. This trend could be due to the slow pace in industry growth, which leads to its inability to absorb the outflow of agricultural workforce.

Figure 3 shows that private investment rate increased faster than public investment rate in low-income Africa. In 1990-1995, private investment was

**Figure 3. Investment and Production Ratios in Africa: 1990-2004**



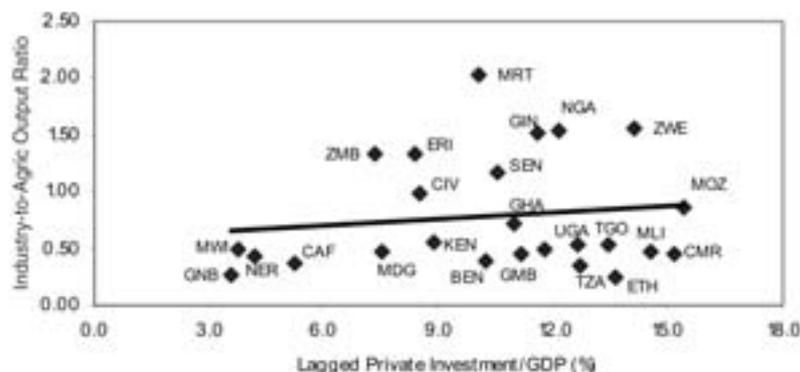
Note: Low income Africa is made up of 26 African countries. Middle income Africa is made up of seven countries.  
 Source: Author's calculations based on data from World Bank's Africa Development Indicators, 2006.

1.8 times larger than public investment. By 2004-2005, the rate of private investment was 2.3 times higher than public investment. For the same period, the industry value added to domestic output was about the same as that of agricultural sector's contribution to output in low-income African countries. The structural gap between middle-income African countries and low-income counterparts is evident (i.e., high industry-to-agricultural output ratios over time in middle income countries, but same and constant industry-to-agricultural output ratio in low-income nations).

The relationship between industry-to-agricultural output ratio (a proxy measure for structural transformation) and private investment ratio is shown in Figure 4. The highest private investment ratio occurred in Mozambique (15.4 percent). It was associated with an industry-to-agricultural sector output ratio of about 0.9, which implies a higher agricultural output than industry.

On the other hand, the lowest private investment ratio of about 3.5 percent occurred in Guinea Bissau. It was associated with an industry-to-agriculture output ratio of 0.4. Out of the 25 low-income countries in Africa shown in Figure 4, about 28 percent had relatively higher industry sector contribution to domestic output, compared to agriculture sector contribution. It seems, therefore, that from a macro perspective, the degree of structural transformation in Africa is quite low. This is notwithstanding the tendency for growth in private investment. There appears to be a weak positive association between private investment and the proxy for structural transformation. The correlation coefficient for the relationship between these two variables is 0.15. How has the SME sector performed in Africa? We now shift the discussion to investment rates in the SME sector and growth performance in recent times.

**Figure 4. Private Investment Ratio and Structural Transformation in Low Income Africa: 1995-2004**



Note: Low income Africa is made up of 25 African countries with per capita income of less than US\$755.  
Source: Author's calculations based on data from World Bank's Africa Development Indicators, 2006.

#### 4.2 Micro level SMEs

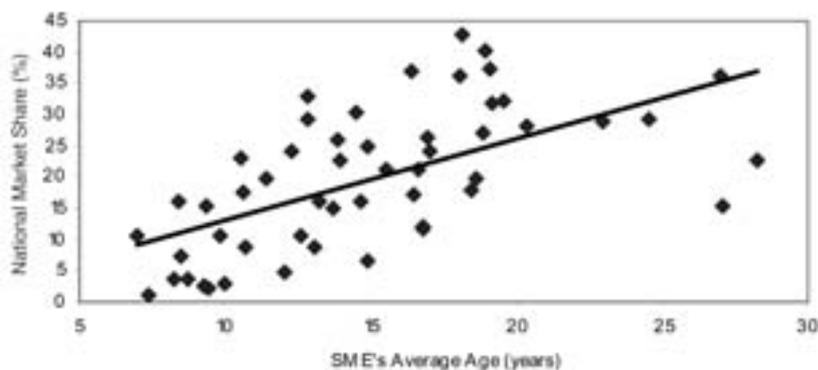
In terms of frequency, SMEs make up 81 percent of private sector firms in Africa (51 percent small-sized firms and 31 percent medium-sized firms). About one-fifth of SMEs have women as major owners. Female ownership of SMEs is higher in middle-income African countries (23 percent) than in low-income African countries (19 percent).

The major areas of operation by SMEs are agro-industry, wood and furniture, metals and machinery, food, garments and textiles, and plastic materials. Managerial capabilities tend to differ among countries. Using the educational attainment of top managers of SMEs as a proxy for managerial capabilities, the evidence suggests that in most cases, no less than one-third of top managers of SMEs in Africa have either some university exposure or a graduate degree. In Mali and Uganda, about 32 percent of SMEs in 2003 had managers falling into this category. In Kenya and South Africa, 63 percent and 70 percent respectively of top managers in the SME formal sector had some university or graduate degree.

The relationship between the age of firms in the SME sector and their national market share is displayed in Figure 5. The positive association between these two variables is evidenced by a correlation coefficient of 0.61. Implicit in the relationship between a firm's age and national market share are issues of survival and persistence.

Generally, firms that are able to stand the test of time tend to be better placed in their marketing strategies, holding all other factors constant. Table 1 shows the average age of firms is about 13 years for small-sized firms and 18 years for medium-sized firms. The average age for SMEs is below what prevails in large-sized firms in Africa (i.e., between 23 and 25 years). If a firm's production experience is determined by how long it has been in existence and

**Figure 5. Relationship between Age of SMEs in Africa and National Market Share: 2002-2006**



*Note:* A total of 26 Africa countries are represented in this chart. The national average for small firms and the average for medium firms in each country are displayed above. Thus with two observations for each of the 26 African countries, a total of 52 observations on SMEs is represented in this chart. Countries excluded due to missing observations were Egypt, Eritrea, and Morocco.

