



Africa Private Sector Group, World Bank Dept. Of Trade And Industry, Rsa



Citizen Surveys

# **SOUTH AFRICA: AN ASSESSMENT OF THE INVESTMENT CLIMATE**

**GEORGE R.G. CLARKE**

**BENN EIFERT**

**JAMES HABYARIMANA**

**MIKE INGRAM**

**WASHEELAH KAPERY**

**DAVID KAPLAN**

**MATTHEW SCHWARTZ**

**VIJAYA RAMACHANDRAN**

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## EXECUTIVE SUMMARY

**The objective of the South Africa Investment Climate Assessment (ICA) is to evaluate the investment climate in South Africa in all its operational dimensions and promote policies to strengthen the private sector.** The investment climate is made up of the many location-specific factors that shape the opportunities and incentives for firms to invest productively, create jobs, and expand. These factors include macroeconomic and regulatory policies; the security of property rights and the rule of law; and the quality of supporting institutions such as physical and financial infrastructure.

The main source of information for the ICA is a survey of over 800 formal private enterprises. The survey includes data on the firm productivity, the cost of doing business, the regulatory environment, the labor market, the financial sector, the trade regime and levels of investment. In the analysis, we link business environment constraints to firm-level costs and productivity. Because Investment Climate Surveys have already been completed in over 70 low and middle income countries, we are able to benchmark firm performance and the quality of the Investment Climate in South Africa with other countries around the world. For the purpose of this study, we focus on two relatively productive countries in Sub-Saharan Africa, Senegal and Kenya; four middle-income countries from outside of the region, Malaysia, Brazil, Poland and Lithuania; and China, one of the fastest growing countries in the world.

In addition to the firm-level data from the survey, the ICA also draws upon additional sources of information including other data sources from within the World Bank, such as the Doing Business Indicators, and existing work by the World Bank and other international organizations, the Government of South Africa, and academic research.

### I. THE SURVEY.

The Investment Climate Survey (ICS) was conducted by Citizen Surveys, a private South African Firm based in Cape Town. About 800 firms were surveyed between January and December 2004. About 75 percent (603) of the sample were in the manufacturing sector, 14 percent in the construction industry and the remaining 11 percent in wholesale and retail trade. Within these broad sectors, firms were randomly selected from lists of firms registered with the Department of Trade and Industry (i.e. only formal registered enterprises are included in the sample). Although the samples should be broadly representative of formal firms within each sector, they are not representative of the entire economy. Because of this, and because the samples for comparator countries only cover manufacturing, data from the three sectors are presented separately in the main report.

The sample included firms from major metropolitan areas in Gauteng (about 63 percent of the sample), Western Cape (23 percent), KwaZulu-Natal (9 percent), and Eastern Cape (5 percent). The sample was mainly composed of small (10-49 employees), medium (50-99 employees) and large (100-499 employees) enterprises, although about 14 percent of the sample were very large (over 500 employees). There were few microenterprises (fewer than 10 employees) in the sample, especially in the manufacturing sector. A follow-up survey of

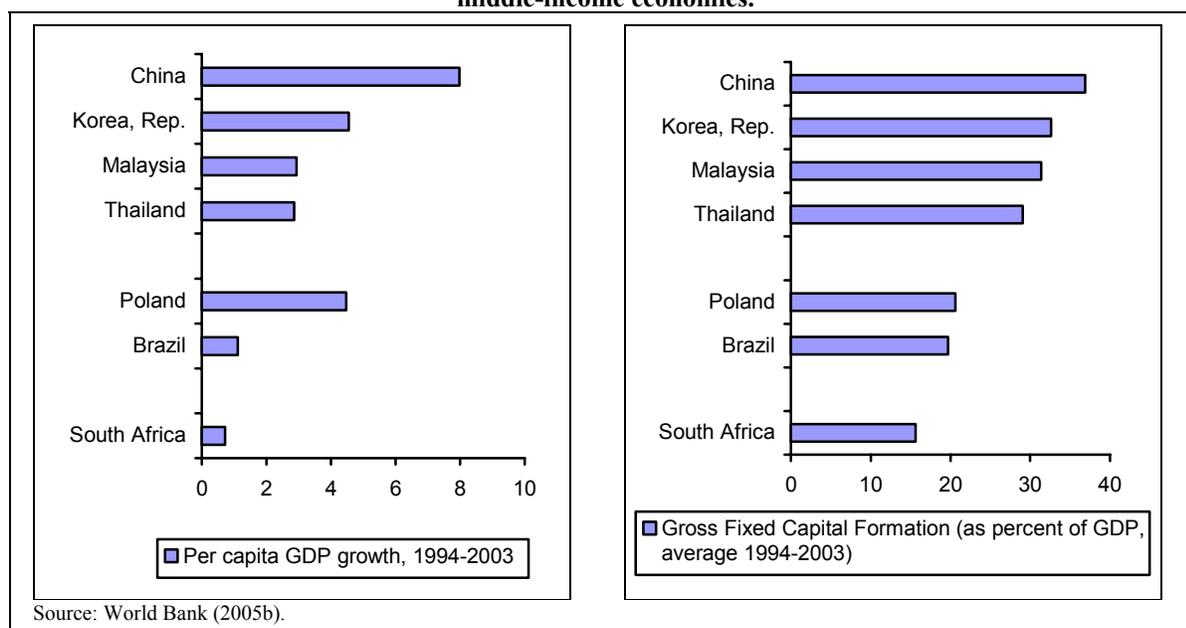
informal and microenterprises is being completed that will allow us to look at investment climate constraints on these enterprises.

Most firms were owned either by corporations (i.e., other firms) or Caucasian/European individuals and families. Only 5 percent of firms were owned by African or colored individuals or families. The small number of African-owned firms, however, appears to reflect the distribution of formal firms. Previous studies have also found relatively few African owned firms in these size classes. For example, in a survey of enterprises in Johannesburg in 1999, whereas 97 percent of informal micro-enterprises were black-owned, only 7 percent of formal micro, small and medium-scale enterprises were.<sup>1</sup> This pattern appears to have persisted through 2004.

## II. MACROECONOMIC BACKGROUND

Since the transition to democracy, South Africa's macroeconomic performance has been solid but not spectacular. Between 1994 and 2003, annual GDP growth averaged about 2.9 percent, while annual per capita GDP growth averaged just less than 1 percent. While GDP growth has fluctuated over this period, it has neither declined nor exceeded 4.5 percent in any calendar year since 1993. In this respect, South Africa appears locked into a path of sustained but moderate growth.

**Figure 1: Growth and Investment have been lower in South Africa than in the best performing middle-income economies.**



Although South Africa's economy has grown, its growth has been modest when compared to the comparator countries outside of Africa (see Figure 1). Over the past decade per capita growth has been over three times faster in Thailand and Malaysia than in South Africa—

<sup>1</sup> Chandra and others (2001a, 2002)

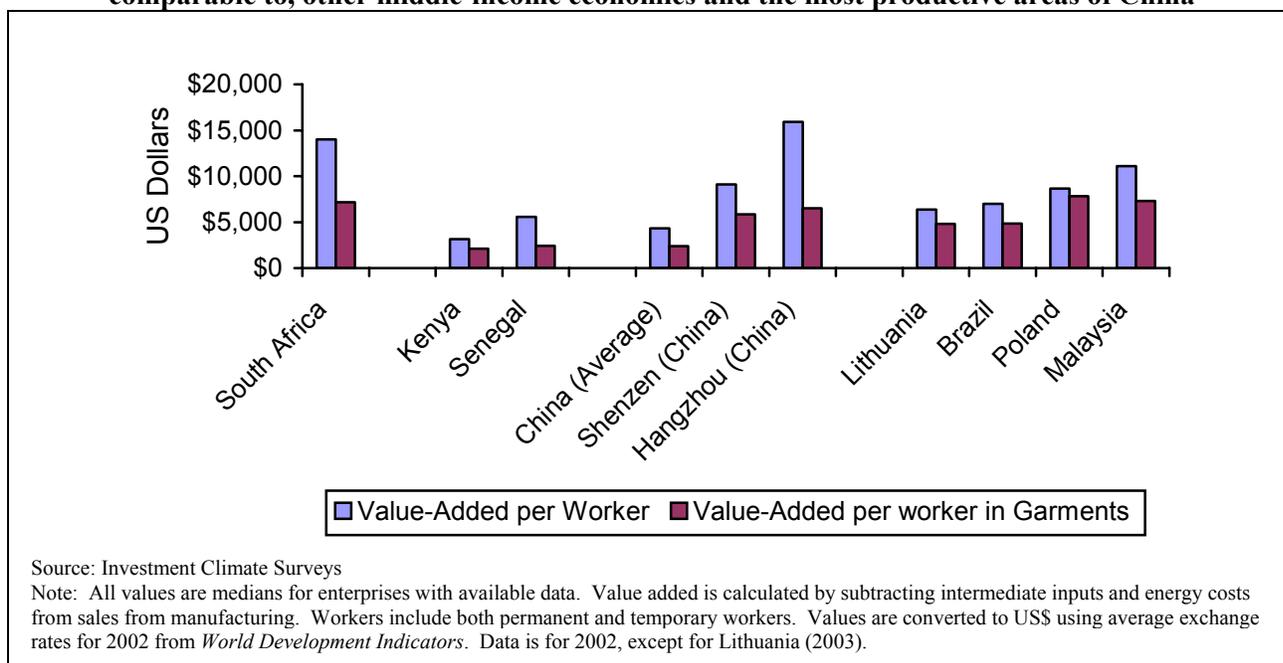
despite the Asian crisis in the mid-1990s when GDP dropped by close to 10 percent in these countries—and has been close to ten times faster in China. Given the challenges that South Africa will face in the coming years, and the high level of unemployment in the country, faster growth is vital.

Investment has also been low, with total investment remaining in a narrow band between about 15 percent and 16 percent of GDP.<sup>2</sup> This is lower than the government’s “unofficial” target of 25%, lower than in the middle-income comparator countries (Brazil and Poland), and far lower than in the fast growing Asian economies (see Figure 1). In part this reflects low public sector investment. But private investment, at about 12 percent of GDP, has also been low.

### III. FIRM PERFORMANCE

Despite South Africa’s only modestly successful macroeconomic performance, labor productivity is high. In 2002, value added was US\$14,000 per worker for the median formal firm in the Investment Climate Survey. This is far higher than in even the most productive countries elsewhere in Sub-Saharan Africa and compares well even with other middle-income countries such as Lithuania, Brazil, Poland and Malaysia—all of whom except Brazil have higher per capita income than South Africa. Productivity is also higher than in the fast growing economy of China—although is slightly lower than in the most productive areas of that country.

**Figure 2**  
**Labor productivity is higher in South Africa than elsewhere in Africa and is higher than, or comparable to, other middle-income economies and the most productive areas of China**



<sup>2</sup> Data from South African Reserve Bank download facility Time Series KBP6282J

Part of the reason for South Africa's high productivity appears to be that South African enterprises are concentrated in relatively capital intensive industries. Over the 1980s and 1990s, South African manufacturing became increasingly capital intensive due both to firms adopting capital intensive production methods and an expansion of firms in capital intensive sectors. Because labor productivity is higher in capital intensive sectors, this could explain why labor productivity appears higher in South Africa than in other countries. To partially control for this, we also look at labor productivity in a single industry—the garment industry. South African firms also appear relatively productive in this sector, although the differences are less noticeable than they are for manufacturing overall. Labor productivity in this sector remains higher than in other countries in Sub-Saharan Africa, China, Lithuania, and Brazil, but is slightly lower than in Malaysia or Poland.

Other evidence also suggests that enterprises in South Africa are relatively capital intensive. Firms have about twice as much capital per worker (about \$3500 per worker) as firms in Lithuania, Brazil, and in the most productive areas of China. Malaysian and Polish firms had slightly more capital per worker, although the weak Rand in 2002 might lead us to underestimate the amount of capital per worker in South Africa.

Per worker labor costs in South Africa, about \$7300 per worker in 2002, are high compared to other countries. In comparison, per worker labor costs were equal to about \$2000 per worker in the most productive areas of China, about \$2700 per worker in Brazil and Lithuania and about \$4000 per worker in Malaysia and Poland. Despite South Africa's relatively high labor productivity, high labor costs mean that unit labor costs (labor costs as percent of value-added) are higher in South Africa than in most of the comparator countries except for those in Eastern Europe.

Despite the highly capital intensive production and high labor costs, labor productivity is high enough to ensure that existing firms are relatively profitable. Profitability (profits over sales) was higher than in Poland, Lithuania, or Malaysia, but lower than in Brazil. At the firm level, profitability is associated with better performance—firms that are more productive and have lower costs will be more profitable than other firms. But at an economy level, high profitability can also suggest a lack of competition—when markets are competitive and entry is possible, profits will typically be competed away.

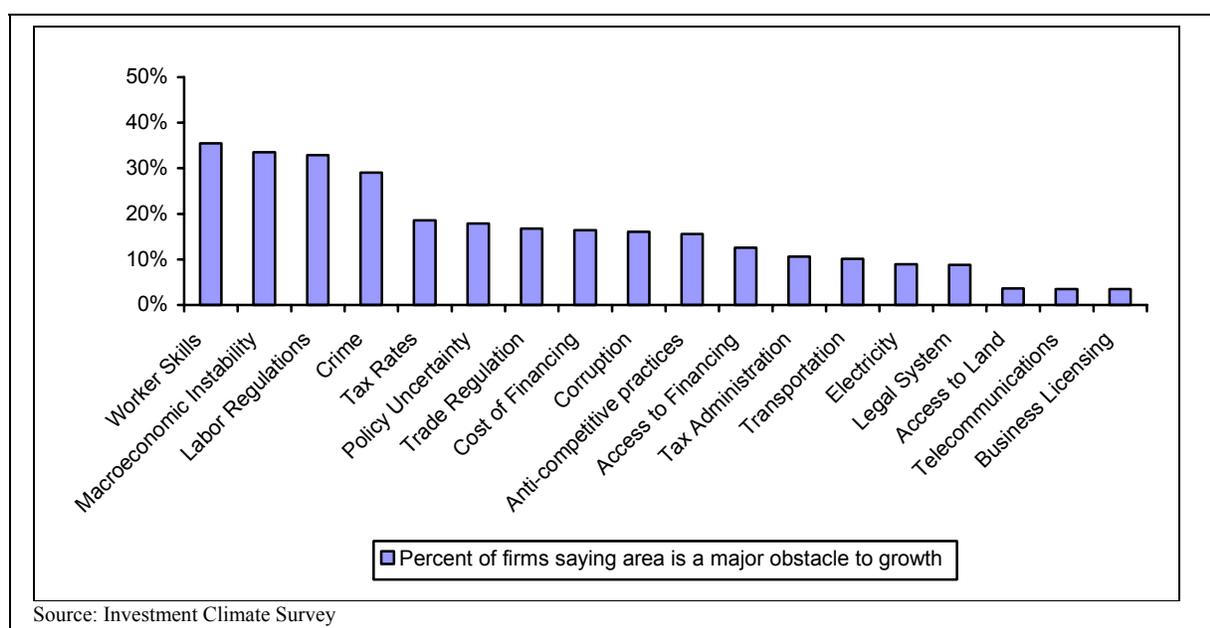
#### **IV. THE INVESTMENT CLIMATE**

As a first cut for assessing investment climate problems, the Investment Climate Survey (ICS) asks firms to rate various areas of the investment climate and to say how serious an obstacle they are to enterprise operations and growth. Although perception-based measures suffer from several problems—it is difficult to compare them across countries; it is difficult to quantify and aggregate perception-based data across firms; managers might not be aware of the underlying causes of a specific constraint; and managers of existing enterprises might have different views than potential entrepreneurs would—enterprise managers probably have a reasonable grasp of the immediate problems facing their businesses. Thus, the perception-based indices provide a useful starting point for the analysis—one that we supplement with objective measures of the investment climate throughout the report.

The investment climate assessment asks enterprise managers to rate how great an obstacle various areas of the investment climate were to their enterprise's operations and growth. For each area, we calculate the percent of firms that rated each area as a very severe or major obstacle. Results from this analysis are shown in Figure 3.

One interesting feature of the South African data is that relatively few firms rated the constraints as major or very severe obstacles. Only about 35 percent of firms rated the biggest constraint, worker skills, as a serious problem and most obstacles were rated as a serious concern by less than one in five enterprises. This is far lower than in most countries. For example, close to 85 percent of firms in Brazil said that tax rates were a major problem and 74 percent of firms in Kenya said corruption was a major problem. Although it is difficult to compare perception-based measures across countries, this suggests that enterprise managers are not overly concerned about any area of the investment climate.

**Figure 3: Worker skills, macroeconomic instability, labor regulation and crime are firms' biggest concerns in South Africa.**



Another feature of the data is that four areas of the investment climate: worker skills, macroeconomic instability, labor regulations and crime, stand out as particular problems. Between 29 and 35 percent of enterprises rated each of these areas as major problems, compared to less than 20 percent for all other areas.

There are few noticeable differences between types of firms when firms are broken down by ownership, export status, foreign participation, province or sector. The most noticeable differences are that exporters were far more concerned about macroeconomic stability than other firms and that African-owned firms were far more concerned about access to and the cost of financing than other firms.

## IV.1 Worker skills

Enterprise managers were more likely to say that worker skills were a serious obstacle to their enterprises' operations and growth than any other area of the investment climate. Consistent with the perception-based indices, additional questions on the investment climate survey suggest that firms find it difficult to attract skilled workers.

One notable piece of evidence is the high premium that firms appear to pay for skilled and educated workers. Econometric analysis of individual workers' wages suggests that returns from schooling are very high. Controlling for other factors, an additional year of education is associated with an 11-12 percent increase in wages. In comparison, returns for an additional year of education tend to be on the order of 5 to 7 percent in developed economies.

Another piece of evidence is that wages appear to be relatively higher for managers and skilled workers in South Africa than wages for unskilled workers are. The median monthly wage for an unskilled production worker in South Africa in 2002 was about \$240 per month. In comparison, an unskilled worker in Poland earns about \$250 per month and an unskilled worker in Brazil earns about \$167 per month. The median monthly wage for a manager in South Africa is about \$1850 per month—over twice as high as in Poland (\$740 per month) and over three times as high as in Brazil (\$540 per month). The earlier evidence suggesting that wages are high in South Africa appears to mainly be due to high wages for managers and professionals—not high wages at the bottom of the income distribution.

Despite the concerns about worker skills, relatively few enterprises had training programs. According to the firms' manager, between 70 and 80 percent of skilled workers in China, Poland and Brazil received training compared to fewer than half in South Africa. Interviews with firm employees suggested that training was even less common—more than 80 percent of workers in South Africa reported that they had not received any formal training.

There is also only mixed evidence that training is successful. Workers that had been trained reported that their wages were 30 percent higher than workers that had not received any training. To the extent that the higher wages reflect that trained workers are more productive, this might suggest that there is a high return to training—at least for the workers.