*Source:* Author's compilation based on World Bank's Enterprises Survey data, 2002-2006.

exposed to market tendencies, then SMEs could be said to be less experienced than large-sized firms. In this regard, SMEs are, to some extent, more likely to have problems competing in the domestic market than large-sized firms, *ceteris paribus*.

At least 80 percent of SMEs are located in the capital city or large cities with over 100,000 people (Table 1). The tendency for such firms to be located in the capital city is usually driven by various factors, such as physical infrastructure, utility and financial services, markets, transportation, and networking considerations.

Firm sizes tend to be correlated with capacity utilisation. Small-sized firms have the least capacity utilisation rates, followed by medium-sized firms. Capacity utilisation in SMEs is relatively lower in low-income than in middle-income African countries. On average, capacity utilisation in low-income African countries is 61 percent for small firms and 64 percent for medium firms. For middle-income African countries, these rates are 65 percent for small firms and 67 percent for medium firms. While excess capacity can be seen as a reflection of inefficiency, it could also be directly related to demand patterns and growth performance of the macro economy. Cyclical patterns as reflected in business cycles could mar the ability to realise full utilisation of installed plant and equipment.

In terms of categories of workers, between 32 percent and 36 percent of employees in SMEs in low-income African countries are unskilled production workers. The SME sector is seen to be playing a role in the human development of workers. About one-fifth of small-sized firms and over one-third of medium-sized firms (compared to over one-half of large-sized firms) in Africa, offer formal training to workers. This has labour productivity implications.

**Table 1. Selected Indicators of SMEs and Large-Sized Firms in Africa: 2002-2006**

Firm-Level Indicators	Small-sized Firms		Medium-sized Firms		Large-sized Firms		All Firms	
	Low income Africa	Middle income Africa	Low income Africa	Middle income Africa	Low income Africa	Middle income Africa	Low income Africa	Middle income Africa
<i>Firm Characteristics</i>								
Firm's age (years)	13.4	13.4	17.9	17.8	22.5	24.7	16.1	16.9
Located in capital or large city (%)	81.7	79.9	85.3	86.2	82.2	81.3	83.1	82.1
Located in medium size city (%)	8.9	19.8	6.7	13.7	7.1	18.7	8.2	18.4
Located in small city (%)	9.4	0.3	8.0	0.1	10.7	0.0	8.3	0.1
Local market share (%)	26.8	25.4	34.0	30.1	45.7	37.7	29.3	27.0
National market share (%)	14.6	15.7	24.9	20.9	38.8	33.1	21.8	18.5
<i>Capacity utilisation &amp; Investment</i>								
Capacity utilisation (%)	61.3	64.7	64.4	66.7	69.2	72.0	60.7	51.5
Spending on machinery & buildings (% of sales)	9.1	11.3	13.8	6.6	13.5	8.3	10.7	8.8
<i>Employment Issues</i>								
Employment growth over the last 3 years (%)	13.7	19.3	18.8	21.8	15.9	16.7	16.3	19.7
Skilled production workers (% workforce)	36.7	40.9	35.4	37.2	32.1	38.2	34.4	29.5
Unskilled production workers (% workforce)	32.3	31.5	35.5	37.7	40.2	37.1	32.5	27.0
Non-production workers (% workforce)	17.7	14.6	18.5	15.3	19.8	13.9	16.8	9.3
Female share of skilled production workers (%)	11.6	16.9	16.1	20.5	19.4	27.0	15.7	22.7
Female Share of unskilled production workers (%)	17.3	24.2	19.5	26.8	25.0	27.3	20.2	26.9
Female share of non-production workers (%)	30.9	40.6	29.7	43.0	28.5	37.2	28.3	28.7

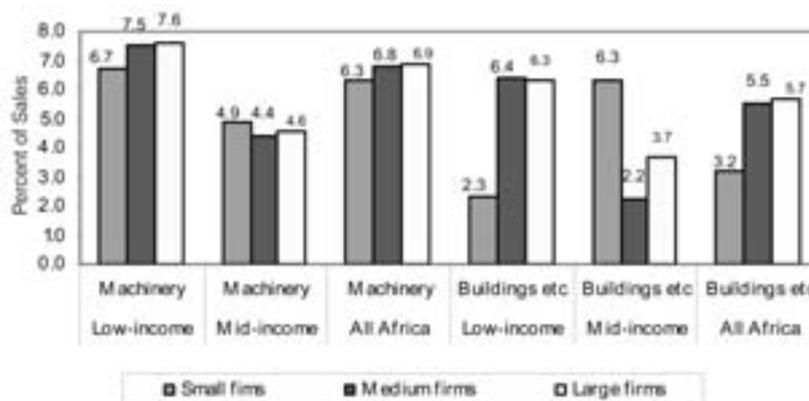
Firm-Level Indicators	Small-sized Firms		Medium-sized Firms		Large-sized Firms		All Firms	
	Low income Africa	Middle income Africa	Low income Africa	Middle income Africa	Low income Africa	Middle income Africa	Low income Africa	Middle income Africa
<i>Human Capital Development</i>								
Formal training incidence (%)	20.0	22.6	37.6	33.2	59.6	59.9	31.6	27.0
Permanent skilled workers receiving training (%)	13.9	25.2	15.8	22.3	20.0	32.1	14.1	17.7

*Note:* Low income Africa is made up of 22 countries, while middle income Africa is made up of seven countries.<sup>6</sup> The sum of skilled production workers, unskilled production workers and non-production workers does not add up to 100 percent. The residual is made up of the share of professionals and management.

*Source:* Author's compilation based on World Bank's Enterprises Survey data, 2002-2006.

6. The list of countries included are Angola, Benin, Burkina Faso, Burundi, Cameroon, Cape Verde, Democratic Republic of Congo, Ethiopia, Eritrea, Guinea Bissau, Kenya, Lesotho, Madagascar, Malawi, Mali, Mauritania, Mauritius, Niger, Senegal, Tanzania, Uganda, Zambia, Swaziland, Morocco, Namibia, Egypt, Algeria, Botswana, and South Africa.