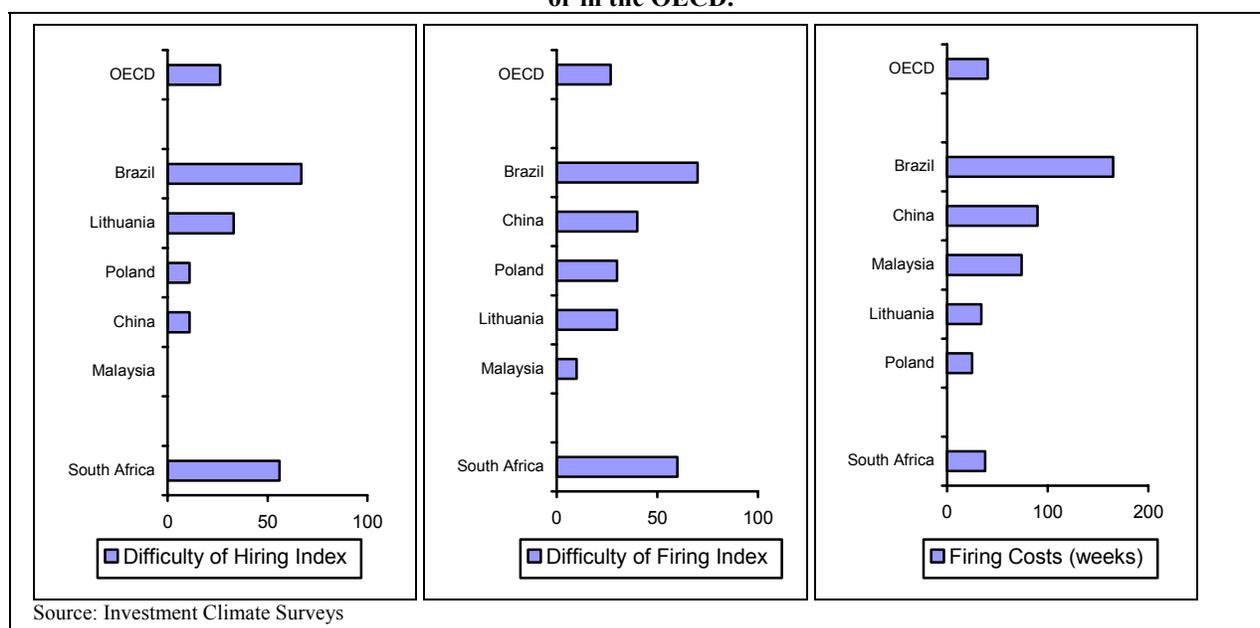
But this is not the only possible reason why wages might be higher for trained workers. It is also possible that managers select the most productive workers to receive training—either because they think these workers will benefit more from training or because they use training to reward their best workers. Other evidence is consistent with this second explanation—firms that have training programs do not appear to be more productive than firms that do not.

Overall these results suggest that government programs designed to encourage training (e.g., SETA) have not been successful. Fewer firms have training programs than in other middle income countries and there is only mixed evidence that training successfully increases worker productivity.

## IV.2 Labor Regulation

Although the Investment Climate Survey asks detailed questions related to labor costs and worker skills, it includes few objective indicators of labor regulation. Because of this, the information in the survey is supplemented with information from the *Doing Business* database, which is maintained by the World Bank. The *Doing Business* database includes several indices that measure the rigidity of hiring and firing regulations and the cost of firing.<sup>3</sup> Consistent with the perception based indices, labor regulation in South Africa is more rigid than in most of the comparator countries on both the hiring and firing indices. That is, it is more costly and more difficult to hire and fire workers in South Africa than in most of the comparator countries or than in most OECD economies. On one particular measure, the cost of firing an individual in weeks of wages, South Africa performs better. The cost in South Africa is 38 weeks, lower than the average for the OECD and several of the comparator countries.

**Figure 4: Labor Regulations are stricter in South Africa than in the best performing comparator countries or in the OECD.**



## IV.3 Macroeconomic Instability

Macroeconomic instability was rated as a serious obstacle to enterprise operations and growth by about 33 percent of South African firms—making it the second greatest constraint asked about in the Investment Climate Survey. This might seem puzzling given that growth has been positive for over a decade and inflation has been modest.

Exchange rates, however, have been very unstable—especially against the U.S. dollar. Between 2000 and 2002, the Rand depreciated against most major currencies, falling by about 27

<sup>3</sup> World Bank (2004d). Note that calculation errors in an earlier version of the *Doing Business* data base and a change in methodology resulted in South Africa being misclassified in early versions of the database. These errors have been corrected in the most recent publications.

percent against the US dollar, 26 percent against the British Pound and 28 percent against the Euro in real terms. It then appreciated rapidly over the next two years, especially against the US dollar. Between 2002 and 2004, it appreciated 29 percent against the Euro, 35 percent against the British Pound and 67 percent against the US dollar in real terms.

Consistent with the idea that exchange rate instability is driving the negative perceptions about the macroeconomic instability, exporters were far more concerned about it than non-exporters. Whereas 28 percent of non-exporters rated macroeconomic instability as a major or very severe problem, 44 percent of exporters did the same. Since many South African manufacturing firms appear to be price takers on international markets, changes in the exchange rate can have a serious impact of enterprise revenues. Moreover, close to three-quarters of exporters to the United States—the country whose currency against which the rand has been most unstable—saw macro instability as a major concern. These results strongly suggest that exchange rate instability is the main concern in the area of macroeconomic instability.

#### **IV.4 Crime**

Although violent crime rates, especially for murder, have declined modestly over the past decade, other crimes—particularly property crimes—have been increasing (Leggett, 2003). Between 1994 and 2000, common robbery increased by 168 percent and aggravated robbery increased by 31 percent (Altbeker, 2001). About 44 percent of Africans and 58 percent of whites cited crime as the most serious problem facing South Africa in the mid-1990s (NEDCOR, 1996).

The evidence from the Investment Climate Survey suggests that crime is also a serious concern for business. The median firm reported that the direct losses due to crime and the cost of security were equal to about 1.1 percent of sales. This is higher than in many middle-income countries—median costs were less than 1 percent of sales in China, Poland, Brazil and even Russia. But it is lower than in the very worst countries—median costs were equal to about 2 percent of sales in Honduras and Guatemala, about 4 percent of sales in Nicaragua and about 5 percent of sales in Ecuador.

Security costs account for about two-thirds of the cost of crime, while direct losses account for the additional third. In contrast to many middle income countries in Eastern Europe and Asia, protection payments to organized crime were very low.

The burden of crime is not evenly distributed across firms. In general, manufacturing firms faced fewer losses than firms involved in retail and wholesale trade or construction. Large firms also tended to face higher losses than smaller firms. After controlling for other factors, firms in Durban faced the heaviest losses, while firms in Johannesburg faced relatively modest losses.

#### **IV.5 Finance**

Enterprise managers often see access to and the cost of financing as serious obstacles to their enterprise operations and growth. This is especially true in Sub-Saharan Africa, where access and cost of financing typically rank among the top five constraints. In contrast, firms in South Africa were generally far less concerned about access to and the cost of financing—fewer

than 20 percent rated either as a major or very severe obstacle, placing them at eighth and eleventh of eighteen constraints.

Objective data generally support the perception-based data—particularly with respect to the cost of financing. The real interest rates that firms report paying for their most recent loan was lower than in most of the comparator countries for which data were available.

Although the formal firms in the Investment Climate Survey were relatively unconcerned about access to financing, there was less objective evidence that they are awash with bank credit. Firms financed less investment through banks than firms in most of the comparator countries (e.g., China, Kenya, Senegal, and Poland) and fewer firms had overdraft facilities than in either Brazil or Kenya. Moreover, South African firms rely heavily on retained earnings to finance both investment and working capital.

Why do South African firms rely so little on external sources to finance investment? The main reason appears to be that firms have little demand for external credit—not that supply is limited. Most firms that did not have loans reported that they did not want or need a loan and very few firms had been rejected for a loan.

As noted earlier, African owned firms were far more concerned about access to credit and the cost of financing than European/Caucasian owned firms. This remains true even after controlling for other observable differences that might affect perceptions about access to financing such as enterprise size, sector of operation, and age.

The objective measures of financing provide some support for the idea that access to credit is more difficult for African-owned firms. African owned firms were less likely to have ever applied for a loan, were less likely to have a loan, were less likely to have an overdraft facility, were more likely to have been rejected for a loan, and paid higher interest rates on their loans.

Although this might suggest discrimination, it is important to keep some provisos in mind. First, although the differences suggest discrimination, they were never statistically significant (i.e., they could be due to random sample variation) and were often quite modest. Second, even if differences do exist, they could be due to unobservable differences between firms such as the availability of collateral or the business experience of the firms' management teams.

## **IV.6 AIDS**

In addition to being a catastrophe in terms of lost lives and health, HIV/AIDS also undermines economic development. Indeed, the International Monetary Fund identifies HIV/AIDS as one of the two main potential constraints on future growth in South Africa.

Firms were asked to evaluate the impact of the HIV epidemic on various measures of firm performance. In general, firms were only moderately concerned about the immediate impact of the epidemic. Only about 6 percent of firms reported that the epidemic was having a strong impact on labor productivity and only 4 percent reported a strong impact on profits. The

greatest immediate impact appeared to be on employee absenteeism, with close to one-quarter of firms estimating that the epidemic increased absenteeism by more than 5 percent.

In contrast, firms do appear to be concerned about the medium-term impact of the epidemic; about 45 percent reported that the epidemic had a strong impact on firm investment. This is potentially driven by the increased uncertainty about the future impact that the epidemic will have on productivity, market size, and profitability.

The survey results also suggest that workers are aware of the problem. Close to two-thirds of workers reported that they were concerned about it and close to ninety-five percent reported that they knew where they could get tested. Despite the high level of awareness, only half reported that they were willing to be tested. This probably reflects concern about stigma and potentially about the availability or cost of comprehensive treatment programs, whether public or private.

#### **IV.7 Competition**

Previous work has suggested that the South African economy is highly concentrated and that there are high barriers to entry for both domestic and foreign firms. Consistent with this, as noted earlier, firms in South Africa appear to be relatively profitable, despite high wages. High observed wages could also be consistent with the observation that the market is highly concentrated if managers, owners and workers share the rents created by low levels of competition. Unfortunately, it is difficult to assess the importance of competition directly using firm-level data—firms rarely complain about a lack of competition in any country and it is difficult to ask objective questions to assess the state of competition.

#### **IV.8 Other Areas of the Investment Climate**

Firms had few complaints about most other areas of the investment climate. Few firms rated infrastructure, regulation, taxation, corruption or the court system as serious obstacles. The objective indicators are generally consistent with these perception-based measures. Most firms believe that courts are able to enforce property rights and court cases appear to be resolved relatively quickly. Losses due to power outages are modest and the cost of power is low by international standards. Tax rates are low and have been declining over time. Although the burden of regulation is not particularly low, it is lower than in most countries in Africa and is comparable to most middle income countries. Few firms report paying bribes to obtain services or win government contracts. In summary, the objective indicators are consistent with firm perceptions—on most other areas of the investment climate, South Africa appears to perform relatively well.

### **V. SUMMARY**

Why has investment and growth been low over the past decade? As discussed in detail in the report, firm productivity is relatively high and objective indicators show that the investment climate is mostly favorable—power is cheap and relatively reliable, the burden of regulation is not excessive, corruption is low, the ports function relatively well, access to finance does not seem to be a major problem for most enterprises, and most people trust the court system. The

puzzle simply stated is the following—if firms are relatively productive and the investment climate is favorable, why has private investment been so modest?

The analysis suggests several possible answers to this question. One factor is that although most areas of the investment climate are favorable, some are not. The exchange rate has been very unstable (chapter 1), which is especially problematic for exporters; the cost of labor is high, especially for skilled workers (chapter 3); labor regulation is burdensome (chapter 3); and the cost of crime is high (chapter 5). All these factors discourage investment, despite the generally favorable climate in other areas.

Another important factor might be that the investment climate has improved along a number of dimensions in recent years – interest rates and inflation have fallen (chapter 1) and corporate tax rates have been reduced (chapter 5). Moreover, this improvement has occurred within the context of generally increasing profits (chapter 2). Thus, as we would expect, investment rates, although lower than would have been expected given the broadly favorable investment climate, have begun to increase.

Finally, other areas of the investment climate not captured well in the firm survey might also deter investment. In particular, firm performance and investment is likely to be affected by both market concentration and systematic risk—two factors that are difficult to pick up in firm level surveys. .

## INTRODUCTION

The investment climate plays a major role in promoting market-led growth and reducing poverty.<sup>4</sup> Improving living standards and reducing poverty depends upon broad-based economic growth, which will only take place when firms improve worker productivity by investing in human and physical capital and technological capacity (defined broadly to include investment in knowledge, equipment and organizational structure). But firms will only invest when the investment climate is favorable.

The investment climate includes economic incentives, which are shaped by macroeconomic and regulatory policies and public administrative procedures, and incentives embodied in institutional arrangements, such as the security of property rights, the rule of law and governance stability.<sup>5</sup> Institutional arrangements influence private investment decisions by structuring the rules of the game. These rules affect investment uncertainty and risk, and investment safeguards (protection of property rights, enforcement of contracts, and maintenance of integrity of monetary standards). Defined in this manner, the investment climate determines the returns from different economic activities.

**The objective of the South Africa Investment Climate Assessment (ICA) is to evaluate the investment climate in South Africa in all its operational dimensions and promote policies to strengthen the private sector.** The ICA will largely be based on results from a firm-level survey of private enterprises, which includes data on the cost of doing business, the regulatory environment, the labor market, the financial sector, the trade regime and levels of investment. In the analysis, we will link business environment constraints to firm-level costs and productivity.

Before we go any further, a few words on the scope of Investment Climate Assessments. The World Bank began carrying out investment climate assessments (ICAs) in 2001. An ICA is based on the results of a firm-level survey (investment climate survey or ICS), as well as other available evidence regarding the country's business environment. In the case of South Africa, an ICS of 800 firms was conducted during the calendar year 2004; the data from this survey was used to generate much of the analysis contained in this report.

The ICS gives us *a detailed cross-sectional snapshot* of the South African private sector. Its main advantage is that it enables benchmarking of the South African private sector by comparing it to countries around the world. The World Bank has now carried out the ICS in

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<sup>4</sup> Stern (2002a, 2002b).

<sup>5</sup> The term investment climate, broadly defined, includes a country's unique attributes, or "geography" (climate, endowments of natural resources, distance from important markets and so on), as well as the state of its infrastructure, economic and social policies, institutions, and governance stability. For operational purposes, a narrower definition is used that focuses on the endogenous determinants of investment. For example, Stern (2002a) notes that it is "the policy, institutional, and behavioral environment, present and expected, that influences the returns, and risks, associated with investment." This definition, in its reduced form, includes economic incentives, which are shaped by macroeconomic and regulatory policies and public administrative procedures, and incentives embodied in institutional arrangements, such as security of property rights and rule of law and governance stability.

many countries; relevant comparator countries—Senegal, Kenya, China (with separate data for Shenzhen and Hangzhou), Malaysia, Brazil, Poland and Lithuania—were selected for this report.

The ICS dataset is unique in that it enables rigorous cross-country comparison based on a “global core” questionnaire that is administered in a standardized manner across countries, targeted at roughly comparable sub-sectors in manufacturing. The data generated by this questionnaire enables us to analyze several things, including firm performance as measured by firm-level productivity, characteristics of factor markets such as labor and finance, and the impact of the business environment including infrastructure, regulation, and crime and security. Thus, we can see how South African firms perform relative to their counterparts around the world, and what their constraints are in a comparative context.<sup>6</sup>

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<sup>6</sup> It is worth noting that in countries where multiple rounds of ICS have been conducted (typically once every three years), we are also able to analyze how firms perform over time, and what the impact of policy changes are. Further enumeration in South Africa will enable this analysis to be carried out for our sample of firms, including an analysis of entry and exit of firms.

## CHAPTER 1: MACROECONOMIC BACKGROUND

Over the last decade, South Africa has experienced sustained, albeit moderate, growth. Investment has also been low. In part this is because of low public sector investment, but this is not the only reason—private sector investment has also been limited. Consequently, fixed capital augmentation has contributed only modestly to growth.

Results from the Investment Climate Survey show that South African firms face a mostly favorable investment climate—power is cheap and relatively reliable, the burden of regulation is not excessive, corruption is low, the ports function relatively well, access to finance does not seem to be a major problem for most enterprises, and most people trust the court system. Our puzzle simply stated is the following—if the investment climate is so favorable, why has the private sector’s investment response not been stronger?

One part of the puzzle is that although most factors are favorable, some problems remain. The exchange rate has been unstable, imposing high costs upon exporters; the cost of labor is high, especially for skilled workers (chapter 3); labor regulation is burdensome (chapter 3); and the cost of crime is high (chapter 5). All these factors discourage investment, despite the generally favorable climate in other areas.

Another part might be that the investment climate has improved along a number of dimensions in recent years – interest rates and inflation have fallen (this chapter) and corporate tax rates have been reduced (chapter 5). Moreover, this improvement has occurred within the context of generally increasing profits (chapter 2). Thus, as we would expect, investment rates, although lower than would have been expected given the broadly favorable investment climate, have begun to increase.

Finally, other areas of the investment climate not captured well in the firm survey might also deter investment. In particular, firm performance and investment is likely to be affected by both market concentration and systematic risk—two factors that are difficult to pick up in firm level surveys.

In this chapter, following a brief examination of South Africa’s economic growth, this short introduction examines corporate investment rates. The financing of investment, notably through savings is reviewed. Two key variables that have a strong impact on corporate investment, namely interest rates and exchange rates, are also discussed. We then return to the issue of the lower than expected, albeit improving rate of investment.

### I. ECONOMIC GROWTH

In the last decade of apartheid, the economy grew at 1.1% per annum. In the ten years 1994-2003, the growth rate averaged 2.9%; 2.7% per annum over the last five years.<sup>7</sup> For 2004,

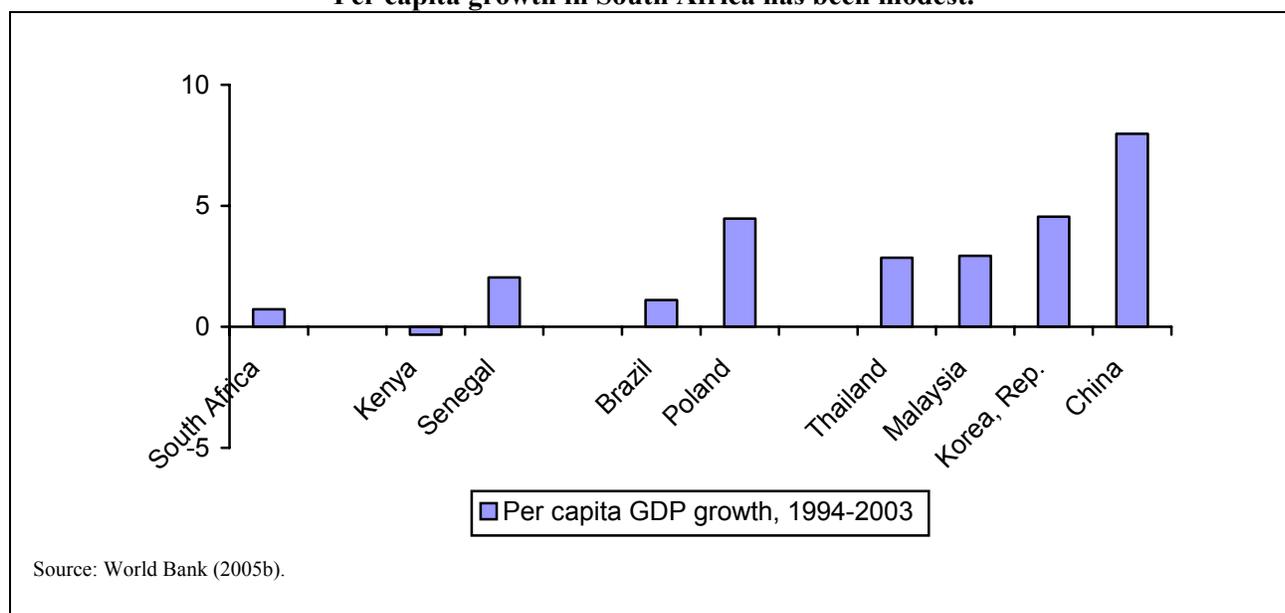
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<sup>7</sup> Statistics South Africa released revised GDP estimates in November 2004. Nominal GDP was revised upwards some 3.5%. Nominal GDP for 2003 is currently estimated at R1251 billion. GDP Recent growth rate estimates were similarly revised upwards.

growth was 3.7%.<sup>8</sup> While there have been fluctuations in the growth rate, it is worth noting that there has been no decline in any calendar year since 1993. But growth has not exceeded 4.5% in any year either. South Africa therefore appears locked into a path of sustained but moderate growth.

Because South Africa's population has been increasing, per capita growth has been slower than total growth. Per capita growth has been modest when compared to the comparator countries outside of Africa (see Figure 5). This is especially true when South Africa is compared to the fast growing Asian economies. Over the past decade per capita growth has been over three times faster in Thailand and Malaysia than in South Africa—despite the Asian crisis in the mid-1990s—and has been close to ten times faster in China.<sup>9</sup>

**Figure 5**  
**Per capita growth in South Africa has been modest.**



There are indications that South Africa may be breaking out of a moderate growth cycle. Many economists are forecasting higher growth rates over the next few years. Even the lowest forecasts are for growth rates above 3% (see Table 1).<sup>10</sup>

<sup>8</sup> Financial Mail, 18/02/2005:36

<sup>9</sup> Treasury estimates are that average real household income has increased by 30% over the last decade. National Treasury (2005 b)

<sup>10</sup> The Treasury forecast is for the economy to grow by an average of 4.2% over the next few years (National Treasury, 2005). In recent statements, the minister of finance has suggested that much higher growth is possible – a figure of 6% has been mentioned.

**Table 1: Reuters Consensus Forecast For Real GDP Growth For South Africa, 2005-2007**

	2005	2006	2007
Real GDP growth	4.0	3.6	4.0
Highest forecast	4.5	4.3	4.9
Lowest forecast	3.5	3.2	3.1

Source: Reuters, January 2005.

In the short-term, higher growth will be heavily dependent on two major factors - the value of the Rand and the maintenance of historically higher dollar prices for South African commodity exports. With the Rand showing an unexpected resilience and concerns that commodity prices will peak in 2005, at the time of writing, some forecasters are lowering their projections.<sup>11</sup> There are also concerns as to infrastructural and particularly skill bottlenecks if the economy were to sustain high growth rates for any extended period.

In terms of sectoral contribution to GDP, over the last decade, the outstanding feature has been a shift to the tertiary and services sectors (see Table 2). Over the last five years, there has been some decline in the primary sectors and in manufacturing, construction and electricity and water. There has also been a pronounced decline in the share of government services. Transport and communications and finance, real estate and business services, have increased their shares

**Table 2: Sectoral Composition of GDP, 1998 -2003**

	Agriculture	Mining	Manufacturing.	Elec. and Water	Const	Trade Hotels Rests.	Transport Comms.	Finance, Real Estate, Business Services	Comm Social Personal Services	Govt. Services
1998	4.2	6.5	20.1	3.8	3.2	13.7	10.1	17.9	2.6	15.3
2003	4.0	5.5	19.8	3.5	3.1	13.7	12.2	19.6	2.7	13.1

Source: Statistics South Africa, *Bulletin of Statistics*, December 2004. vol. 38 No. 4. National Accounts GDP by industry at constant 1995 prices.

Within manufacturing, the share of labor intensive sectors (food and beverages, textiles, clothing and footwear) declined significantly.<sup>12</sup> Within the tertiary sector, the government share has declined but there have been significant increases in the shares of financial and business services and transport and communications. While the final data are not yet available, the indications are that in 2004, wholesale and retail trade, hotels and restaurants (6.5%); construction (6.3%) and transport and communications (5.5%) made the most significant contribution to GDP growth.

<sup>11</sup> See Financial Mail 18/02/2005:36. A much lower consensus forecast of 3.2 for 2005 is given by Business Monitor International, BMI, January 2005:6.

<sup>12</sup> The share of these sectors in MVA declined from 23% to 20% between 1990 and 2000. Kaplan, 2003.

## II. INVESTMENT AND SAVINGS

### II.1 Fixed Investment

In the 1970s and 1980s, capital investment and employment creation accounted for most growth. This was not the case in the 1990s, when a decline in employment and low investment meant labor augmentation contributed negatively and capital investment contributed only weakly to growth. The strongest contributor to growth in the 1990s was productivity growth due to technological change.<sup>13</sup>

Estimating the potential GDP growth for the economy of 3% per annum, the International Monetary Fund (IMF) has similarly argued increased productivity rather than growth in labor and capital inputs is the main contributor to growth. The IMF argues that productivity growth arises from the lowering of trade barriers, increased exposure to international trade and the increased share of the private sector in fixed investment that raises the productivity of capital. They identify the two major constraints on the potential growth as the HIV/AIDS epidemic and constraints on the availability of skilled labor.

In the decade before 1994, investment declined by 3% per year. In the last decade, investment has risen by some 5% per annum. However, the overall magnitude of investment – private sector and government – remained in a narrow band between 15% and 16% of GDP.<sup>14</sup> Although this is comparable to capital formation in Kenya and Senegal, the comparator countries in Sub-Saharan Africa, it is lower than in the middle-income comparator countries (Brazil and Poland) and is far lower than in the fast growing Asian economies (see Figure 6). Gross Fixed Capital Formation has increased by 9% in 2003 and 7.5% in 2004—but remains lower than in the fast growing Asian economies.

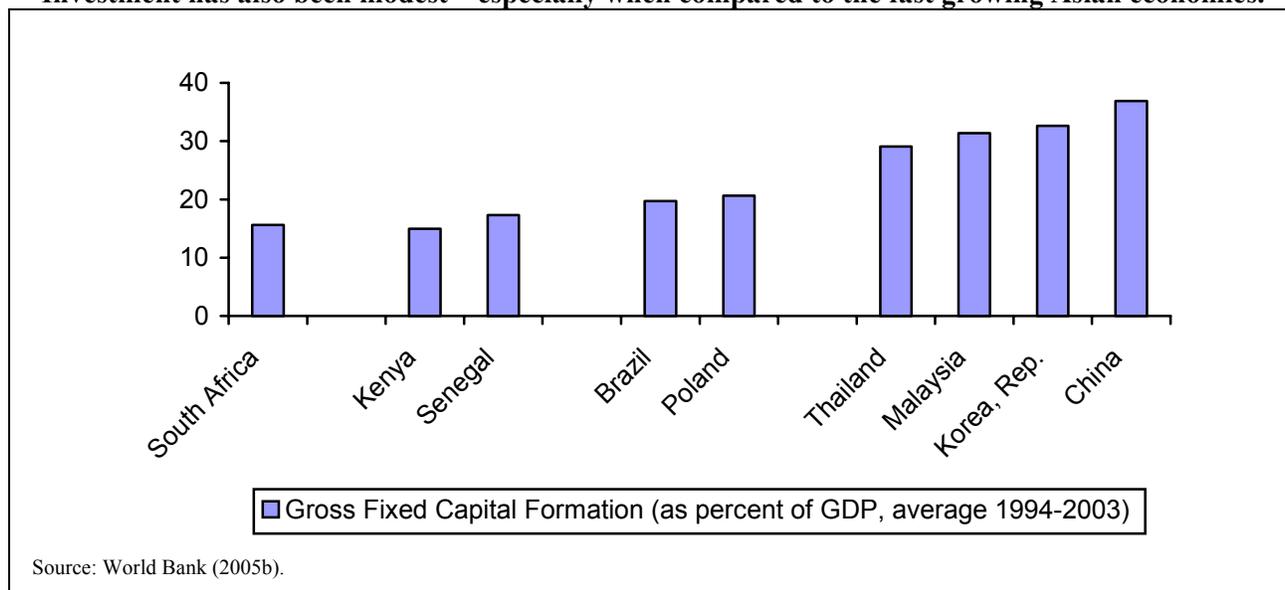
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<sup>13</sup> Fedderke (2005): 9

<sup>14</sup> Data from South African Reserve Bank download facility Time Series KBP6282J

**Figure 6**

**Investment has also been modest—especially when compared to the fast growing Asian economies.**



By contrast with the historical analysis of the longer term determinants of economic growth in South Africa, Treasury's analysis suggests that economic growth has recently been driven principally by increasing fixed investment.<sup>15</sup> Treasury projects that capital formation will be the principal driver of enhanced growth – it is forecast to rise far more rapidly than the other components of GDP.

**Table 3: Macroeconomic outlook- summary, 2004-2007 (%s)**

	2004 Actual	2005	2006	2007
Household consumption	5.9	4.7	3.7	4.2
Capital formation	7.5	7.0	6.2	7.8
Exports	5.0	4.7	3.6	5.7
Imports	12.7	5.9	5.5	5.7
Gross domestic product	3.7	4.3	3.8	4.4

Source: Treasury (2005): 12. Table 1.1.

On the part of the private sector, fixed investment rose from a very low base between 1994 and 1997. After the emerging market crisis in 1998 and 1999, capital formation by private business enterprises declined significantly. However, since that time investment by private enterprises has steadily increased. The rise in private sector fixed investment accelerated significantly during 2004 - increasing at an annualized rate of 13% in the third quarter. A number of sectors have announced big capital expenditure plans including mining, notably platinum, automotive and chemicals in manufacturing, retail, real estate and tourism. Short-term indications are therefore that this rising trend is set to continue.

<sup>15</sup> Treasury (2005): 11

**Table 4: Gross Fixed Capital Formation by Private Enterprises, 1994-2003. Constant 2000 Prices**

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Rand (millions)	77,789	86,279	92,974	97,463	95,586	92,559	100,097	106,482	109,118	113,285
% change over previous year	-	11	8	5	-2	-3	8	6	2	4

Sources: *Source:* South African Reserve Bank Quarterly Bulletin, December 2004 and June 2002. Gross Fixed Capital Formation by Type of Organization.

*Notes:* Includes transfer costs

Through much of the past decade, public fixed investment has been very limited and net investment on the part of public corporations has often been negative. In 2003, government reversed the secular contraction in capital spending particularly on the part of public corporations. Government has recently announced its intention to support major new investment projects over the next five years in many key infrastructural areas. Especially prominent are electricity and transport – R165billion planned in Eskom and Transnet. The net result is that private businesses enterprises have played a very dominant role in capital formation, with government playing a larger role in 2003 and likely to play a larger role in the near future.

**Table 5: Private Business Enterprise Share of Capital Formation, 1994-2003**

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
% Gross Capital Formation	78	73	74	71	65	72	74	74	76	71
% Net Capital Formation	134	108	98	88	59	92	102	102	98	73

*Source:* South African Reserve Bank Quarterly Bulletin, December 2004 and June 2002. Gross and Net Capital Formation by Type of Organization.

In terms of sectoral shares, while there have been significant fluctuations, manufacturing and electricity, gas and water have seen their share decline, while increasing share is most evident in respect of transport and communications.

**Table 6: Gross Fixed Capital Formation by Type of Economic Activity, 1994-2003**

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Agric.	4	3.8	4.6	3.8	3.2	3.0	2.9	2.9	3.4	2.9
Mining	9	8.5	8.2	8.7	9.0	9.3	9.9	10.3	11.3	10.4
Manuf.	23	25	22.9	22.2	20.7	22.3	21.7	22.3	20.8	19.6
Elec. Gas Water	7.4	8.1	8.3	7.6	5.5	4.9	3.9	3.7	4.0	4.8
Const.			1	1	1	1.2	1.5	1.4	1.6	1.5
Trade and accommodation.			6.5	5.8	5.6	8.4	7.1	7.3	6.6	6.3
Transportation, Communications			10	11.5	17.6	14.3	13.3	13.5	13.5	13.6
Finance, Real Estate, Bus Services			23.9	24.3	22.2	21.6	22.3	22.0	22.1	21.3
Community, Social Business Service.			14.7	15.0	15.0	16.2	17.5	16.5	16.7	19.4

*Source:* South African Reserve Bank Quarterly Bulletin, December 2004 and June 2002. Gross and Net Capital Formation by kind of economic activity

Despite an improving situation, it must be emphasized that investment spending remains low. Private investment spending averaged 12.1% of GDP between 1994 and 2003 (Gelb, 2004:385). At 16%, Gross Fixed Capital Formation is still low by comparison with the government's "unofficial" target of 25% and is far lower than in the fastest growing economies in Asia. It is also well below the levels required to lift South Africa into a high growth bracket.

Optimists point to a number of factors that could sustain the current acceleration and allow South Africa to approach this target – higher levels of government spending “crowding in” further investment on the part of the private sector; growing confidence in government economic

policies and a steady decline in perceptions of political risk and lower local costs for imported plant and equipment. This is reflected in rapidly rising business confidence now at its highest level since 1980. Private fixed investment spending is generally strongly correlated with business confidence.

## II.2 Saving

Gross savings as a share of GDP have remained within a very narrow band since 1994 – between 15% and 17%. The corporate sector's saving declined significantly after 1996, but picked up strongly since 2002. For 2003, gross saving by the corporate sector was 11.5% and the same ratio is expected for 2004.<sup>16</sup>

**Table 7: Corporate Saving and Gross Saving; The Ratio of Gross Saving to G, 1994-2003 (In Current Prices)**

Date	Corporate Saving (R millions)	Gross Saving (R millions)	Corporate Saving/Gross Saving (%)	Ratio of Gross Saving to GDP (%)
1994	36750	81394	45	16.88
1995	35731	90568	39	16.52
1996	45035	99758	45	16.14
1997	40367	103865	39	15.15
1998	32014	113127	28	15.24
1999	31673	129132	25	15.87
2000	39918	145551	27	15.78
2001	27415	155678	18	15.26
2002	49696	198465	25	16.73
2003	52166	203635	26	16.27

Source: South African Reserve Bank download facility Time Series KBP6201J; KBP62031J; KBP6286J.

There is little indication that a lack of savings has hitherto constrained business investment. Domestic saving has been sufficient to finance capital formation in all but two years. Corporate savings have been sufficient to fund corporate investment with the corporate sector having an excess of savings over investment between 1994 and 2001 and a near-balance since that date (Gelb, 2004: 388).

However, this may change. If there were to be a significant increase in investment and more especially if this was to occur at a time of rising household expenditures combined with rising government expenditures, domestic sources would be limited and financing would rely on significant capital inflows. In 2004, corporate investments increased rapidly. Rising household expenditures and weaker saving levels on the part of government have meant that in order to finance capital formation, South Africa has had to rely on foreign resources. Foreign inflows were relatively high – at nearly 4% of GDP.<sup>17</sup>

<sup>16</sup> SARB, QB, September 2004:10

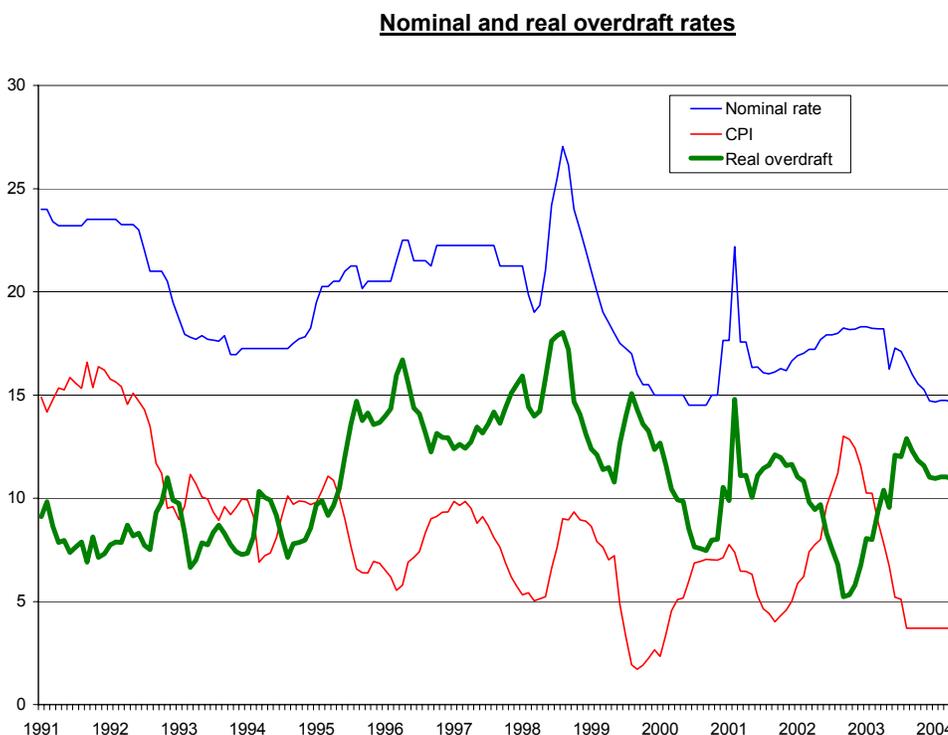
<sup>17</sup> SARB, QB September 2004:10

### III. INTEREST RATES AND INFLATION

Real interest rates were on a clear upward trend after 1994. After 1998, the interest rate trended downwards, apart from a brief spike in 2001. With the rate at which firms borrow generally declining, the evidence is that the concern of firms as to the macroeconomic variables relates principally to the exchange rate (see Figure 7).

Although inflation spiked in 2003 and has fallen recently, it has been in the range between 5 and 10 percent for most of the past decade. Thus, although inflation is not especially high by international standards, it remains higher than in the best performing economies. The recent improvement suggests that it might have less of an impact in the short term than it has had over the past decades.