**Figure 6. Firm Size and Private Investment Spendings in Africa: 2002-2006**



Note: Low income Africa is made up of 22 countries, while middle income Africa is made up of five countries.  
 Source: Author's compilation based on World Bank's Enterprises Survey data, 2002-2006.

A relatively large share of investments by SMEs is the acquisition of machinery and equipment as opposed to buildings, land, and improvements in leasehold. This situation is more pronounced among small-sized firms than medium-sized firms in low-income countries in Africa, as shown in Figure 6. In these countries, investments in machinery and equipment appears to be correlated with the size of establishments. The ratio of such investment to total sales of firms rises from 6.7 percent to 7.5 percent and then to 7.6 percent as firm size increases from small to medium and eventually to large. In middle-income countries, small-sized firms registered machinery and equipment investment ratios of 4.9 percent compared to 4.6 percent for large-sized firms.

Tanzania recorded the highest average machinery investment ratio of about 21 percent for small-sized firms, while Ethiopia had the lowest ratio of about one percent. In the case of small-sized firms in middle-income countries, Swaziland registered a 7.8 percent machinery and equipment-to-sales ratio, while Egypt's share was about one percent. For medium-sized firms in low-income African countries, Mauritania, Ethiopia, and Tanzania had over 10 percent machinery investment ratios, while Eritrea, Malawi, and Kenya had less than four percent.

On average, the SMEs have been experiencing positive employment growth rates in recent times. Table 2 shows that most of the country-specific firms experienced employment growth rates of 10 percent or higher in the last three years. Based on the available data, Mauritius, Kenya, and Morocco were the only countries with negative employment growth rates for small-sized firms. On average, medium-sized firms in low income and middle-income African countries recorded positive growth rates (see Table 2).

Generally, employment growth in small-sized firms over the last three years was 14 percent for small firms and 19 percent for medium firms in

**Table 2. Employment Growth in SMEs in Africa,  
 by Firm Size and Income Status**

Variable	Country Income Status	Employment Growth Rates for SMEs in Last 3 Years: 2002-06			
		Less than 1%	1% – 4.9%	5% – 9.9%	10% or higher
Small (1-19 employees)	Low-income	Mauritius [-7.6] <sup>b</sup>	Cameroon [3.6] <sup>c</sup>	Cape Verde [5.1] <sup>b</sup>	Benin [28.9] <sup>c</sup>
		Kenya [-5.3]		Uganda [7.4] <sup>d</sup>	Burkina Faso [22.6] <sup>b</sup>
					Ethiopia [19.9] <sup>c</sup>
					Lesotho [12.8] <sup>c</sup>
					Malawi [20.9] <sup>c</sup>
					Mali [26.6] <sup>c</sup>
					Senegal [17.8] <sup>c</sup>
					Madagascar [30.6] <sup>c</sup>
Small (1-19 employees)	Middle-income	Morocco [-2.0] <sup>c</sup>			Zambia [22.4] <sup>d</sup>
					Egypt [12.8] <sup>d</sup>
					<b>South Africa</b> [17.7] <sup>d</sup>
					<b>Namibia</b> [25.9] <sup>b</sup>
					Swaziland [28.2] <sup>b</sup>
Medium (20-99 employees)	Low-income		Cameroon [3.6] <sup>b</sup>	Cape Verde [9.9] <sup>b</sup>	Benin [20.7] <sup>b</sup>
			Tanzania [2.7] <sup>b</sup>	Kenya [9.1]	Burkina Faso [14.9] <sup>b</sup>
					Ethiopia [51.1] <sup>b</sup>
					Lesotho [29.0] <sup>b</sup>
					Malawi [15.7] <sup>b</sup>
					Mali [19.0] <sup>b</sup>
					Senegal [38.9] <sup>b</sup>
					Madagascar [13.0] <sup>b</sup>
					Zambia [11.0] <sup>c</sup>
					<b>Mauritius</b> [23.3] <sup>b</sup>
Medium (20-99 employees)	Middle-income			Morocco [7.9] <sup>b</sup>	Egypt [12.1] <sup>c</sup>
					<b>South Africa</b> [11.8] <sup>c</sup>
					Namibia [25.2] <sup>b</sup>
					Swaziland [30.1] <sup>c</sup>
					Botswana [34.8] <sup>b</sup>

Notes:

- (i) The numbers in square parentheses represent the growth rates for SMEs in specific countries.
- (ii) The superscripts give an indication of average domestic inputs usage by SMEs. The letter 'a' shows domestic inputs usage of less than 25 percent. 'b' represents domestic inputs usage of between 25 percent and 49 percent. 'c' represents domestic input usage of between 50 percent and 74 percent, and 'd' stands for 75 percent or higher.
- (iii) Countries in 'bold' are those with SME capacity utilisation of 75 percent or higher. With the exception of small-sized firms in Ethiopia, which registered an aggregate average capacity utilisation rate of between 25 percent and 49 percent, SMEs in other countries tend to have average capacity utilisation rates of between 50 percent and 74 percent.

Source: Author's compilation based on World Bank's Enterprises Survey data

low-income Africa. In the case of middle-income Africa, these growth rates were 19 percent and 22 percent respectively (*see Table 1*). The growth in employment rates in the SME sector in Africa could be the result of the general improvement in macroeconomic fundamentals since the turn of the century. As noted by the World Bank (2006, p. 1), inflation rates in sub-Saharan Africa have been low. Exchange rate distortions have been mostly eliminated, and fiscal deficits have been dropping. Against the backdrop of these improvements, what has been the effect of private investment on growth in Africa? This issue is addressed in the next section.