**Figure 7: Nominal and real overdraft rates**

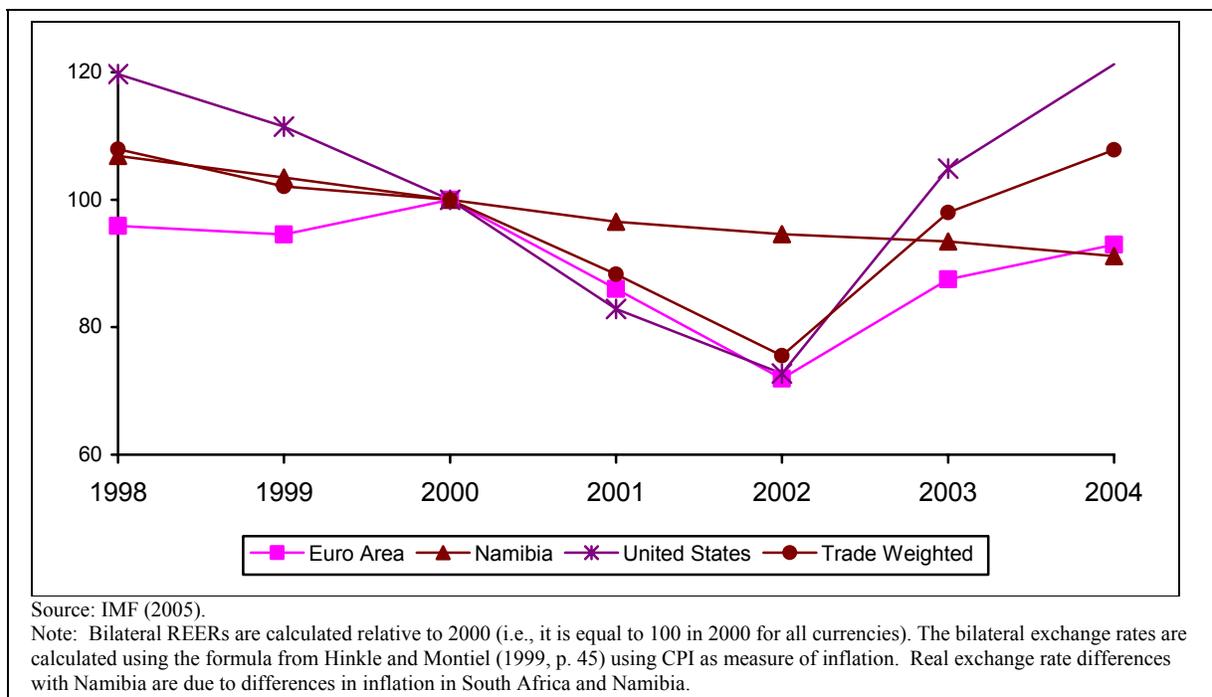


### IV. EXCHANGE RATE

Concern about the exchange rate is rated as the second most serious of the constraints to enterprise operations and growth. This issue is accordingly discussed in Chapter 5. Between 2000 and 2002, the trade-weighted real exchange rate depreciated by about 25 percent. The Rand depreciated against most major currencies over this period, falling by about 27 percent against the US dollar, 26 percent against the British Pound and 28 percent against the Euro in

real terms (see Figure 8).<sup>18</sup> Over the next two years, the Rand appreciated against all major currencies, especially the US dollar. Between 2002 and 2004, it appreciated 29 percent against the Euro, 35 percent against the British Pound and 67 percent against the US dollar in real terms. Since mid-2001, the Rand has possibly been the most volatile currency openly traded in global markets.<sup>19</sup> The precipitous decline of the currency and then its appreciation was contrary to the forecasts of almost all of the established economists. Businesses made investment and operational decisions on anticipated exchange rates which were often wide of the mark.

**Figure 8: South Africa's real exchange rate has varied greatly over the past 5 years—especially against the US dollar.**



## V. CONCLUSION

By way of conclusion, we return to the puzzle as to why a generally favorable investment climate did not result in higher levels of private sector investment.

There are a number of possible explanations. These are listed here for further enquiry and discussion. The first set of possible explanations relates to new capital formation that occurs as a consequence of new business start-ups. Aggregate fixed investment arises from the investment activities of existing firms, but also from the investments of new start-up firms. The Investment Climate Surveys measures the climate facing existing firms. The obstacles and constraints facing new (and potential) entrants may be very different. For example, while established firms appear to have little difficulty accessing finance at reasonable rates, this may be much more difficult for

<sup>18</sup> The bilateral real exchange rate against the Euro is calculated using CPI inflation for Germany.

<sup>19</sup> Gelb (2004 b):8

new start-up firms, more particularly in the absence of substantive collateral consequent upon low income and education levels. There is considerable anecdotal evidence to this effect. The South African system may therefore indeed function relatively well for those that have already secured a place within it, but not provide the support needed to enhance the level of new entrants.

A second possible explanation relates to a possible factor affecting established firms but that would not be readily “picked up” in an Investment Climate Survey – the extent to which firm level performance and investment is affected by level of market concentration. There is, for example, work that suggests that the South African economy is highly concentrated imposing high barriers to entry (to both domestic and foreign firms). The evidence suggests that high levels of concentration reduces firm level performance. However the impact on investment is ambiguous.<sup>20</sup>

A third possible explanation may lie with the nature of investment. A significant share of investment funds are currently being utilized to finance Black Economic Empowerment transactions. In the main, these transactions relate to equity transfers and not investments in the creation of new capital stock. Finance for BEE is extensive – in 2002, finance made available for BEE was estimated at around R40billion. Total fixed capital investment in that year was around R175billion. However, not all BEE finance will be at the “expense” of productive investments. Moreover, financing for BEE only became very significant in the last few years, and the low levels of investment have been, as we have seen, of longer duration.

A final possible explanation may lie with the specification of a key magnitude – namely risk. A number of studies have pointed to systemic risk as the key factor resulting in a decline in investment and encouraging “waiting” behavior on the part of potential investors.<sup>21</sup> Uncertainty is notoriously diffuse, subject to informational failures and difficult to measure. The Investment Climate Survey specification of systemic uncertainty may not be adequate.

To reiterate, we are not in a position to provide definitive evidence on any of these potential explanations. However, what the survey does show is that while the investment climate is broadly favorable, there are a number of areas in which it could be improved. We have seen a significant improvement in investment activity on the part of the private sector recently in response to an improvement in the investment climate. Further improvements– as identified in the remainder of this report- should similarly elicit a favorable response in firm performance and investment. But substantially raising the investment rate to support a major increase in the growth rate will require government to also consider some other factors outlined here that might impact on capital investment.

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<sup>20</sup> Fedderke and Szalontai (2005)

<sup>21</sup> Fedderke, 2005. The same broad conclusion was reached in an earlier firm level survey. See Gelb (???)

## CHAPTER 2: AN ANALYSIS OF FIRM PERFORMANCE

The analysis contained in this chapter is based largely on the Investment Climate Survey (ICS) conducted in 2004 by Citizen Surveys. Appendix I shows the questionnaire used for the survey. 803 firms were surveyed over period of about 12 months, ending in December 2004. These firms are located in or near the major metropolitan areas of South Africa, including Johannesburg, Cape Town, Port Elizabeth, and Durban. The sample was composed of firms in manufacturing, construction and retail and wholesale trade. Within these broad sectors, firms were randomly selected from lists of firms registered with the Department of Trade and Industry (i.e. only formal registered enterprises are included in the sample). Although the samples should be broadly representative of formal firms within each sector, the sample is not representative of the entire economy. As a result, in the absence of appropriate weights, it is not possible to pool data across broad sectors to get a representative sample across the whole economy. Because of this, and because the samples for comparator countries only cover manufacturing, data from the three sectors will be presented separately in the main report.<sup>22</sup>

The sample contained 803 firms, with about 75 percent (603) in manufacturing (see Table 8). About two-thirds of firms in the sample were based in Gauteng, with the remaining firms in Western Cape, KwaZulu-Natal, and Eastern Cape. The sample was mainly composed of small (10-49 employees), medium (50-99 employees) and large (100-499 employees) enterprises, although about 14 percent were very large (over 500 employees). There were few microenterprises (fewer than 10 employees) in the sample, especially in the manufacturing sector.

**Table 8: Characteristics of Sample for Investment Climate Survey**

<b>Total Number of Firms</b>	<b>803</b>		
<b>Geographic Distribution:</b>		<b>Enterprise Size:</b>	
Gauteng	63%	Micro (1-9 workers)	5%
Western Cape	23%	Small (10-49 workers)	27%
KwaZulu-Natal	9%	Medium (50-99 workers)	23%
Eastern Cape	5%	Large (100-499 workers)	31%
		Very Large (500 or more workers)	14%
<b>Ownership:</b>		<b>Sectors:</b>	
Corporate	40%	Manufacturing	75%
Individual – European/Caucasian	49%	Construction	14%
Individual – Asian	6%	Trade (Wholesale and Retail)	11%
Individual – African/Other	5%		

Source: Investment Climate Survey

Most firms were owned either by corporations (i.e., other firms) or Caucasian/European individuals and families. Only 5 percent of firms were owned by African or colored individuals or families. The small number of African-owned firms, however, appears to reflect the distribution of formal firms. Previous studies have also found relatively few African owned firms in these size classes. For example, in a survey of enterprises in Johannesburg in 1999,

<sup>22</sup> The report will primarily focus on manufacturing, presenting evidence from other sectors primarily when results differ across sectors.

whereas 97 percent of informal micro-enterprises were black-owned, only 7 percent of formal micro, small and medium-scale enterprises were.<sup>23</sup> This pattern appears to have persisted through 2004.

## **I. PRODUCTIVITY**

### **I.1 Labor Productivity**

Labor productivity is far higher in South Africa than elsewhere in Sub-Saharan Africa and even than in other middle-income countries where investment climate surveys have been completed (see Figure 9). It is over four times higher for the median manufacturing firm in South Africa than in Kenya and is close to three times higher than in Senegal. These two countries were chosen because labor (and total factor) productivity are high compared to other countries in Sub-Saharan Africa where investment climate surveys have been completed, suggesting that the gap is large for most countries in Sub-Saharan Africa. These results are consistent with previous studies using aggregate data that have also found that productivity is higher in South Africa than elsewhere in Sub-Saharan Africa.<sup>24</sup>

But labor productivity is also high compared to other middle income countries where investment climate surveys have been completed. Labor productivity is about twice as high in South Africa as in Lithuania or Brazil and is about 25 percent higher than in Malaysia. Labor productivity is also considerably higher than in China. China is an interesting comparator because although per capita GDP is considerably lower than in South Africa, China has been growing very rapidly over the past two decades.

Although value-added per worker is lower in China than in South Africa, there are large interregional differences between Chinese cities and provinces, with productivity far higher in areas closer to the coast.<sup>25</sup> When South African firms are compared only with firms in the most productive regions covered in the China Investment Climate Survey, the comparison is less favorable. Although labor productivity is higher in South Africa than in the second most productive city in the China Investment Climate Survey, Shenzhen, it is slightly lower than in Hangzhou, the most productive city in the survey.

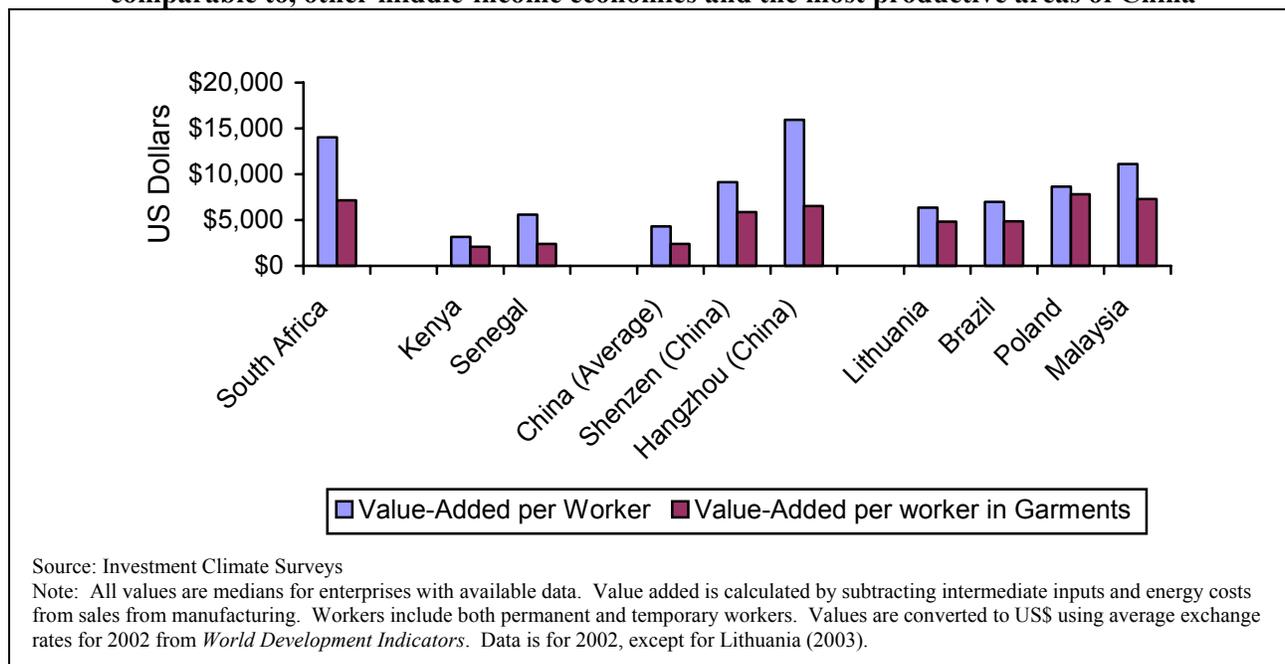
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<sup>23</sup> Chandra and others (2001a, 2002)

<sup>24</sup> Edwards and Golub (2003) show that productivity was over 50 percent higher in South Africa than in Zimbabwe in 1997, while Mbaye and Golub (2003) shows that productivity was about two and half times higher than in Senegal in 1996.

<sup>25</sup> Dollar, Wang, Su and Shi (2005) discuss regional differences in the investment climate and productivity in China.

**Figure 9**  
**Labor productivity is higher in South Africa than elsewhere in Africa and is higher than, or comparable to, other middle-income economies and the most productive areas of China**



One reason why South African enterprises might be more productive than enterprises in other middle-income countries is that South African enterprises might be concentrated in industries that are especially capital, skill or technology intensive. Over the 1980s and 1990s, South African manufacturing became increasingly capital intensive (Fedderke, 2005), suggesting that this could be important.<sup>26</sup> Although, in part, the increase in capital intensity was due to firms adopting capital intensive production methods, it also appears to partly be due to the expansion of manufacturing in capital intensive sectors (Kaplinsky, 1995).<sup>27</sup>

To control for differences between sectors, Figure 9 also shows labor productivity in a single industry—the garment industry. This sector is chosen because the technologies are well established and because most Investment Climate Surveys have large numbers of garment manufacturers. South African firms also appear relatively productive in this industry, although the differences are less noticeable than they are for manufacturing overall. Labor productivity is higher for the median firm in South African in the garments sector than in Lithuania or Brazil, but is slightly lower than in Malaysia or Poland. Productivity is also higher than in either of the most productive cities in the China Investment Climate Survey.

<sup>26</sup> Fedderke (2005) notes that most of the increase in manufacturing output over the past thirty years appears to be attributable to increased use of capital, something that is consistent with the observation that output has become more capital intensive in recent years. Many papers have noted that South African manufacturing appears to have become more capital intensive over the past several decades (Edwards and Golub, 2003; Levy, 1992). Finally, several studies that have looked at trading patterns have noted that South African industry tends to be more capital intensive than industry in its main trading partners

<sup>27</sup> Kaplinsky (1995) argues that in the 1980s this was due to expansion in capital intensive sectors and contraction in labor intensive ones.

One factor that might result in South Africa looking worse in these comparisons is the exchange rates used in the analysis. Exchange rate fluctuations can make a significant difference to labor productivity when converted to a common currency such as the US dollar. In the year of the survey, 2002, the South African Rand was very weak, with the exchange rate averaging over 10 Rand per dollar. This could lead to value-added per worker (and labor costs and capital intensity) appearing artificially low. Since this time the Rand has appreciated significantly in real terms. But it is also important to keep in mind that most currencies, with the notable exception of the Chinese Yuan, have also appreciated against the US dollar in real terms over the past two years, possibly muting this effect.<sup>28</sup>

There are also significant differences between firms within South Africa. As in most other countries, labor productivity is higher for exporters and foreign-owned enterprises than for other enterprises (see Table 12). It is also notably higher in corporate-owned firms (i.e., firms whose main owner is a domestic or foreign-owned enterprise rather than a family or individual). There are only small differences between firms owned by Europeans/Caucasian, Asian and black or colored individuals or families.

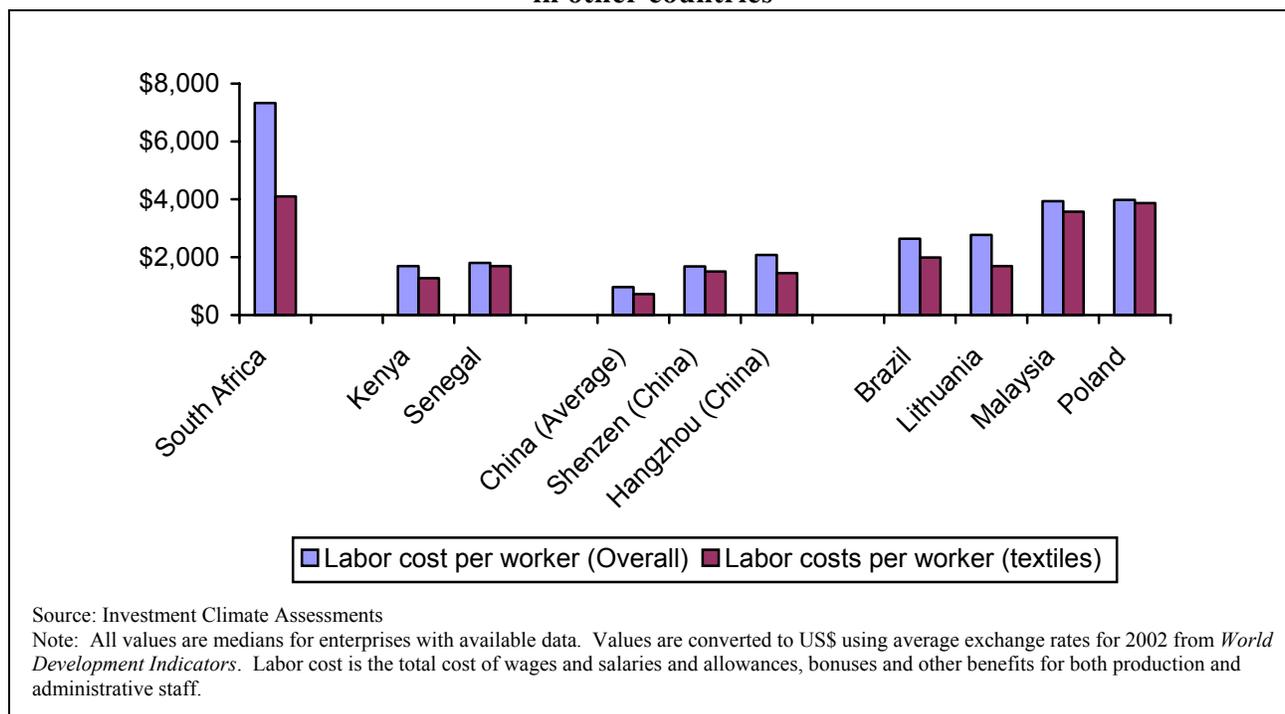
In contrast to most other countries, there is no noticeable trend with respect to enterprise size—in most countries labor productivity increases with size. Although large firms appear more productive than small or medium-sized firms, large firms also appear more productive than very large firms. The low productivity among very large firms might be because very large firms are in low productivity sectors. Most notably, about one-quarter are in the garment industry—a sector with especially low labor productivity. After controlling for sectoral differences, labor productivity is not significantly different in large and very large firms.<sup>29</sup>

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<sup>28</sup> In April 2002, one dollar was worth about 11.4 Rand. By April 2005, it was only worth about 6.2 Rand. But the same decline was far less pronounced against the Euro—from 10.0 about 8.0 Rand per Euro.

<sup>29</sup> When labor productivity is regressed on size and sector dummies, the null hypothesis that labor productivity is equal for large and very large enterprises cannot be rejected at conventional significance levels.

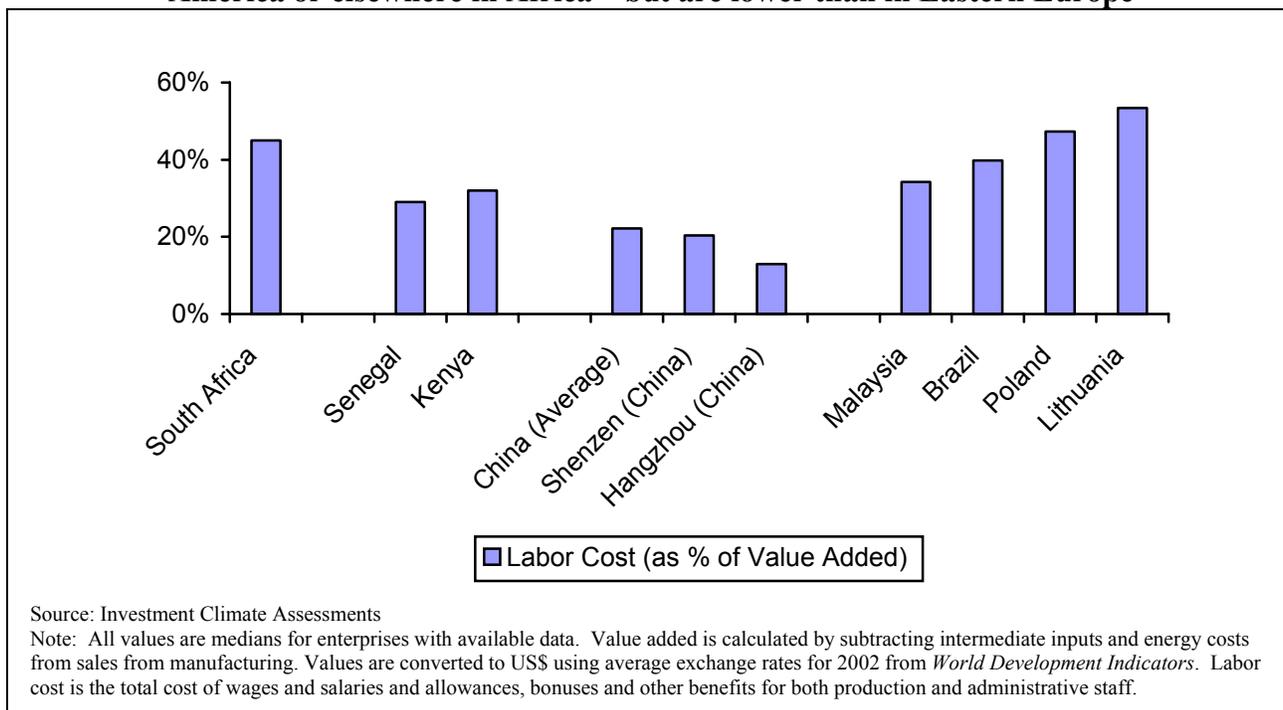
**Figure 10**  
**Median labor costs are higher both overall and in the garments sector in South Africa than in other countries**



Although labor productivity is relatively high in South Africa, labor costs are also high when calculated using data from the firm's income statement (see Figure 10). The total cost of wages and other benefits is higher per worker in South Africa than in any of the comparator countries. For example, per worker labor costs were over three and half time higher in South Africa in 2002 (about \$7300 per worker) than in Hangzhou (about \$2000 per worker). Differences in the garments industry are smaller than overall differences, with Poland and Malaysia coming very close to South Africa in this sector.

Because per worker labor costs are high, unit labor costs (i.e., labor costs as a share of value-added) are higher in South Africa than they are in Kenya, Senegal or China (see Figure 11). But they appear more similar to the other middle-income countries—unit labor costs are slightly higher than in Brazil and Malaysia and slightly lower than in the two countries in Eastern Europe.

**Figure 11**  
**Labor costs are higher (as percent of value-added) in South Africa than in China, Latin America or elsewhere in Africa—but are lower than in Eastern Europe**



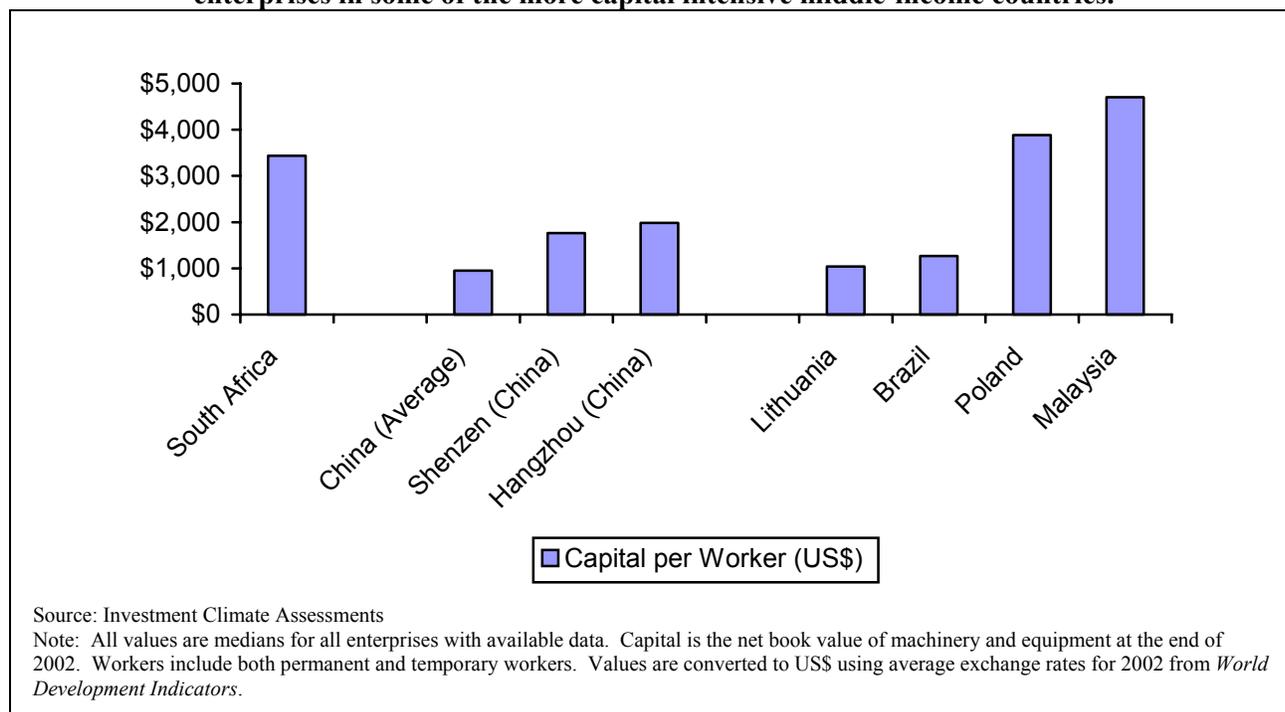
For cross-country comparisons, unit labor costs have several advantages over comparisons of per worker labor costs in a common currency (e.g., the dollar). First, they avoid problems associated with exchange rate fluctuations—both labor costs and value-added are measured in local currency. Second, they partially account for skill differences. For example, labor productivity and labor costs will both appear high if a firm has a highly educated work force. Overall, these results suggest that labor costs are relatively high in South Africa—at least compared to Asia, Latin America and elsewhere in Sub-Saharan Africa—even after taking South Africa’s higher productivity into account. These issues will be explored in more detail in the next chapter.

Labor costs tend to be higher for firms that are more productive at the firm level. The simple correlation between labor costs per worker and value added per worker is 0.46 (significant at a 1% level). A similar pattern can be seen at an aggregate level in Table 12. Both labor costs and productivity are higher in exporters, foreign-owned firms, firms located in Gauteng province, and corporate-owned firms than in other firms. As with labor productivity, there is no clear pattern for labor costs by firm size. Although labor costs per worker are lower for small and medium-sized firms than for large and very large firms, labor costs are higher for large firms than they are for very large firms.

## I.2 Capital Productivity

Enterprises in South Africa appear to be more capital intensive than enterprises in most of the comparator countries. Based upon average exchange rates in 2002, the median enterprise in South Africa had almost twice as much capital as enterprise in Shenzhen and Hangzhou and more than twice as much as enterprises in Lithuania and Brazil. Malaysian and Polish firms had slightly more capital per worker than South African firms. Given that the Rand was weak in 2002 compared to the Polish Zloty and the US dollar, these comparisons might underestimate the amount of capital per worker in South Africa.<sup>30</sup>

**Figure 12**  
**Enterprises in South Africa are more capital intensive than enterprises in China, but are similar to enterprises in some of the more capital intensive middle-income countries.**



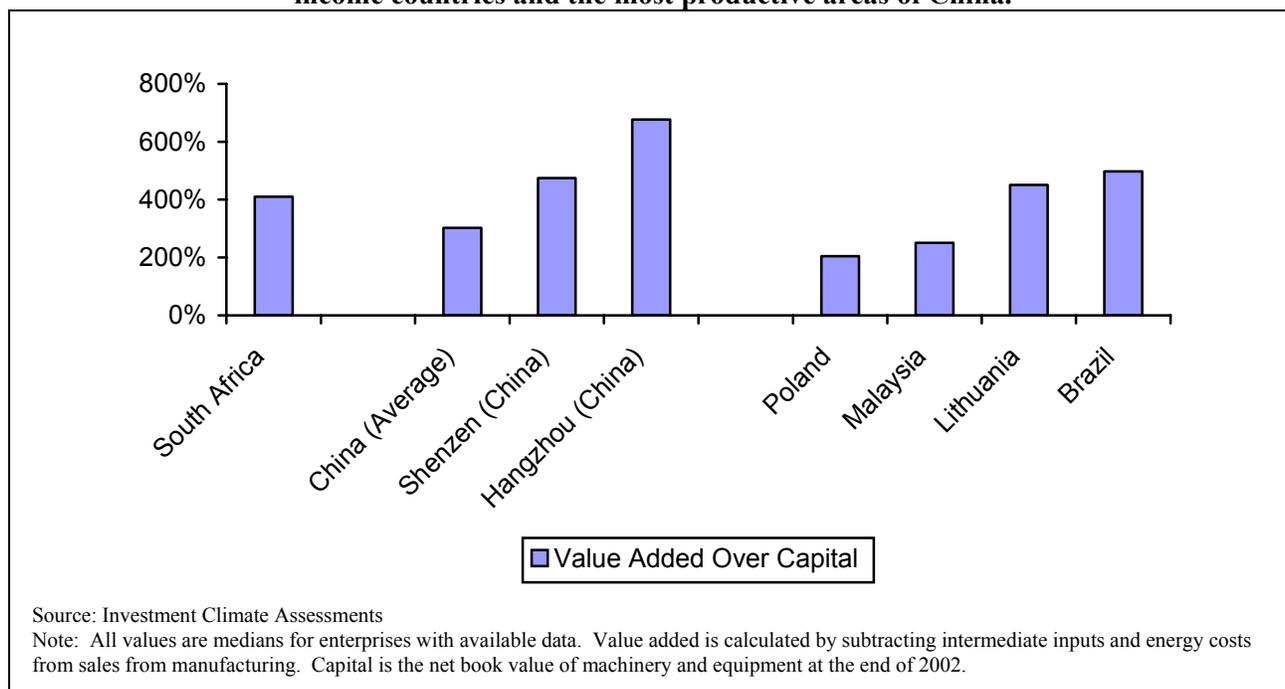
Despite being highly capital intensive even compared to other middle-income countries, capital productivity (value added over capital) remains relatively high in South Africa. Although it is lower than in the most productive provinces in China and Lithuania and Brazil—enterprises were considerably less capital intensive in these countries than in South Africa—it remains higher than in Poland, Malaysia or the rest of China.

As in other countries, exporters and foreign-owned enterprises appear more capital intensive than other enterprises—although the difference appears quite modest. But in sharp contrast to most other countries in the world, small enterprises in South Africa appear more capital intensive than larger enterprises (see Table 12). In part, this might reflect sectoral

<sup>30</sup> There were 2.75 Rand per Zloty in April 2002, compared to 1.97 in April 2005 (see footnote 28).

differences. For example, garment firms are far less capital intensive than other firms and tend to be very large. After controlling for sector of operations, enterprises in the different size classes appear similar.<sup>31</sup>

**Figure 13**  
**Capital Productivity in South Africa is similar to productivity in the higher performing middle income countries and the most productive areas of China.**



Enterprises owned by black individuals appear to have less capital per worker than firms owned by Caucasian or Asian individuals. The difference, however, is not large and does not appear to be statistically significant, especially after controlling for other differences (e.g., sector of operations and size).

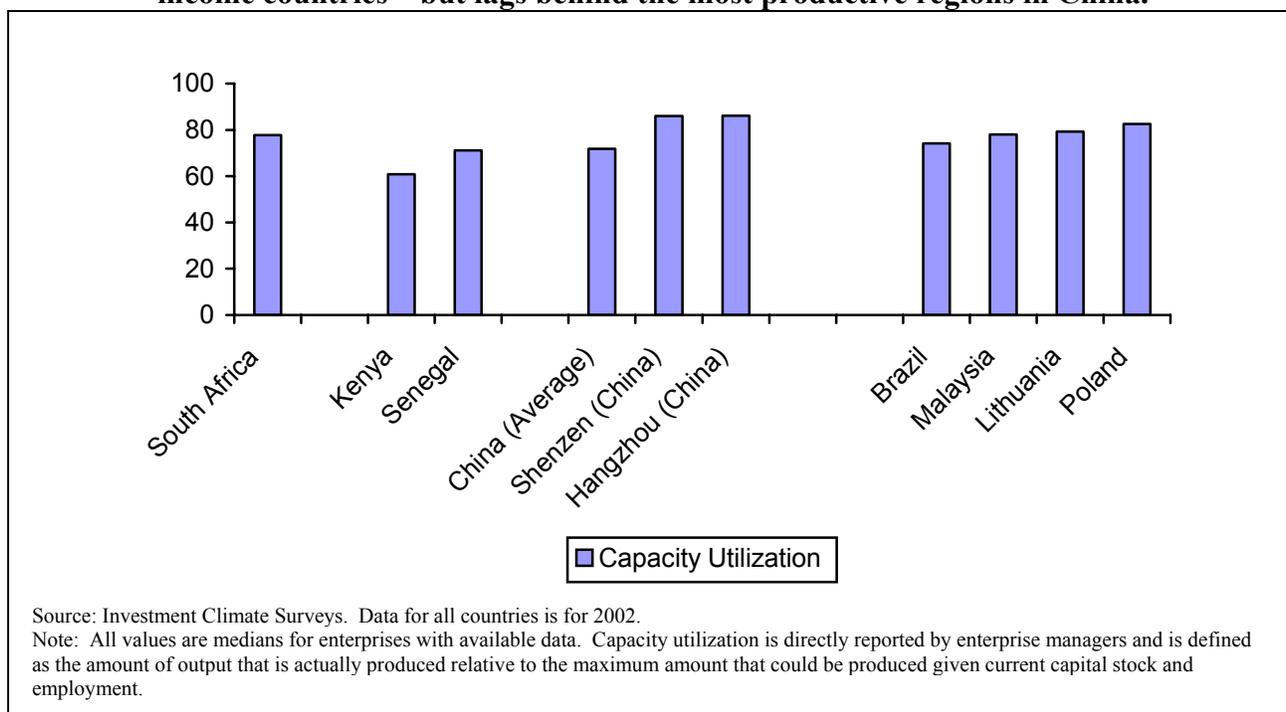
### I.3 Capacity Utilization

The survey asked enterprise managers to estimate capacity utilization – how large their actual production was in 2002 relative to the maximum amount that they could have been produced with the capital and workers that they employed at that time. The average enterprise in South Africa reported that its capacity utilization was about 78 percent (see Figure 14). This is considerably higher than in most other African countries; capacity utilization was about 60 percent in Tanzania, Kenya and Uganda in 2002 and about 70 percent in Senegal and Mali. It was also higher than the average for China—also about 70 percent. It is, however, lower than in the best performing middle-income comparator countries and than in the most productive provinces in China.

<sup>31</sup> In a regression of capital intensity on a series of sector and size dummies, we are unable to reject the null hypothesis that the coefficient on the size dummies are all equal.

Capacity utilization does not vary much by enterprise size or other characteristics—mostly averaging between 75 and 80 percent. Capacity utilization appears to be highest in the construction materials and garments sectors in 2002 and lowest in the automobiles and auto parts sectors.

**Figure 14**  
**Capacity Utilization is higher in South Africa than elsewhere in Africa and in most middle income countries—but lags behind the most productive regions in China.**



#### I.4 Total factor productivity.

Although the measures of firm productivity discussed above provide some useful information on firm performance in South Africa, they can be misleading when considered in isolation. Total factor productivity is a measure of the overall level of firm performance after controlling for use of labor and capital. Differences in total factor productivity are those differences in output that cannot be explained by differences in the amounts of labor, capital or intermediate inputs used. Firms with higher total factor productivity are more efficient than other firms because they produce higher output with fewer inputs.

Table 13 presents results from estimating a Cobb-Douglas production function using data for South African enterprises from all manufacturing sub-sectors. The production function is estimated using a standard stochastic frontier approach, which allows us to distinguish between

technical efficiency (i.e., how well the individual firm performs relative to the best firms in the sample) and random noise (i.e., due to shocks or measurement error).<sup>32</sup>

*Sector Specific Production Technologies.* The dependent variable is the natural log of value-added and all regressions control for the enterprises' use of capital and workers.<sup>33</sup> All regressions include sector dummies—allowing average productivity to differ between sectors. Because enterprises in different sectors use different production technologies, the coefficients on labor and capital are likely to differ between sectors. To allow for this, the sector dummies are interacted with capital and labor allowing sector-specific production technologies.<sup>34</sup> A joint test of the significance of the interaction terms rejects the null hypothesis that the coefficients are equal across sectors. This suggests that it is inappropriate to pool enterprises from different sectors into a single model without controlling for sector differences related to factor intensity.

*Economies of Scale.* If large enterprises were consistently more productive than small enterprises, the sum of the coefficients on intermediate inputs, labor and capital would be greater than one. If this were the case, total production would more than double if the number of workers, amount of capital and amount of intermediate inputs were doubled. In practice, the sum of the three coefficients is very close to one for all sectors except for garments and construction materials (see Table 2). Further, the null hypothesis that the coefficients sum to one cannot be rejected for any of the sectors except garments at conventional significance levels. This suggests that large enterprises are neither more nor less productive than small enterprises on average.

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<sup>32</sup> See Kumbhakar and Lovell (2000) for a description of stochastic frontier models. The model estimated assumes that technical inefficiency component is distributed with a half-normal distribution, while the white noise component is distributed with a normal distribution. In practice, the results discussed in this section appear to be relatively robust to alternate distributional assumptions (e.g., truncated normal-normal distributions and exponential-normal distributions). Results are similar when the model is estimated using different modeling assumptions (e.g., OLS and LAD estimators).

<sup>33</sup> Results are similar when using log of sales as the dependent variable and including intermediate inputs as an input along with labor and capital

<sup>34</sup> Formally, the coefficients on capital and labor are allowed to vary across sectors. This system is estimated by interacting sector dummies with these variables. The model is then estimated after adding the sector dummies and interaction terms to regression. These coefficients are not reported in the table due to space constraints.

**Table 9: Test for Constant Returns to Scale**

	Sum of Coefficients	Test of Constant Returns to Scale	
		F-value	p-value
Agro-Processing	0.99	0.03	0.86
Textiles and Garments	0.72	13.41	0.00
Chemicals and Paints	1.04	0.25	0.61
Construction Materials	1.42	2.72	0.10
Furniture	1.04	0.23	0.63
Metal	1.02	0.07	0.78
Paper, Publishing and Printing	0.87	2.03	0.15
Plastics	1.10	0.84	0.36
Machinery	1.23	2.53	0.11
Electricity	1.13	2.13	0.14
Auto and Auto Parts	0.99	0.00	0.95
Other Manufacturing	0.87	2.36	0.12

Note: Coefficient estimates are from column 8 of Table 13

*Other Enterprise Characteristics.* In addition to capital and labor, we also look at the effect of various enterprise characteristics on total factor productivity. Enterprises that are younger, partially government-owned, and owned by individuals or families (rather than other firms) tend to be less productive than other enterprises.