## 5. Results from Empirical Estimates

Our approach in this section is to first show the effects of private investment on per capita income growth in Africa. This is followed by a presentation of the effects of structural transformation on investment on the continent. These two sets of results provide a general context for the analysis of SMEs growth outcomes on the continent, based on evidence from Kenya, Tanzania, Uganda, Senegal, Mali, and South Africa.

### 5.1 Private investment, growth, and structural transformation: Macro level results

Table 3 reports the results from regressing per capita income growth rate on private investment and public investment ratios, while controlling for

**Table 3. Effects of Private Investment on Per Capita Income Growth in Africa**

Dependent variable: Per capita income growth rate in Africa Estimation technique: OLS and 2SLS								
	All African countries, irrespective of income status				Low income countries in Africa			
	1990-2004		1995-2004		1990-2004		1995-2004	
	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS
	Coef	Coef	Coef	Coef	Coef	Coef	Coef	Coef
Private investment/GDP	0.193*	0.157*	0.252*	0.254*	0.247*	0.207*	0.304*	0.310*
	3.28	2.62	4.82	4.73	3.63	2.96	5.64	5.60
Public investment/GDP	0.179*	0.167**	0.168*	0.169*	0.146***	0.136***	0.116***	0.117***
	2.62	2.44	2.60	2.06	1.86	1.72	1.75	1.77
F-statistic	4.30	3.73	5.99	5.86	4.44	3.70	9.42	9.32
R-squared	0.237	0.234	0.363	0.363	0.265	0.261	0.493	0.495
No. of observations	105	105	70	70	81	81	54	54

Notes: \*, \*\* and \*\*\* indicate statistical significance at the 1 percent, 5 percent and 10 percent levels respectively. The above models were estimated with an intercept and also controlled for initial per capita income, civil liberty, and time periods under consideration. In the 2SLS specification, private investment ratio has been instrumented using lagged private investment, public investment ratio, civility liberty, initial per capita income, and time dummy variables as instruments.

**Table 4. Effects of Private Investment Ratio on Structural Transformation Indicators in Africa**

Estimation technique: 2SLS Dependent variable: <i>Manufacturing-to-Agric Value Added</i>								
	All African Countries, irrespective of income status				Low Income Countries in Africa			
	1990-2004		1995-2004		1990-2004		1995-2004	
	Coef	t-value	Coef	t-value	Coef	t-value	Coef	t-value
Private investment /GDP	0.081*	3.55	0.077**	2.54	0.053*	3.94	0.053*	2.79
Civil liberty	-0.298*	-3.19	-0.350*	-3.08	-0.134**	-2.27	-0.142***	-1.84
F-statistic	7.07		6.57		6.18		4.45	
R-square	0.223		0.23		0.23		0.178	
No. of observations	99		66		78		52	
Dependent variable: <i>Industry-to-Agric Value Added</i>								
	All African Countries, irrespective of income status				Low Income Countries in Africa			
	1990-2004		1995-2004		1990-2004		1995-2004	
	Coef	t-value	Coef	t-value	Coef	t-value	Coef	t-value
Private Investment/GDP	0.203*	3.66	0.192*	2.60	0.056*	3.23	0.055**	2.41
Civil liberty	-0.989*	-3.87	-1.101*	-3.39	-0.139	-1.65	-0.137	-1.27
F-statistic	8.69		7.07		3.8		2.73	1.58
R-square	0.251		0.236		0.145		0.1	
No. of observations	105		70		81		54	

Notes: \*, \*\* and \*\*\* indicate statistical significance at the 1 percent, and 10 percent levels respectively. Civil liberties/rights as used here follow the definition by Freedom House (2003), which includes the freedom to develop opinions, institutions, and personal autonomy without interference from the state. The ratings are from 1 through 7, with severe liberty restrictions occurring as we approach 7. A country rating of 7 represents virtually no freedom. The above models were estimated with an intercept and also controlled for the time periods under consideration. Private investment has been instrumented.

The impact of private investment on structural transformation indicators (i.e. manufacturing-to-agriculture output, and industry-to-agricultural output) is presented in Table 4. An increase in the private investment ratio raises the manufacturing and industry output ratios. Comparing the "all-African countries" results with those of "low-income countries in Africa", it appears the effects of private investment on these structural transformation measures are relatively lower in "low-income African countries". These differences in impact could be the results of institutional, macroeconomic and other socio-economic bottlenecks, which generally tend to be more pronounced in low-income countries in Africa.

other factors, such as initial per capita income and the degree of civil liberty in African countries. The results show that investment has a positive and statistically significant effect of the growth rate of per capita income in Africa. This finding is consistent with a recent study by Loxley and Sackey (2008). The growth effect of private investment is relatively larger among "low-income countries" in Africa than it is for "all-African" states.

An interesting result is the realisation that the effects of an additional private investment on growth in the recent decade (i.e. 1995-2004) is higher than what occurred during the entire 15 year period under consideration (i.e. 1990-2004). This seems to suggest improvements in private investment outcomes in terms of productivity and efficiency. The result could also be associated with efforts by African governments to improve the private invest-

ment environment. Linking these results to the investment trend displayed in Figure 1, we find that the modest increase in the investment ratio in low-income African countries from about 10 percent in the last 15 years to about 11 percent in the last decade has been associated with an increased positive effect on growth rate in Africa. Both private and public investment effects on growth are robust in the OLS and 2SLS model specifications.

## 5.2 SME growth and investment: Firm-level results

On average, small-sized firms in Africa tend to employ about 10 workers, while medium sized firms employed 49 workers. For the set of countries illustrated in Table 5, middle-income South Africa recorded an above average result. Small-sized and medium-sized firms employed 13 and 53 workers respectively. Among the low income countries in our sample, Kenya recorded the highest average number of workers in the SME group. Mali had the lowest.