The coefficient on government ownership is negative and statistically significant. The coefficient estimate suggests that government owned firms are between about 120 to 200 percent higher in private firms than in similar government-owned firms. It is important, however, to interpret these results cautiously. Only four firms in the sample are even partially government-owned, meaning that the results are based upon a very small number of observations.

Older firms are also more productive. The positive and statistically significant coefficient suggests that a 10 percent increase in age increases output by about 1 percent. Based upon these coefficients, a firm that started operating in 1990 would be between 10 and 12 percent more efficient than a similar firm that started operating in 2000.

The positive and statistically significant coefficient on the dummy indicating that the firm is owned by another firm, suggests that corporate-owned firms are about 60 percent more productive than firms owned by black or colored families or individuals (the omitted category). Since the coefficients on the other dummy variables are statistically insignificant in most specifications, this suggests that corporate-owned firms are more productive than firms owned by all types of individuals or families. But there is no evidence that there are significant differences between different types of family and individual owned firms.

*Globalization.* In column 3, we add some additional variables to the model—the percent of output that the firm exports and a dummy variable indicating whether the enterprise is foreign-owned. The coefficient on the dummy variable indicating that the enterprise is partly foreign-owned is positive, but statistically insignificant. Results are similar when we look at majority owned foreign firms and corporate owned foreign firms rather than all firms with any foreign ownership.

The positive coefficient on share of output that is exported is positive and statistically significant, suggesting that enterprises that export more intensively are more productive. Based upon the coefficient estimates, firms that export 37 percent of their output (the mean for enterprises that export) will be about 22-24 percent more productive than non-exporters. Many studies have found similar results in both developed and developing economies.<sup>35</sup>

One possible reason why exporters are more productive is that exporting might result in productivity improvements for the firms that are doing it (the '*learning-by-exporting*' hypothesis). The discipline of competing in international markets might encourage enterprises to improve their productivity or might expose them to foreign technologies or modes of production. But there is an alternate hypothesis—since firms have to be efficient to compete on international market, only firms that are already efficient are able to export (the '*self-selectivity*' hypothesis). Although inefficient firms might be protected from international competition in domestic markets by natural barriers (e.g., high transportation costs) and policy barriers to trade (e.g., government tariffs and quotas or inefficient ports or customs administration), they are unable to enter international markets. It is important to note that the two hypotheses are not mutually exclusive. Even if efficient firms are more likely to start exporting, this does not rule out the possibility that exporting will help them increase their productivity further.<sup>36</sup> The results from this study cannot distinguish between the two hypotheses.

*Technology.* In column (4), a variable representing ICT use is included in the model—the percent of workers that use computers for their work. The coefficient on this variable is positive and statistically significant suggesting that firms that use ICT more intensively are more productive than enterprises that do not. A 1 percentage point increase in the share of workers using computers increases productivity by between three-quarters and one percent.

In addition to this measure of ICT use, we also experimented with an additional ICT related measure: a dummy variable indicating that the firm uses e-mail to communicate with clients and suppliers. In other countries in Africa, firms that do so appear more productive than those that do not. When this variable is included in the analysis for South Africa, the coefficient is statistically insignificant with a negative coefficient. It might not be surprising that e-mail appears less important in South Africa than in other countries in Sub-Saharan Africa. Over 98 percent of enterprises use e-mail, meaning that there is little variation along this dimension.

*Human Capital.* In Column (5), several additional variables representing the firm's human capital are added to the base regression. The variables are a dummy variable indicating that the firm's manager has a graduate (BA, BSc, etc.) or higher degree. In addition, the

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<sup>35</sup> The large literature on this topic is summarized in Tybout (2003) and Keller (2003).

<sup>36</sup> The evidence appears to support both hypothesis to some degree. For example, several econometric studies that have looked at whether enterprises improve their productivity before or after they start exporting have found that productivity improvements precede exporting, providing support for the self-selectivity hypothesis. See for example, Clerides *et al.* (1998), Bernard and Jensen (1999), Liu *et al.* (1999) and Aw *et al.* (2000). However, case studies often support the 'learning by exporting' hypothesis. Studies of exporters in Korea and Taiwan found that export buyers were an important source for new technologies, which they provided in various forms including complete blueprints, information about manufacturing processes and quality control methods, technical advice and on-site plant inspections, and training for technical and production staff (Westphal, 2002)

regression includes two variables indicating the percent of employees who have less than 6 years education and between 6 and 12 years education.

Managerial and worker education both affect productivity. Firms with a manager with a graduate degree are between 20 and 25 percent more productive than firms with less educated managers. Worker education also matters—firms with more employees with some tertiary education are more productive than firms with more employees with only primary or secondary education. Interestingly, the coefficients on the two variables suggest that the increasing the education of employees with a primary education or less to a secondary education would not have a large impact on productivity. The coefficients on the two variables are almost identical. In fact, tests fail to reject the null hypothesis that the coefficients are equal, suggesting that the main difference is between firms with more employees with a tertiary education and firms with employees with only primary and secondary education. The results for worker education are not highly robust. When they are included along with the other variables with statistically significant coefficients (see column 8), their coefficients become smaller and statistically insignificant.

*Training.* In column (6), two variables related to the firm's training program are added to the base regression—the percent of skilled and unskilled workers that received formal training in that year. The coefficients on the two variables are small and statistically insignificant at conventional significance levels. The coefficient on percent of unskilled workers that received training was negative—although statistically significant. As a robustness check, these variables were replaced with a simple dummy variable indicating that the firm offered formal training program to its employees. The coefficient on this variable was also statistically insignificant with a small negative sign.

One possible explanation for this is that firms might be more likely to have formal training programs for workers when they have a high number of new, poorly educated, or inexperienced employees. The result, however, suggests that current training programs might not be fulfilling their desired purpose.

*Access to Finance.* As a final exercise, two dummy variables indicating that the firms have overdraft facilities and bank loans are added to the base regression. The coefficient on these variables are both negative. And the coefficient on the dummy indicating that the firm has an overdraft facility is marginally statistically significant. The negative coefficient suggests that firms with overdraft facilities are about 12 percent less efficient than other enterprises.

If firms were starved of credit, we would expect the coefficient on this variable to be positive. If banks make few loans, we would expect better firms to be more likely to get them. Even if banks were doing a poor job of allocating credit to the most productive firms, we would still expect a positive coefficient if lack of credit was hurting the performance of firms without access.

One plausible explanation for the negative coefficient is that better performing firms have less need of bank credit. That is, the most efficient firms—which should be more profitable than less efficient firms if all else were equal—are more able to finance investment and working capital out of retained earnings and might have better access to other sources of credit (e.g.,

equity or trade credit). Thus, firms with bank credit appear less, not more, productive than firms without.

In summary, firms that are older, are completely privately owned, export more, use technology more intensively, and have better educated managers and workers tend to be more efficient. But there is little evidence that firms with training programs are more efficient. This final result could be because firms with poorer quality workers have to train them more intensively or could reflect that training programs are not currently very effective.

## II. PROFITABILITY

At the enterprise-level, profitability is associated with better firm performance. Firms that are more productive and that have lower overhead costs will be more profitable than other firms.<sup>37</sup> But at the industry level, high profitability could also reflect a lack of competition. When markets are less competitive, firms will be able to earn higher profits than in more competitive markets where profits will typically be competed away.

Macroeconomic evidence suggests that profits decline significantly before 1994, but have risen significantly over the past decade. Overall, the net rate of profit in the private sector was two-thirds higher in 2001 than in 1990.<sup>38</sup> The only sector that saw a small decline in the net profit rate was manufacturing—the sector covered in this investment climate survey. The major increases in profits occurred in trade, catering and accommodation and finance and business services. As the sectors with the highest rates of return, these sectors have been growing most rapidly and the changing sectoral composition of the economy is set to continue.

For the median manufacturing enterprise in the investment climate survey that was operating only in domestic markets, profitability was about 8.3 percent in South Africa in 2002 (see Figure 15).<sup>39</sup> This was slightly higher than in Malaysia (6.5 percent) and slightly lower than in Brazil (16.1 percent). Since indirect costs and depreciation were unavailable for firms in the Investment Climate Surveys for Poland and Lithuania, we also calculate profitability excluding these items for all five middle-income countries. The results for Malaysia, South Africa and Brazil were qualitatively similar. Profitability was lower in South Africa than in Brazil—although the difference was closer than before—and higher than in Malaysia. Profitability was also higher than in Poland or Lithuania.

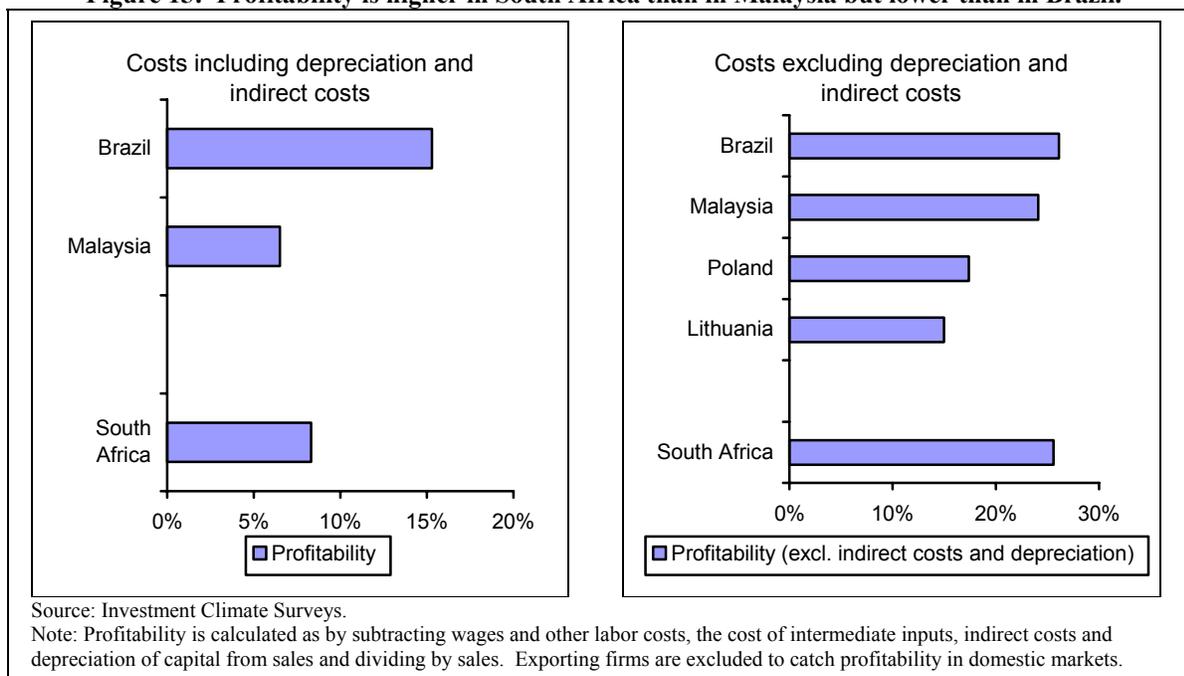
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<sup>37</sup> This is true in this data set. The simple correlation between the technical efficiency and profitability is 0.16 and is statistically significant at a 1 percent level. This remains true after controlling for enterprise size, sector and age.

<sup>38</sup> Natrass (2003):148

<sup>39</sup> Note that due to data considerations, profitability is defined differently than in the macroeconomic series. Profitability is calculated as by subtracting wages and other labor costs, the cost of intermediate inputs, indirect costs and depreciation of capital from sales and dividing by sales.

**Figure 15: Profitability is higher in South Africa than in Malaysia but lower than in Brazil.**



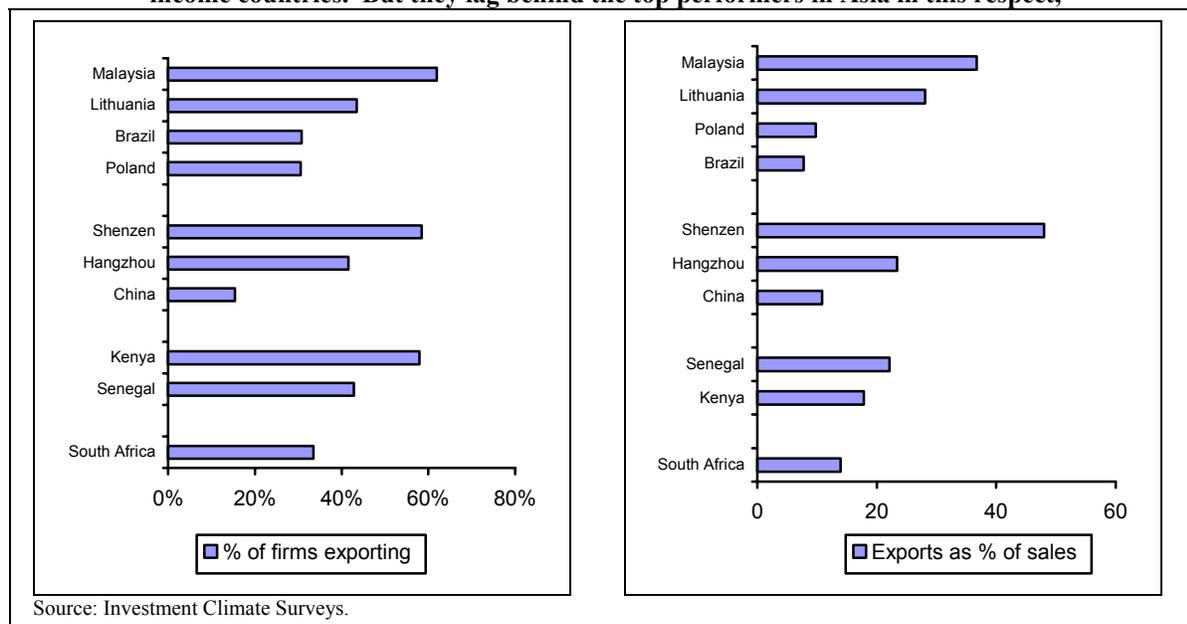
Given that industrial concentration is thought to be exceptionally high in South Africa (Fedderke and Szalontai, 2005), it might seem strange that profitability, while high, is not completely out-of-line with the other middle income countries where Investment Climate Surveys have been completed. There are two plausible explanations for this. First, although market concentration might result in excess profits, these excess profits might be captured by other stakeholders. Consistent with this idea, Fedderke and Szalontai (2005) find that unit labor costs are higher in industries in South Africa that are more highly concentrated. If labor successfully captures part of the excess profits, market concentration might not lead to large increases in profitability. Second, this result seems to be broadly consistent with other work that looks at price markups in different countries. In particular, a recent study that looked at price markups in South Africa found that mark-ups in South Africa appeared to fall within the range of price mark-ups estimated in international studies.<sup>40</sup>

<sup>40</sup> See Edwards and Van de Winkel, (2005). When intermediate inputs were excluded, mark-ups appeared to be in the lower end of the range, whereas when they were included, mark-ups were in the higher end of the range. A separate study (Fedderke and others, 2003) found higher markups when excluding intermediate inputs and a lower markups when including them. However, the mark-ups from also fell within the range estimated in international studies (Hoekman and others, 2001; Kee and Hoekman, 2003)

### III. EXPORTING

About 34 percent of South African firms exported in 2002, with the average firm exporting about 14 percent of sales (see Figure 16). This was slightly higher than in Brazil and Poland (31 percent of firms and seven and ten percent of sales), but was lower than in Lithuania (28 percent of sales).

**Figure 16: South African firms are as likely to export and export as much as firms in most middle-income countries. But they lag behind the top performers in Asia in this respect,**



But South African manufacturing firms lagged behind Malaysia and the best performing provinces in China in this respect. Although only 15 percent of Chinese firms were involved in exporting and the average firm exporting 11 percent of sales, this was primarily due to the low export performance of firms in interior provinces. In the most productive provinces included in the investment climate, Chinese firms were more likely to export than South African firms (42 percent in Hangzhou and 58 percent in Shenzhen) and the average firm in these provinces exported more of their output than the average firm in South Africa (23 percent in Hangzhou and 48 percent in Shenzhen). Malaysian firms were also more likely to export and exported a greater share of sales than firms in South Africa.

Although South African firms were less likely to export than firms in Kenya and Senegal, these two countries considerably outperformed the other countries in Sub-Saharan Africa where investment climate surveys have been completed. For example, only 26 percent of Tanzanian firms, 19 percent of Ugandan firms and 7 percent of Ethiopian firms exported any part of their production.

Exports from South Africa differ from exports by other African firms in another way—South African exporters were more likely to export outside of Africa (see Table 10). Firms in the investment climate surveys were asked to list their three most important export partners. For Kenyan exporters, 74 percent included Uganda among their top three destinations, 61 percent listed Tanzania and 19 percent listed Rwanda. The top industrialized nation was the United

Kingdom, which was included among the top three destinations for only 8 percent of firms. The pattern for Senegal was similar—the three countries that were most likely to be included in the top three destinations were all neighboring countries in West Africa.

In contrast, 24 percent of South African firms included the United Kingdom among their top three destinations and 20 percent included the United States. The top African destination was Namibia, which was included in the top three destinations for 19 percent of firms. In this respect, South Africa is more like China—there the top three destinations were the United States, Japan and Germany..

**Table 10: Main export destinations for enterprises included in the Investment Climate Surveys**

	<b>Most Important Export Destinations (% of exporters that report destination is important)</b>	<b>Most important industrialized export destination</b>
<b>South Africa</b>	United Kingdom (24%); United States (20%); Namibia (19%)	United Kingdom (24%)
<b>Kenya Senegal</b>	Uganda (74%), Tanzania (61%), Rwanda (19%) Gambia (39%), Mali (36%), Mauritania (31%)	United Kingdom (8%) France (18%)
<b>China</b>	United States (32%); Japan (31%); Germany (10%); Korea (10%)	United States (32%)

Source: Investment Climate Surveys.

Note: Enterprises were asked to list their three most important export destinations. Countries are ranked based upon the number of enterprises that ranked each country among the top three. Not all enterprises reported three destinations.

About 55 percent of South African enterprises included at least one African country among their top three export partners, whereas about 57 percent included at least one non-African country in their top three (see Table 10). Most firms, however, only included either African countries or non-African firms among the top three—few counted both African and non-African firms among their top export destinations. For example, although 34 percent of exporters reported at least one SACU country among their top three destinations and 50 percent reported at least one non-SACU country among the top three, only 2 percent of firms that included an OECD countries among their top destinations also included an African country in SACU among their top three and only 17 percent included an African country not in SACU. In contrast, 56 percent of firms that included an African country not in SACU among their top three destinations also included an African country in SACU.

**Table 11: Few firms in the Investment Climate Survey export to both African and non-African economies**

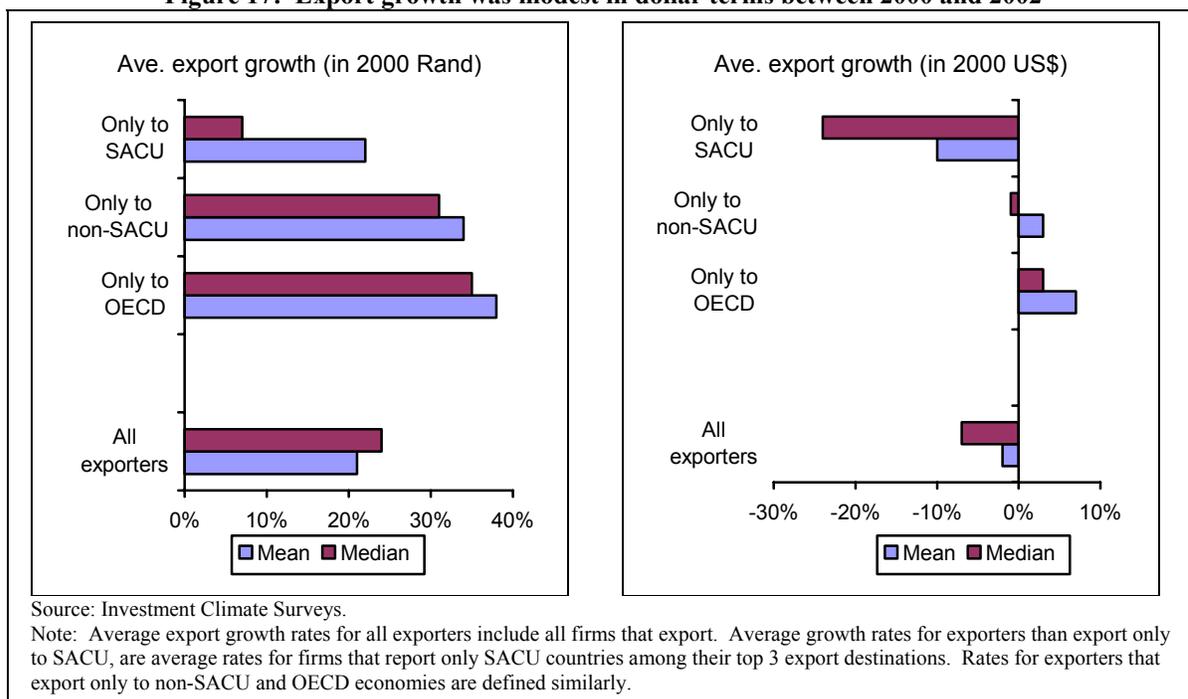
	<b>All exporters</b>	<b>With OECD country in top 3</b>	<b>With SACU country in top 3</b>	<b>With non-SACU African country in top 3</b>	<b>With other country in top 3</b>
With OECD countries among top 3 destinations	51%	---	3%	18%	70%
With SACU countries among top 3 destination	34%	2%	---	56%	12%
With non-SACU African countries among top 3	50%	17%	84%	---	30%
With non-African/non-OECD countries among top 3	20%	27%	7%	12%	---
With only non-African countries among top 3	44%	---	---	---	---
With only African countries among top 3	42%	---	---	---	---
With both African and non-African countries in top 3	13%	---	---	---	---

Source: Investment Climate Surveys.

Note: Enterprises were asked to list their three most important export destinations. Enterprises are classified based upon countries listed among their top three export destinations. Not all enterprises reported three destinations.

Exports increased as a percent of sales between 2000 and 2002 in South Africa. Whereas the average firm exported about 12% of sales in 2000, the average firm exported about 14% of sales in 2002. The share of firms involved in exporting also increased over this period—from 30 percent in 2000 to 34 percent in 2002. Although this might suggest that South African firms have become more competitive over this period, it is important to note that the Rand depreciated by about 24 percent in real terms over this period and depreciated by slightly more against the US dollar, the Euro, and the British Pound (about 26-28 percent).<sup>41</sup> Because this makes South African goods relatively cheaper in dollar terms, this might be expected to increase exporting.

**Figure 17: Export growth was modest in dollar terms between 2000 and 2002**



When calculated in Rand, export growth appeared relatively robust over this period, increasing by about 21 percent for the average firm and about 24 percent for the median firm in the investment climate survey (see Figure 17). Growth was especially robust for firms that exported primarily to OECD economies and outside of the SACU. For firms that exported primarily to OECD economies, exports grew by for the average firm by 38 percent and for the median firm by 34 percent. In contrast, for firms that primarily exported to other countries in the SACU, exports grew more slowly when measured in Rand (7 percent for the median firm and 21 percent for the average firm). Since the currencies of most other countries in the SACU are pegged to the Rand, it is not surprising that the increase was more modest.

<sup>41</sup> The trade-weighted Real Exchange Rate is from IMF (2005). The bilateral exchange rates are calculated using the formula from Hinkle and Montiel (1999, p. 45) using CPI as measure of inflation.

Due to the depreciation of the Rand, export growth might be overstated when measured in Rand. Studies using aggregate data suggest that South African firms are price takers in international markets (Edwards, 2005), suggesting that this might be a more appropriate way of measuring export growth at the firm level at least for firms exporting to OECD economies.<sup>42</sup> Measured in dollar terms, exports actually fell between 2000 and 2002—seven percent for the median firm and two percent for the mean firm. For firms that primarily export to OECD economies, exports increased slightly in dollar terms—three percent for the median firm and seven percent on average.

The modest short-run export supply response might seem to be inconsistent with macroeconomic evidence that suggests a relatively large long-run response. For example, Edwards (2005) finds that a 1 percent increase in the relative price of exports raised average manufacturing exports by between 1.8 and 2.5 percent, while Edwards and Golub (2004) find a long-run elasticity of between 1.6 and 2.8 percent. However, this is not necessarily the case. First, short-run export responses appear to be considerably smaller than long-run responses. Edwards (2005) estimates that a 1 percent increase in relative prices increased exports by 0.3 to 0.4 percent in the short-run during the 1980s and 1990s—a more appropriate comparator for these figures. Further, previous work using firm level data from the Greater Johannesburg Metropolitan Area has suggested that exports by small and medium sized South African manufacturers (i.e., with less than 200 employees) responded only modestly to changes in the real exchange rate in the 1990s.<sup>43</sup> The modest response to changes in the real exchange rate might be due to risk aversion—30 percent of the small and medium sized firms in the previous study decided to wait and see whether the depreciation was going to be reversed before altering production plans or substituting away from imports. Since the Investment Climate Survey is made up predominately of small and medium-sized enterprises—over half the firms have fewer than 100 employees and close to three-quarters have fewer than 200 employees—it might not be surprising the response has been modest for firms in this sample.

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<sup>42</sup> If South African firms make up a relatively small share of the market in most of these manufactured goods, international prices (measured in dollars or Euros) might not change significantly due to the depreciation of the Rand. That is, if South African exporters set prices and earn revenues in dollars or Euros, revenue will increase in Rand due to depreciation, even if firms do not export more in quantity terms. For exports to countries such as the SACU economies who peg their currency to the Rand, this is likely to underestimate the growth in exports.

<sup>43</sup> Chandra and others (2001a)

**Table 12: Median productivity by industry, size, export status, location and ownership in 2002**

	Capacity Utilization	Capital per Worker (book value, RAND)	Capital Productivity (book value)	Value-Added Per Worker (RAND)	Labor Cost Per Worker (RAND)	Unit Labor Costs
<b>Overall</b>	<b>77.8</b>	<b>36,200</b>	<b>4.1</b>	<b>147,900</b>	<b>77,200</b>	<b>0.45</b>
<b>Sector</b>						
Garments	81.5	13,100	4.3	75,300	43,200	0.57
Food and Beverage	77.0	30,900	4.0	210,300	63,000	0.28
Chemicals	72.3	52,900	4.0	218,800	98,900	0.41
Construction Materials	86.2	49,300	4.5	99,500	96,000	0.28
Furniture and Wood	77.7	26,700	5.2	114,100	53,800	0.48
Metals	78.9	39,100	4.5	151,500	94,300	0.54
Paper, Publishing and Printing	78.5	40,100	3.2	166,000	71,100	0.47
Plastics	78.1	35,900	2.9	129,300	68,200	0.42
Machinery	74.8	37,100	7.7	198,800	96,500	0.51
Electrical Equipment	79.2	32,700	4.9	183,300	74,600	0.44
Automobiles and Automobile Parts	71.4	58,200	1.9	145,900	88,700	0.69
Other Manufacturing	77.8	41,300	3.9	172,200	89,400	0.45
<b>Size</b>						
Small (10-49 employees)	75.6	45,400	3.2	122,300	63,700	0.45
Medium-Sized (50-99 employees)	79.5	43,500	3.1	125,800	73,900	0.54
Large (100-499 employees)	77.2	32,000	6.3	201,300	88,800	0.41
Very Large (Over 500 employees)	80.2	34,800	4.5	140,700	79,700	0.44
<b>Export Status</b>						
Non-Exporters	77.9	35,100	4.1	132,000	70,700	0.46
Exporters	77.6	40,300	4.2	187,000	89,500	0.44
<b>Foreign Ownership</b>						
Domestically Owned	77.9	34,800	4.0	135,000	71,700	0.48
Foreign Owned	77.3	40,900	4.3	222,200	98,600	0.37
<b>Province</b>						
Gauteng	77.4	40,100	4.2	174,700	91,600	0.50
KwaZulu-Natal	81.4	23,500	3.8	113,900	48,800	0.36
Western Cape	77.6	26,300	4.4	91,800	42,700	0.40
Eastern Cape	76.1	54,900	4.1	145,900	66,800	0.44
<b>Ownership</b>						
Corporate Owned	77.3	43,000	4.4	213,400	98,700	0.39
Individual/Family - Black/Colored	71.5	27,700	4.2	112,400	67,600	0.55
Individual/Family - European/Caucasian	79.1	30,000	4.0	119,400	59,900	0.52
Individual/Family - Asian	76.0	38,300	3.3	105,700	58,100	0.49

Source: Investment Climate Survey.

Note: See figures for detailed notes. Workers are permanent and temporary workers. Capital is the book value of machinery and equipment. All numbers are medians, except for capacity utilization which is a mean.

Table 13; Impact of Enterprise Characteristics on Total Factor Productivity

Observations	Value-Added (Natural Log)							
	486	485	484	485	411	465	485	410
<b>Production Function</b>								
Capital (sales value) (natural log)	0.4653*** (4.97)	0.4819*** (5.49)	0.4726*** (5.56)	0.4299*** (5.02)	0.4729*** (4.13)	0.4933*** (5.12)	0.4906*** (5.60)	0.4331*** (3.93)
Workers (natural log)	0.5857*** (5.01)	0.4881*** (4.45)	0.4873*** (4.61)	0.5585*** (5.30)	0.5021*** (3.25)	0.4949*** (4.08)	0.4824*** (4.43)	0.5553*** (3.78)
<b>Enterprise Characteristics</b>								
Age of Enterprise (natural log of years)		0.0961*** (2.84)	0.1030*** (3.13)	0.0819** (2.52)	0.0802** (2.26)	0.0885*** (2.62)	0.0970*** (2.88)	0.0756** (2.25)
Enterprise Is Partially Government Owned (dummy)		-1.0396** (2.01)	-1.2660*** (2.64)	-1.3822*** (2.89)	-2.1037*** (3.24)	-0.9992* (1.95)	-1.1067** (2.14)	-2.0705*** (3.40)
Enterprise Owner - Corporation (dummy)		0.5971*** (3.93)	0.5628*** (3.72)	0.5480*** (3.74)	0.6318*** (3.92)	0.6030*** (3.91)	0.5567*** (3.65)	0.5977*** (3.80)
Enterprise Owners - Family/Individual - Caucasian/European (dummy)		0.1804 (1.21)	0.1790 (1.23)	0.2014 (1.40)	0.2460 (1.55)	0.1916 (1.26)	0.1705 (1.15)	0.2823* (1.86)
Enterprise Owner - Family/Individual - Asian (dummy)		0.0079 (0.04)	0.0381 (0.21)	0.0819 (0.45)	0.0737 (0.38)	0.0257 (0.14)	-0.0193 (0.10)	0.1727 (0.92)
<b>Globalization</b>								
Exports (as % of sales)			0.0065*** (4.23)					0.0061*** (3.78)
Enterprise Is Partially Foreign Owner (dummy)			0.0741 (0.85)					0.0375 (0.40)
<b>Technology Use</b>								
Percent of workers using computers				0.0097*** (6.16)				0.0075*** (4.45)
<b>Human Capital</b>								
Manager has tertiary education (dummy)					0.2493** (2.56)			0.2022** (2.16)
Percent of workers with primary education (dummy)					-0.0067** (2.27)			-0.0036 (1.27)
Percent of workers with secondary education (dummy)					-0.0075*** (2.77)			-0.0033 (1.24)
<b>Training</b>								
Percent of unskilled worker that received formal training						-0.0007 (0.47)		
Percent of skilled workers that received formal training						0.0016 (1.13)		
<b>Access to Capital</b>								
Firm has overdraft facility (dummy)							-0.1237* (1.80)	
Firm has bank loan (dummy)							-0.0520 (0.81)	

\*\*\* Significant at 1% level \*\* Significant at 5% level \* Significant at 10% level. T-statistics in parentheses. Dependent variable is log of value-added. Capital is the amount the enterprise would receive if it sold its capital.

<sup>a</sup> Coefficients are reported for firms in the agro-industry sector. In addition, sector dummies and sector specific production functions are included for 11 sectors (agro-industry; chemicals and paints; construction materials; metals; furniture and wood; paper, printing and publishing; plastic; machinery; auto and auto parts; electrical goods; other manufacturing; and textiles, garments and leather). The dummies are interacted with capital, labor and intermediate inputs to allow sector-specific production technologies.

## CHAPTER 3: CHARACTERISTICS OF THE LABOR MARKET

A well-functioning labor market is vital to the success of the government's policies to redress historical inequalities and to establish a vibrant and globally competitive economy. In this section, we use firm-level data provided by the personnel managers together with employee survey data as a basis for a detailed description of the labor market in the manufacturing sector. We start this chapter with a broad description of the labor market in the three sectors surveyed. This is followed by an examination of wage-setting behavior, worker training and the determinants of employment growth. Finally, we present some information on labor regulations in South Africa.

The manufacturing sector accounts for 18% of non-agricultural formal employment and 15% of total employment in South Africa. The other sectors examined in this section, Retail/Wholesale and Construction, account for X and Z% respectively (Stats SA, 2003, 2004). While there has been aggregate growth in the three sectors examined here, employment growth has not been sufficient to make a dent in very high unemployment rates. An understanding of the sources of employment growth, wage setting mechanisms in the labor market and the impact of labor regulation are all important in order to execute vital policies in this arena.

### I. WORKER CHARACTERISTICS

Up to ten employees per firm were surveyed as part of the data collection exercise. An attempt was made to survey at least one worker from each of the five major occupation categories: managers/proprietors, skilled professionals, technical production workers, unskilled production workers and non-production workers. Table 14 shows average demographic characteristics of employees surveyed in each of the three industrial sectors examined in the survey.

**Table 14: Worker Characteristics**

Size	Age	Experience	Tenure	Schooling	% Female
<b>Construction</b>					
Small	40.10	19.50	8.34	11.26	40
Medium	36.79	14.37	6.00	11.18	40
Large	41.02	19.37	8.83	11.24	30
Very large	40.91	19.47	6.70	11.11	50
<b>Total</b>	<b>39.79</b>	<b>18.31</b>	<b>7.51</b>	<b>11.20</b>	<b>40</b>
<b>Manufacturing</b>					
Small	38.29	16.27	6.31	10.56	40
Medium	38.48	15.27	6.34	10.90	30
Large	38.44	15.81	7.16	10.82	40
Very large	39.46	17.32	9.00	11.19	40
<b>Total</b>	<b>38.71</b>	<b>16.22</b>	<b>7.29</b>	<b>10.89</b>	<b>40</b>
<b>Retail/Wholesale Trade</b>					
Small	36.60	14.34	5.35	11.41	60
Medium	38.42	16.58	9.37	11.13	50
Large	33.22	11.22	3.81	11.62	60
Very large	37.00	14.93	7.88	11.71	60
<b>Total</b>	<b>36.62</b>	<b>14.49</b>	<b>6.51</b>	<b>11.45</b>	<b>60</b>

Source: Investment Climate Survey

The average age, experience, tenure, schooling and sex of workers are similar across the three sectors. Sampled workers from the retail and construction sectors are marginally older, more likely to be female and have more schooling than sampled workers in manufacturing. Table 15 confirms the similarities across sectors of sampled workers. The modal worker in the Construction sector is a technician, an unskilled production worker in manufacturing and a sales worker in the retail industry. The modal worker in construction and retail has completed matriculation while the modal worker in construction dropped out of school just before acquiring the high school matriculation degree (CHECK).

**Table 15: Characteristics of Modal Worker**

Sector	Age	Experience	Tenure	Schooling
Construction	36.1	14.8	5.2	11.8
Manufacturing	35.9	12.9	5.9	9.8
Retail/Wholesale	34.6	12.3	5.2	11.6
1994 labor force survey-private sector	35.7	21.0	-	7.7

A comparison with employed private sector workers in the 1994 labor force survey suggests that lower education workers are under-represented in our worker sample.<sup>44</sup>

## II. REMUNERATION AND DETERMINANTS OF WAGES

The nature of the contract between the firm and employee determines the extent to which changes in the product market, external conditions and regulations are likely to affect growth in employment. The type of contract written between firms and workers depends on monitoring technologies, regulations governing hiring and firing and prevailing labor market conditions. Equilibria in the labor market is broadly defined by the level of employment and the level of remuneration.

Firms were asked to provide average monthly wages for employees of each of the five categories of labor:- managers/proprietors, professionals, skilled production workers, unskilled production workers and non-production workers. Table 16 below shows average monthly wages in thousands of South African Rand.