Compared to large-sized firms, the employment shares of SMEs in total manufacturing sector employment are relatively low. The small-sized firm share of manufacturing employment ranges from 0.4 percent in South Africa to 10.7 percent in Mali. In the case of medium-sized firms, the employment share is from 6.6 percent in South Africa to 25.9 percent in Senegal. Thus, from a country-specific perspective, SMEs share of manufacturing sector employment is about 17 percent in Kenya, 24 percent in Tanzania, 25 percent in Uganda, 32 percent in Senegal, 36 percent in Mali, and seven percent in South Africa. Excluding South Africa, SME's share of manufacturing sector employment is 23 percent for the remaining five countries put together.

It is important to point out that these employment shares are sensitive to the cut-off used to identify SMEs. In our study, the SME threshold is standardised at employment levels of not more than 99 workers. If this threshold is increased, then the share of SMEs in total employment is likely to

**Table 5. Employment Size and Ratios in Africa, by Firm Type, 2001**

	Employment size in manufacturing sector: Average number of workers			Share in Total Manufacturing Sector Employment: (%)		
	Small firms	Medium firms	Large firms	Small-firms	Medium-firms	Large-firms
Kenya	11	49	395	2.5	14.2	83.3
Tanzania	10	48	416	5.4	18.1	76.5
Uganda	9	40	529	6.4	18.7	74.9
Senegal	10	46	342	5.9	25.9	68.2
Mali	9	42	337	10.7	25.2	64.2
South Africa	13	53	654	0.4	6.6	93.0
<i>All Countries</i>	<i>10</i>	<i>49</i>	<i>568</i>	<i>1.6</i>	<i>9.7</i>	<i>88.7</i>

Note: Employment ratios are expressed as shares of average employment in large-sized firms.

Source: Author's calculations based on World Bank's Enterprises Survey data, 2003

**Table 6. Employment Growth Rate Determinants, 2001**

Dependent variable: Employment growth rate in 2001 Estimation technique: OLS								
	All Manufacturing Firms				SMEs in Manufacturing Sector			
	All countries Model 1		South Africa excluded Model 2		All countries Model 3		South Africa excluded Model 4	
	Coef	t-value	Coef	t-value	Coef	t-value	Coef	t-value
<i>Firm characteristics and investment</i>								
Firm's age	-0.114**	-2.04	-0.232**	-2.18	-0.214**	-2.36	-0.288**	-2.20
Log(initial size)	-8.230*	-7.53	-10.046*	-5.75	-9.406*	-6.17	-10.453*	-5.09
New machinery investment in 2000	5.145**	2.18	8.706**	2.13	5.472***	1.81	9.055***	1.95
Small and medium-sized firm	-15.182*	-4.72	-17.436*	-3.11				
<i>Business practices</i>								
Business association member	4.566**	2.00	7.236***	1.85	4.339	1.49	7.087	1.63
E-mail-oriented	9.767*	3.27	9.701**	2.44	11.109*	3.05	10.500**	2.30
<i>Country of operation</i>								
Kenya	-5.128	-1.62	4.527	0.80	-5.145	-1.15	4.550	0.68
Mali	0.381	0.08	7.666	1.21	-0.693	-0.11	8.092	1.14
Senegal	5.471	1.42	14.285*	2.61	6.640	1.34	16.823*	2.67
Tanzania	-8.358**	-2.19	-1.229	-0.22	-8.687***	-1.72	-0.525	-0.08
Uganda	-7.567***	-1.88			-9.165***	-1.80		
<i>Industry</i>								
Garments	6.657	1.65	7.807	1.33	9.498	1.62	10.565	1.44
Food	7.701***	1.74	0.911	0.07	3.527	0.51	1.158	0.07
Constant	37.360*	5.87	34.856*	3.81	26.811*	4.52	18.113*	2.91
F statistic	7.37		5.08			5.97		4.71
R-squared	0.078		0.087			0.085		0.091
<i>No. of manufacturing firms</i>	1153		654			785		532

Note: \*, \*\* and \*\*\* indicate statistical significance at the 1 percent, 5 percent and 10 percent levels respectively. The incidence of "new machinery investment in 2000" is a dummy variable with a value of 1 if the specific firm invested in new machinery in the year 2000, and zero if no new machinery investment occurred in 2000.

increase. For example in a recent study on SMEs, growth and poverty across the world, Beck *et al.* (2003) used a threshold of 250 employees as the cut-off for the definition of SME. Based on this cut-off, they estimated the SME sector's share of employment to be about 21 percent in Burundi, 20 percent in Cameroon, 19 percent in Cote d'Ivoire, 52 percent in Ghana, 33 percent in Kenya, 17 percent in Nigeria, 32 percent in Tanzania, 37 percent in Zambia, and 15 percent in Zimbabwe. We also acknowledge that each country has its own official definition of the SME sector. Using the various definitions would generate different employment shares. Notwithstanding these threshold issues, an important question is: What factors explain the employment growth rates of SMEs? The answer to this question involves estimating a firm-level growth model. The results from this exercise are presented in Table 6.

There is a positive association between investment in new machinery and the growth of firms in Africa. This effect appears to be relatively larger in the models on SMEs (i.e, Models 3 and 4) than in the pooled situation for all manufacturing sector firms (i.e, Models 1 and 2). The results show that both the age and initial size variables are significant and are inversely related to the growth rate of the firm. This finding is consistent with Jovanovic's learning theory<sup>7</sup>, and is in line with previous studies, such as Sleuwaegen and Goedhuys (2002), Ramachandran (1999), and Liedholm *et al.* (1994). The coefficient for the SME dummy variable bears a negative sign, which suggests that in relation to large-sized firms, SMEs operating in the manufacturing sector tend to be associated with relatively lower growth rates. In an earlier study by Collier and Gunning (1999) on why Africa has grown slowly, the authors noted that Africa's manufacturing sector has been in a low-productivity trap. This trap was attributed to the fact that firms were oriented to small domestic markets, and as a result, they were neither able to realise economies of scale nor compete significantly. Arguably, this observation is likely to be very true, particularly of the SME sector due to its relatively small size and market orientation.

Our estimated models in Table 7 predict a net employment probability of 51.6 percent (South Africa inclusive) and 58.9 percent (excluding South Africa) for SMEs in the manufacturing sector. The chi-square measure suggests that the regressions have a reasonable fit. The results indicate that investing firms, relative to non-investing firms, are more likely to be recording net additions to employment. In relation to medium-sized firms, small-sized firms are associated with a lower probability of registering net additions to employment (Models 3 and 4). SMEs currently using faster communication methods in interacting with their clients and suppliers, (in this context the use of e-mail) tend to be associated with an increased probability of having net additions to employment. Such firms are likely to minimise delays in dealing with suppliers and clients, and therefore better placed to experiencing growth in revenue from sales. Such growth is more likely to induce more employment than in a non-growth situation. Of what significance is the investment climate?

### **5.3 Investment climate constraints: SME sector perceptions**

The World Bank (2005, p. 2) notes that: "*A good investment climate drives growth by encouraging investment and higher productivity. Investment underpins economic growth by bringing more inputs to the production process*". The survey

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7. According to Jovanovic (1982) there is a tendency for firms to learn about their efficiency once they get established in their industry. The process of competition in the industry results in less efficient firms leaving the industry. The remaining firms are able to adjust their scale of operation. Consequently, young and small firms, "which are in their initial process of uncovering their own efficiency level, grow faster, and their growth rates are more volatile (Sleuwaegen *et al.*, 2004, p. 119).

**Table 7. Determinants of Net Employment, 2001**

Dependent variable: Incidence of net employment in 2001: (dummy variable: 1=positive net employment; 0 = otherwise) Estimation technique: Probit								
	All Manufacturing Firms				SMEs in Manufacturing Sector			
	All countries Model 1		South Africa excluded Model 2		All countries Model 3		South Africa excluded Model 4	
	Marginal Effect	z-value	Marginal Effect	z-value	Marginal Effect	z-value	Marginal Effect	z-value
<i>Firm characteristics and investment</i>								
Firm's age	-0.002*	-2.97	-0.001	-1.17	-0.002**	-2.10	-0.001	-0.90
New machinery investment in 2000	0.101*	3.00	0.159*	3.45	0.097**	2.49	0.142*	2.82
Small-sized firm	-0.197*	-4.30	-0.167*	-2.91	-0.096**	-2.31	-0.105**	-2.19
Medium-sized firm	-0.099*	-2.74	-0.056	-1.05				
<i>Business practices</i>								
Business association member	0.002	0.08	0.006	0.14	0.017	0.44	0.036	0.73
E-mail-oriented	0.121*	2.74	0.099**	2.18	0.161*	3.25	0.127**	2.49
<i>Country of operation</i>								
Kenya	0.196*	4.61	0.169*	2.74	0.200*	3.52	0.173**	2.45
Mali	0.092	1.38	0.093	1.36	0.132***	1.75	0.110	1.46
Senegal	0.128**	2.47	0.134**	2.27	0.154**	2.55	0.140**	2.12
Tanzania	0.554*	11.28	0.545*	9.91	0.624*	10.30	0.612*	9.43
Uganda	-0.013	-0.21			0.014	0.20		
<i>Industry</i>								
Garments	0.114**	2.03	0.137**	2.21	0.135***	1.72	0.118	1.48
Food	0.068	1.12	0.095	0.70	0.136	1.66	-0.026	-0.15
LR chi2	319.5		275.9		274.9		244.0	
Pseudo R-squared	0.166		0.250		0.213		0.278	
No. of manufacturing firms	1391		808		934		635	
<i>Observed probability</i>	0.508		0.569		0.478		0.531	
<i>Predicted probability</i>	0.537		0.618		0.516		0.589	

Note: \*, \*\* and \*\*\* indicate statistical significance at the 1 percent, 5 percent and 10 percent levels respectively.

instrument designed and administered to private sector firms made provision for firms to rank a set of investment climate variables. The ranks for those firms, which indicated that the respective variables posed some obstacles to their investment activities, were from one to four (with one representing minor obstacle and four, very severe obstacle). In Table 8, we have reported the mean values for these ranks. For SMEs in Tanzania and Uganda, the two most important constraints identified were the cost of financing (e.g, interest rates) and tax rates. In Kenya, the top constraints were cost of financing and corruption. In Senegal and Mali, the SMEs identified cost of financing and access to financing (such as collateral requirements) as the major constraints.

**Table 8. Investment Climate Constraints to SMEs  
 in the Manufacturing Sector in Africa, 2003**

Investment Climate Constraints to Manufacturing Sector SMEs in Africa								
Ranked Mean	Specific Countries						All 6 Countries	
	Kenya	Tan- zania	Uganda	Senegal	Mali	South Africa	All SMEs	Large- sized firms
Telecommunications	2.4	1.9	1.4	1.5	1.7	1.7	1.9	1.9
Electricity	2.6	2.9	2.6	2.3	1.9	1.7	2.4	2.4
Transportation	2.3	2.2	2.0	2.3	1.9	1.8	2.1	2.2
Tax rates	3.1	<b>3.1</b>	<b>2.8</b>	2.7	2.6	2.1	2.7	2.4
Tax administration	2.8	2.8	2.4	2.5	2.5	1.9	2.5	2.3
Customs & trade regulations	2.5	2.4	2.4	2.5	2.3	2.0	2.3	2.3
Workers skills and education	2.2	2.3	2.4	2.1	2.3	<b>2.5</b>	2.3	2.5
Business licensing & operating permits	2.0	2.2	1.6	1.7	2.3	1.7	1.9	1.7
Access to financing (e.g. collateral)	2.8	2.9	2.7	<b>3.0</b>	<b>3.0</b>	2.2	2.7	2.2
Cost of financing (e.g. interest rates)	<b>3.2</b>	<b>3.0</b>	<b>2.9</b>	<b>3.2</b>	<b>3.0</b>	2.1	<b>2.9</b>	2.4
Economic & regulatory policy uncertainty	2.8	2.3	2.2	2.4	2.5	2.0	2.4	2.3
Macro instability	2.7	2.6	2.7	2.3	2.1	2.2	2.5	<b>2.6</b>
Corruption	<b>3.2</b>	2.9	2.7	2.6	2.8	2.1	2.7	2.5
Crime, theft and disorder	3.0	2.2	2.2	2.0	2.0	2.2	2.4	2.4

*Ranked as follows: 1=minor obstacle; 2=moderate obstacle; 3=major obstacle; 4=very severe obstacle*

Source: Author's calculations based on World Bank's Enterprises Survey data, 2003

In South Africa, the major constraints confronting SMEs were labour relations and workers production capabilities as reflected in their skills levels.

In the pooled situation for all SMEs in our sample, it appears that the cost of financing is the most significant limitation on their ability to invest. Other highly rated constraints for all SMEs were tax rates, access to financing, corruption, macroeconomic instability and tax administration. The least ranked investment constraints facing SMEs were found to be telecommunications and business licensing and operating permits. In the case of large-sized firms in Africa, however, it appears the major obstacle to investment is macroeconomic instability. Investment is a forward looking activity and if the envisaged risks associated with it are high (such as occurs in a highly unstable macroeconomic environment), then the willingness to invest is likely to wane. Government policy could be used to encourage SMEs in Africa.<sup>8</sup>

8. According to Jasinski and Ross (1999), policies for assisting SMEs are an important method for stimulating competition in an economy undergoing transformation. Four areas that government could use its policy to influence are financing, improvement of business environment, development of management techniques, and accessibility to markets.

**Table 9. Sources of Finance for New Investments  
 in SMEs in Africa, 2002**

Sources of finance for new investments								
	Country-Specific Small and Medium-Sized Enterprises in the Manufacturing Sector						All 6 Countries	
	Kenya	Tan- zania	Uganda	Senegal	Mali	South Africa	All SMEs	Large firms
Internal funds or retained earnings	50.8	74.4	76.3	68.9	81.1	58.1	64.7	57.8
Local commercial banks	33.7	13.4	10.6	18.7	13.6	14.2	17.3	18.8
Foreign owned commercial banks	1.8	1.4	0.0	0.0	0.3	0.9	0.8	1.6
Leasing arrangement	0.0	0.0	2.9	0.5	0.0	18.7	7.4	9.5
Special development financing	0.7	0.9	1.0	1.2	1.7	0.4	0.8	1.1
Trade credit	4.6	1.2	0.0	1.6	0.0	0.9	1.4	1.3
Credit cards	0.2	0.0	0.0	0.0	0.0	0.1	0.1	0.3
Equity, sale of stock	0.6	2.1	1.2	0.0	0.0	0.2	0.5	0.5
Family, friends	1.9	3.2	1.6	4.4	3.3	1.0	2.2	0.6
Informal sources (e.g., money lender)	0.0	2.2	1.1	0.0	0.0	0.0	0.4	0.8
Other finance	5.7	1.2	5.4	4.7	0.0	5.6	4.5	7.6
<i>Total</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>
No. of manufacturing firms	106	81	83	110	60	265	705	368

Source: Author's calculations based on World Bank's Enterprises Survey data, 2003

By far, internal funds or retained earnings are the major source of finance for new investments by SMEs in Africa, as shown in Table 9. As a source of new investment finance, the contribution of internal funds is about 51 percent in Kenya, 58 percent in South Africa, 69 percent in Senegal, 74 percent in Tanzania, 76 percent in Uganda, and 81 percent in Mali. The availability of retained earnings for investment depends on realised profits, which in turn depends on firm revenues, costs of production, and applicable tax rates. If firms have nothing to plough back, new investments are likely to be stifled and this could halt the growth process of SMEs. It has been argued by various authors such as Whittington, that "higher profits provide both the means (greater availability of finance from retained profits or from the capital market) and the incentive (a high rate of return) for new investment" (Whittington 1980, p. 335-336). Even though the empirical evidence on the linkage between profitability and firm growth is somewhat ambiguous (Hardwick and Adams 2002), it could be argued that given the limited contribution of financial resources from local commercial banks to investment financing (17.3 percent), profitability matters for SMEs growth in Africa.

## 6. Conclusion

This study examined the role of private investment in the growth and transformation process in Africa. An integral aspect of the study involved the examination of the role of SMEs. The results from the trend analysis show that private investment rates have increased modestly in recent times. At the same time, per capita income growth has moved from negative to positive. The empirical growth and structural transformation models suggest private investment exerts a positive and statistically significant impact on both outcomes (i.e. per capita income growth and structural transformation).

The importance of SMEs in Africa's growth and transformation process can be viewed from various angles. In terms of frequency, SMEs form about 82 percent of private sector firms in low-income Africa, and 79 percent of firms in middle-income African countries. Though the average employment levels are relatively low compared to what prevails in large-sized firms, the SME sector's share of total manufacturing sector employment is not negligible. Depending on specific country considerations, the SME sector's share of total employment could be anything from about 20 percent to 36 percent. These shares of employment imply that growth in the SME sector could help enlarge the share of industry in national output, employment, and income. Given the fact that about one-third of employees in the SME sector are unskilled production workers, growth of SMEs could have favourable impacts on the distribution of income in the respective countries.

SMEs could also be seen as building blocks in the growth and structural transformation process in Africa. Our study suggests a positive impact of investment on two measures of firm performance (i.e. employment growth rate in SMEs and net employment). This seems to suggest that investing firms are on a growth path. Though our study did not test for feedback effects of growth on the decisions to invest, it suffices to mention that the two variables go together. Consequently, policy measures tailored towards encouraging start-up SMEs and growth of existing SMEs could as well be working for national growth and development.

In the light of the finding that almost all SMEs are located in urban areas, a major policy challenge is how to encourage rural-based SMEs. The problem is even bigger when viewed against the fact that infrastructure issues are also a source of concern for firms located in urban areas. The perception of SMEs on investment climate constraints needs to be integrated into policy strategies being mapped out to encourage private sector performance. For SMEs, tax breaks, training assistance, and exposure to technology would be good incentives to encourage their birth and growth. The need to diversify production is important, and the role of SMEs in this regard, no matter how small it is, cannot be overlooked.

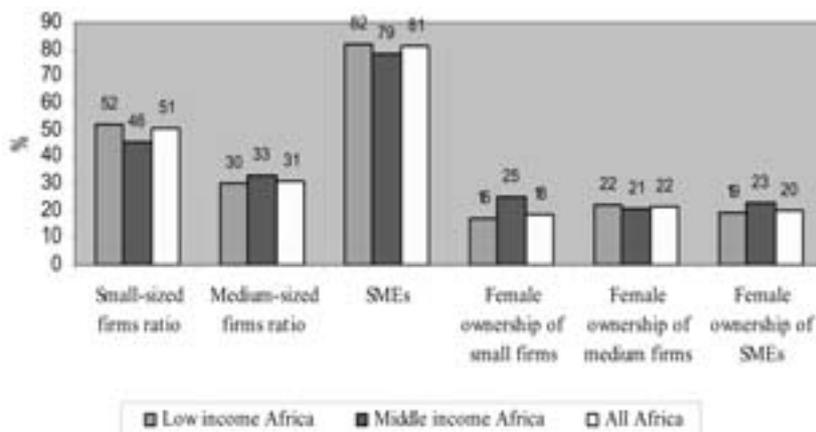
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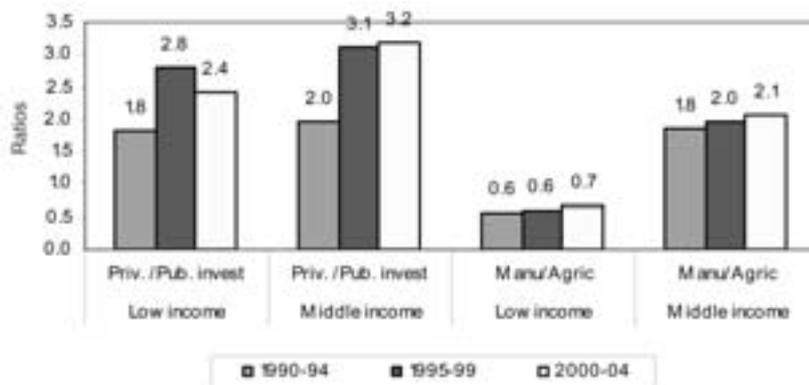
Appendix

**Figure A1. SMEs in the Private Formal Sector and Female Ownership in Africa: 2002-06**



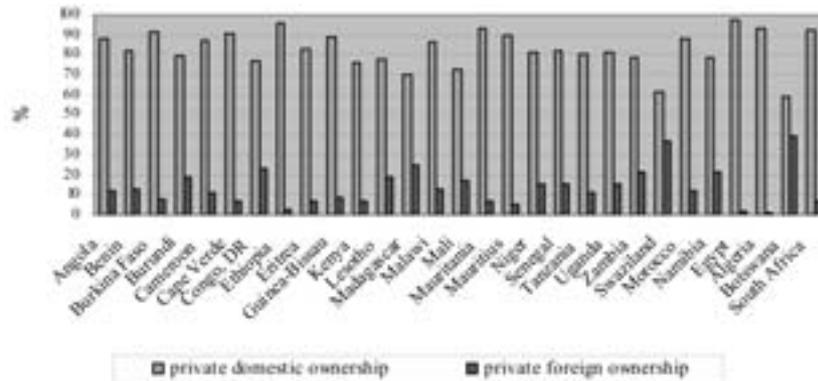
Source: Author's calculations based on the World Bank's Enterprise Survey data, 2002-2006.

**Figure A2. Investment and Production Ratios in Africa: 1990-2004**



Note: Low income Africa is made up of 36 African countries. Middle income Africa is made up of seven countries. Source: Author's calculations based on data from World Bank's Africa Development Indicators, 2006.

**Figure A3. Incidence of Private Sector Ownership of SMEs in Africa: 2002-06**



Source: Author's calculations based on the World Bank's Enterprise Survey data, 2002-2006.

**Table A1**

Manufacturing Sector SMEs Indicating Selected Investment Climate Variables Posed No Problems to their Operations								
Percentage of Firms	Specific Countries						All 6 Countries	
	Kenya	Tan-zania	Uganda	Senegal	Mali	South Africa	All SMEs	Large-sized firms
Telecommunications	16.9	42.6	56.1	78.9	56.8	73.6	55.4	52.6
Electricity	15.1	8.8	15.4	28.5	35.1	66.9	34.0	37.9
Transportation	20.9	31.1	27.6	29.3	40.5	60.9	38.8	38.6
Tax rates	10.5	5.4	8.9	18.7	18.9	38.8	20.2	25.1
Tax administration	15.1	9.5	17.1	9.8	27.0	51.2	26.2	39.8
Customs & Trade Regulations	24.4	33.8	22.8	21.1	43.2	55.5	36.6	29.4
Workers skills and education	26.2	35.8	33.3	31.7	47.3	32.1	32.9	22.7
Business licensing & operating permits	36.6	29.1	51.2	51.2	73.0	77.6	55.2	55.7
Access to financing (e.g. collateral)	20.3	23.6	16.3	11.4	13.5	54.2	29.4	50.7
Cost of financing (e.g. interest rates)	6.4	18.9	9.8	8.1	13.5	44.5	21.7	32.7
Economic & regulatory policy uncertainty	13.4	21.6	26.0	22.8	43.2	49.8	31.5	30.1
Macro instability	9.9	13.5	13.0	26.0	40.5	37.1	24.1	18.0
Corruption	7.0	14.2	29.3	26.0	14.9	47.8	27.2	32.9
Crime, theft and disorder	5.8	25.0	34.1	42.3	41.9	26.8	26.8	18.7
No. of manufacturing firms	172	148	123	123	74	299	939	422

Source: Author's calculations based on the World Bank's Enterprise Survey data, 2003.