**Table 16: Average monthly salary, 000 ZAR—Firm level estimates**

Industry	Managers /Owners	Professionals	Skilled Prod. Workers	Unskilled Prod. Workers	Non-prod. Workers	Total
Construction	18.92	12.65	6.89	2.59	3.99	5.79
Manufacturing	19.59	13.25	7.02	2.77	4.03	10.56
Retail - Wholesale	16.66	10.68	6.74	2.54	3.98	6.36
<b>Total</b>	<b>19.35</b>	<b>13.08</b>	<b>6.99</b>	<b>2.74</b>	<b>4.02</b>	<b>9.64</b>

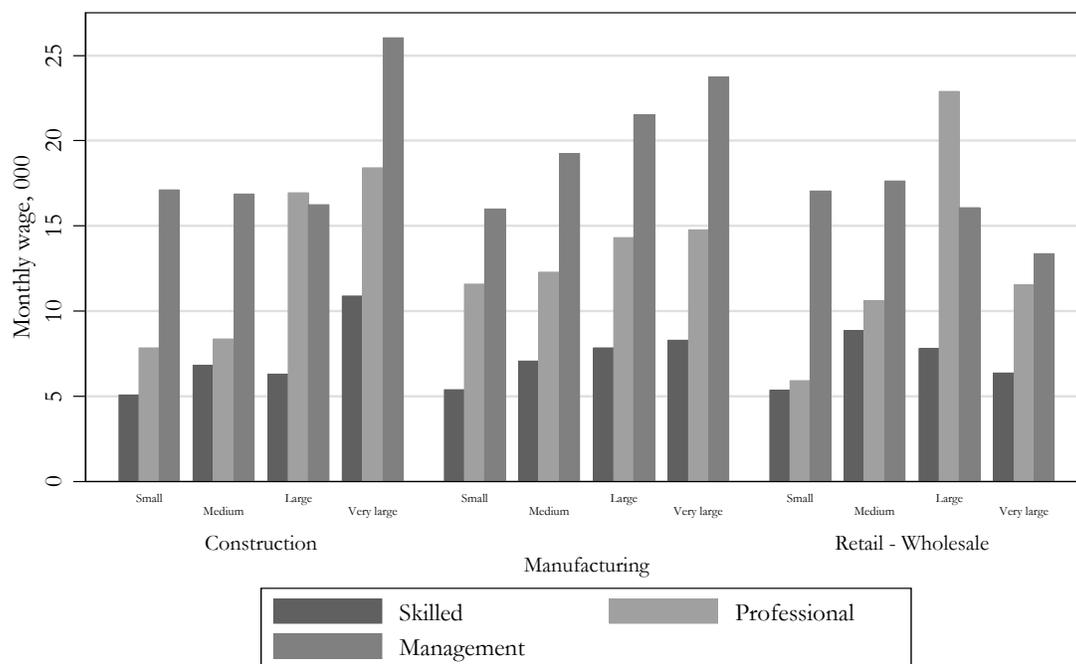
Average monthly wages for each category are generally uniform across sectors. In spite of this, the last column in table 5 above shows that average wages in manufacturing are

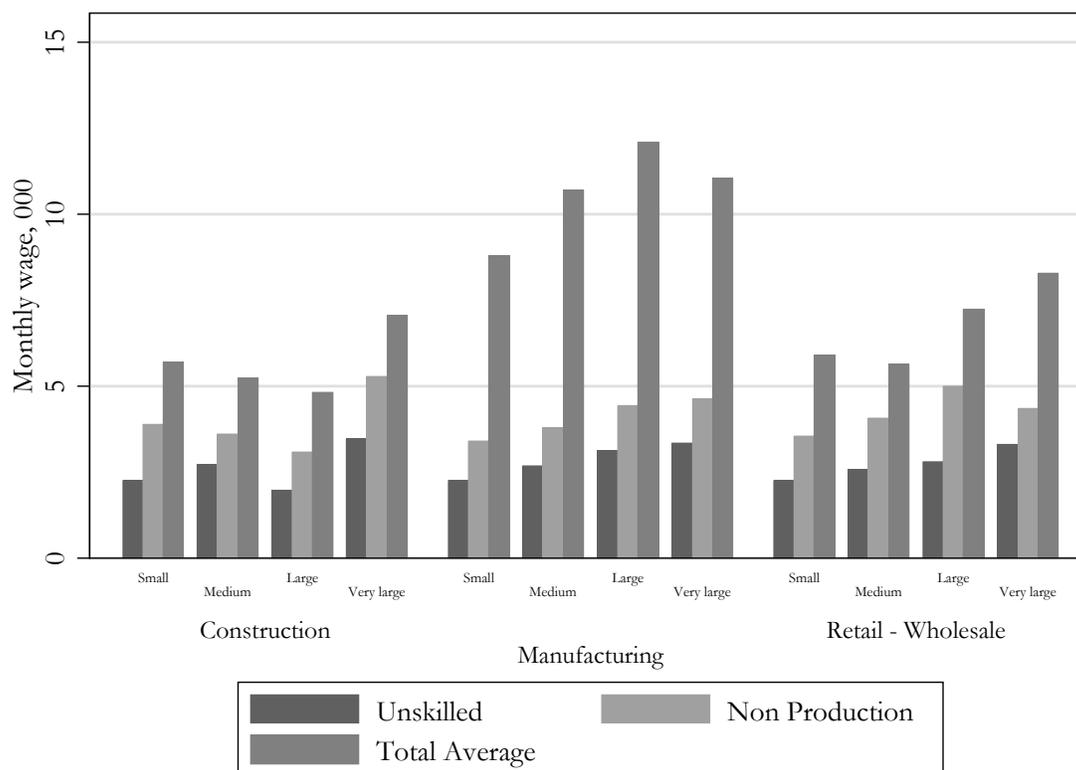
<sup>44</sup> While the 1994 sample includes workers in the agricultural, mining and informal sector, it is possible that the sample of workers used here is atypical. This could be the result of an unrepresentative sample of workers in the sampled firms or that the firms used in this survey do not employ typical workers.

considerably higher than average wages in the two services sectors. This is likely due to the skill composition of labor in each of these sectors with a higher proportion of skilled workers in the manufacturing sector. Unskilled production workers in all sectors earn approximately 2700 Rand per month.

Figure 18 and below show average monthly wages for skilled and unskilled workers broken down by size class. The figures are suggestive of the types of wage setting mechanisms at play in the labor market.

**Figure 18: Firm-level wages--Skilled Workers**



**Figure 19: Firm-level wages--Unskilled workers**

There is a discernible rise in the wages paid for each group of workers with firm size. This is particularly so for the manufacturing sector. Secondly, the skill premium in the manufacturing sector is considerably higher than the retail and construction sectors. These two observations provide prima facie evidence for the operation of the labor market in South Africa. A number of theories of the labor market are consistent with this story and we examine each in turn.

Firstly, if workers might share rents with owners and collective bargaining arrangements might be stronger and more prevalent amongst larger firms, this could higher wages by firm size. Table 17 below presents some evidence in support of this hypothesis. Unionization rates are highest amongst very large firms relative to small firms. Similarly unionization is highest in manufacturing at 56% of the workforce compared to about half that in the retail/wholesale sector.

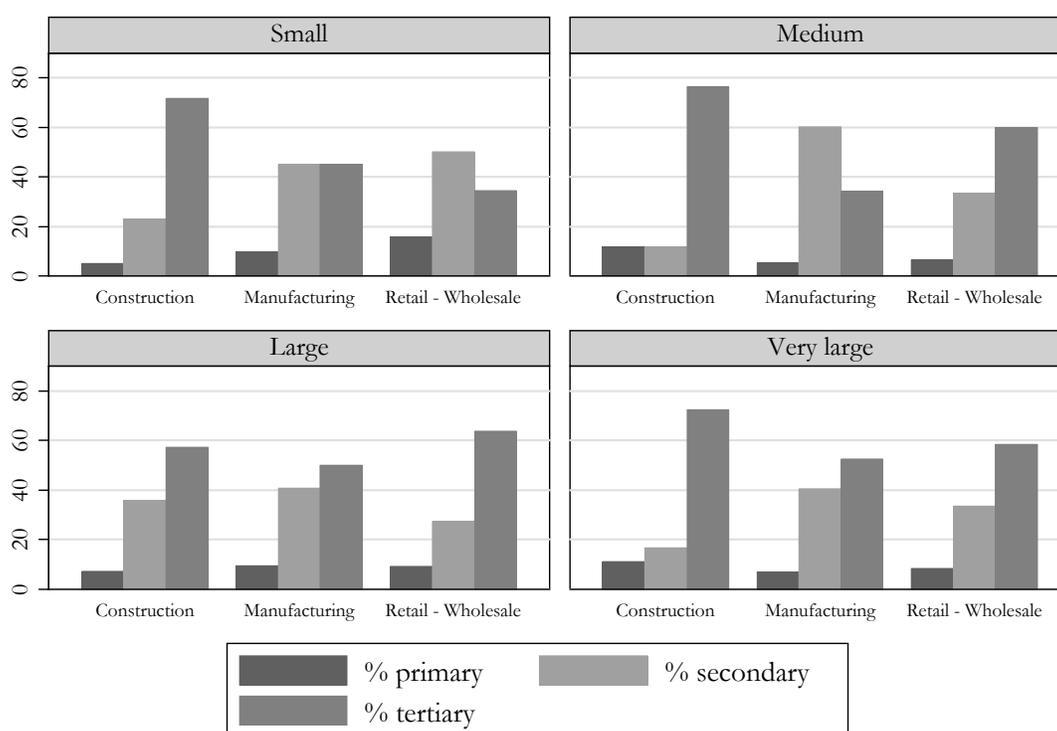
**Table 17: Percent of Workers Unionized**

Industry	Small	Medium	Large	Very large	Total
Construction	20.5	40.0	34.6	52.5	32.7
Manufacturing	37.2	53.8	64.8	69.8	55.9
Retail – Wholesale	16.5	56.6	24.6	27.4	28.0
<b>Total</b>	<b>31.3</b>	<b>52.65</b>	<b>59.1</b>	<b>65.1</b>	<b>50.4</b>

Value added per worker does show a weak relationship with firm size: large firms have the highest value added per worker followed by very large firms. Small and medium firms have the same level of value added per worker. However, it is difficult to reconcile this evidence with uniform wages for each job category across the three industries.

The second explanation for the wage levels observed above is that there is a conspicuous skill premium, particularly for the manufacturing sector. We observe the steepest wage-size-class gradients for skilled, professionals and managers. In order to pin down the source of these wage gradients, it is important to examine the skill composition of firms by size class. Figure 7 below shows that the share of workers with tertiary education increases with firm size. This evidence is also consistent with a positive labor quality-size class gradient: larger firms employ the best quality of labor within each of the schooling categories shown below. An examination of the schooling/experience of sampled workers does not confirm this. However, unobservable differences in quality within schooling categories could still generate this pattern.

**Figure 20: Proportion of labor force with primary, secondary and tertiary training**



Graphs by sizeclass

The traditional labor market model would predict that workers are paid their marginal products and that firms with higher capital per worker would pay higher wages, all else equal. For this story to be consistent with our data we require that capital per worker be positively associated with firm size. Table 12 does not show any strong association.

It is possible that the wage-size gradient is driven by efficiency wage motivations. As firms get larger, the cost of monitoring effort rises and induces firms to pay higher wages in

order to induce effort. In the context of the labor market in South Africa, regulation is typically enforced more strictly for larger firms. This explanation is also consistent with the gradient being steeper for the higher skilled workers for whom the standard punishment for shirking—firing, would not be as costly given the low levels of unemployment within these job categories.

Finally, it is possible for these observations to be reconciled by the strength of within-firm norms that pin down levels of inequality in pay between low and highly skilled workers. For this to be consistent with our data, we would require that norms were more strongly enforced in small firms and norms in manufacturing were less binding than norms in the other two sectors. In the absence of concrete data on attitudes of firms and workers to wage inequality, these remain plausible explanations of wage setting behavior in South African firms.

In order to disentangle these explanations, it is appropriate to run a regression that controls for a myriad of potential explanatory variables. In the table below, we regress the average monthly wage in thousands of Rand for each of the job categories: managers, professionals, skilled and unskilled workers against a set of explanatory variables meant to capture the ideas outlined above. We include controls for size and sector to account for heterogeneity in monitoring costs; we control for firm quality using foreign ownership, export status, age and age squared and schooling composition. Finally we include percent of workers unionized as a measure of differences in the bargaining power and total factor productivity to proxy for the size of available rents.

## Determinants of Wages: Firm level estimation

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Managers	Managers-TFP	Professionals	Professionals-TFP	Skilled	Skilled-TFP	Unskilled	Unskilled-TFP	Total	Total-TFP
Medium	2.635 (0.984)**	3.374 (1.050)**	0.088 (1.213)	0.766 (1.208)	1.044 (0.486)*	0.737 (0.500)	0.281 (0.150)	0.290 (0.149)	1.992 (1.480)	1.760 (1.500)
Large	4.345 (1.239)**	4.997 (1.304)**	2.374 (1.212)	2.803 (1.242)*	1.389 (0.558)*	1.446 (0.580)*	0.692 (0.181)**	0.740 (0.192)**	2.833 (1.792)	1.998 (1.757)
Very Large	7.031 (1.298)**	7.232 (1.423)**	3.248 (1.459)*	3.221 (1.610)*	2.223 (0.673)**	1.827 (0.725)*	0.961 (0.209)**	0.827 (0.220)**	1.720 (1.899)	-0.120 (1.730)
Firm exports	2.157 (1.033)*	1.695 (1.188)	0.973 (1.032)	0.940 (1.056)	0.524 (0.536)	0.684 (0.539)	0.118 (0.147)	0.104 (0.154)	4.043 (1.997)*	3.707 (2.129)
Foreign-owned	0.282 (0.998)	3.047 (1.127)**	-0.564 (0.997)	1.184 (1.164)	0.293 (0.601)	1.276 (0.699)	0.078 (0.188)	0.330 (0.218)	-0.458 (1.539)	-0.068 (1.685)
Firm age	0.981 (0.315)**	1.216 (0.407)**	0.661 (0.365)	0.432 (0.487)	0.448 (0.171)**	0.567 (0.223)*	0.032 (0.050)	0.007 (0.056)	-1.480 (0.650)*	-1.749 (0.785)*
Firm age sq	-0.011 (0.004)**	-0.014 (0.005)**	-0.007 (0.004)	-0.004 (0.006)	-0.005 (0.002)**	-0.007 (0.003)*	-0.000 (0.001)	0.000 (0.001)	0.017 (0.007)*	0.020 (0.009)*
% workers 6-9yrs schooling	0.040 (0.032)	0.016 (0.034)	0.045 (0.025)	0.033 (0.027)	0.026 (0.011)*	0.030 (0.011)**	0.003 (0.004)	0.002 (0.004)	-0.052 (0.037)	-0.080 (0.036)*
% workers 10-12yrs schooling	0.039 (0.028)	0.016 (0.032)	0.046 (0.025)	0.037 (0.027)	0.019 (0.011)	0.022 (0.011)*	0.012 (0.004)**	0.010 (0.004)*	0.038 (0.035)	0.022 (0.037)
% workers >12 yrs schooling	0.056 (0.041)	0.022 (0.045)	-0.033 (0.036)	-0.041 (0.040)	0.092 (0.017)**	0.086 (0.017)**	0.008 (0.006)	0.003 (0.006)	0.053 (0.042)	0.022 (0.049)
% workers unionized	0.020 (0.012)	0.014 (0.014)	0.002 (0.015)	0.016 (0.017)	0.012 (0.006)	0.007 (0.007)	0.004 (0.002)	0.002 (0.002)	-0.016 (0.020)	0.008 (0.020)
TFP-residuals		12.268 (4.240)**		10.752 (3.246)**		6.183 (1.936)**		2.146 (0.593)**		3.975 (5.053)
Constant	-11.102 (6.572)	-22.086 (8.542)*	-7.921 (7.316)	-11.934 (9.582)	-7.566 (3.396)*	-14.957 (4.488)**	0.422 (1.009)	-0.508 (1.255)	42.308 (13.801)**	43.783 (18.213)*
Sector Controls	X	X	X	X	X	X	X	X	X	X
Observations	315	269	193	170	309	261	296	257	386	325
R-squared	0.25	0.30	0.21	0.27	0.28	0.35	0.26	0.29	0.10	0.11
F-Test:	10.31	9.48	4.19	2.92	4.16	2.97	8.54	6.55	1.01	0.81
Firm size matters prob>F	0.00	0.00	0.01	0.04	0.01	0.03	0.00	0.00	0.39	0.49

Robust standard errors in parentheses.\* significant at 5%; \*\* significant at 1%. Dependent variable is average monthly wage in thousands of Rand

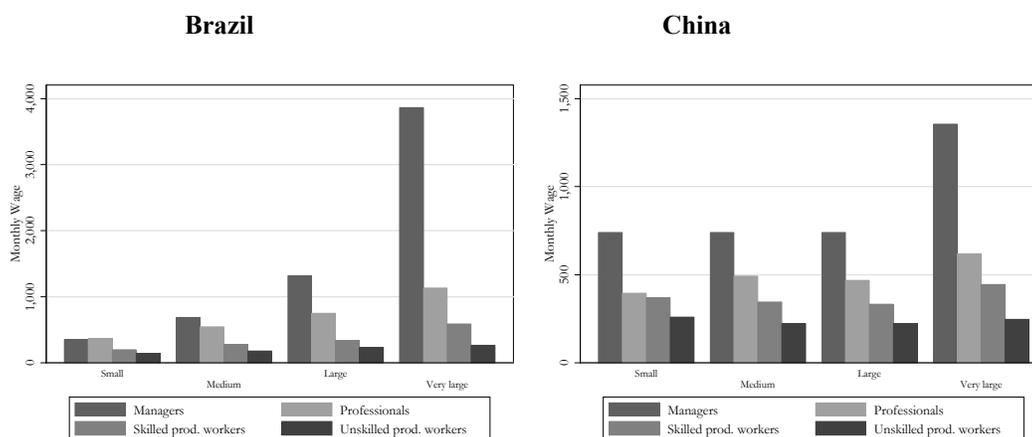
The results for each of the job categories are shown in columns 1-12. Columns 1 and 2 present results for average wages for management. Firm size explains a significant proportion of variation in average monthly wages (the omitted category is small firms). Even after controlling for other measures of quality, we cannot reject the hypothesis that firm size matters. Firm size also has a significant association between wages of unskilled workers and firm size (see columns 7 and 8).<sup>45</sup> The relationship between firm size and the wages of unskilled workers is consistent with the efficiency wage theory that predicts higher wages as monitoring costs rise. Holding other factors constant, large and very large firms pay an additional 700-900 ZAR per month for an unskilled worker than small firms. While we cannot rule out unobservable differences in worker quality, it is unlikely that these differences can account for a differential that is equivalent to 25-30% of average monthly wage for unskilled workers. Firm size does not hold in the aggregate as evidenced by the test statistics in columns 9 and 10.

The table above also shows strong effects of productivity on wages. This effect is strongest for managers: a unit change in firm productivity is associated with a change in monthly wages for managers that is twice as large as for skilled workers and nearly six times as large for unskilled workers.

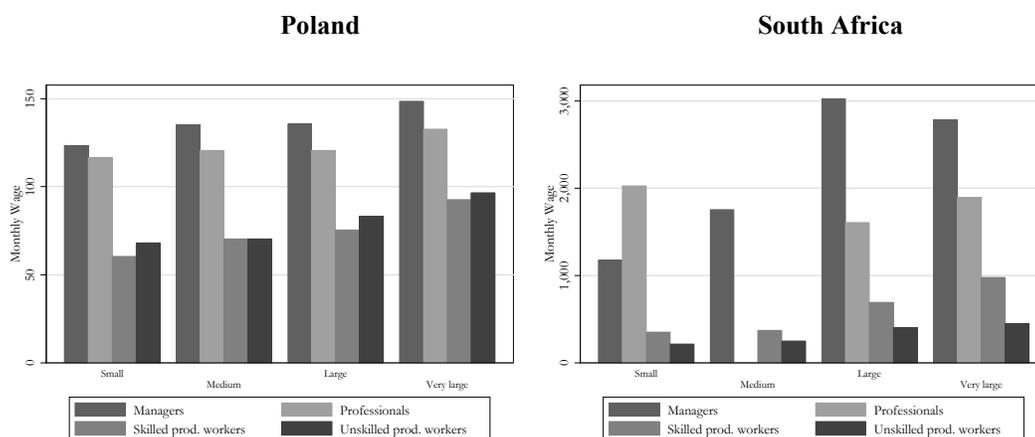
The wages of skilled workers are sensitive to the composition of the labor force. A 10-percentage point increase in the proportion of workers with more than 12 years of schooling is associated with an increase in monthly wage of skilled workers of nearly 1000 Rand.

We do not find strong evidence for the profit sharing explanation: the coefficient on the proportion of unionized workers although positive in all specifications, is not significant at the usual levels.

We turn next to an examination of wage setting in the manufacturing sectors of a set of comparator countries: Brazil, China, and Poland.



<sup>45</sup> For professionals and skilled workers, we reject the null hypothesis of no size effects at the 5% level but not the 1% level.



Average wages for workers in each of the countries shown varies substantially. Table 18 below shows median monthly wages in dollars for each of the job categories by country.

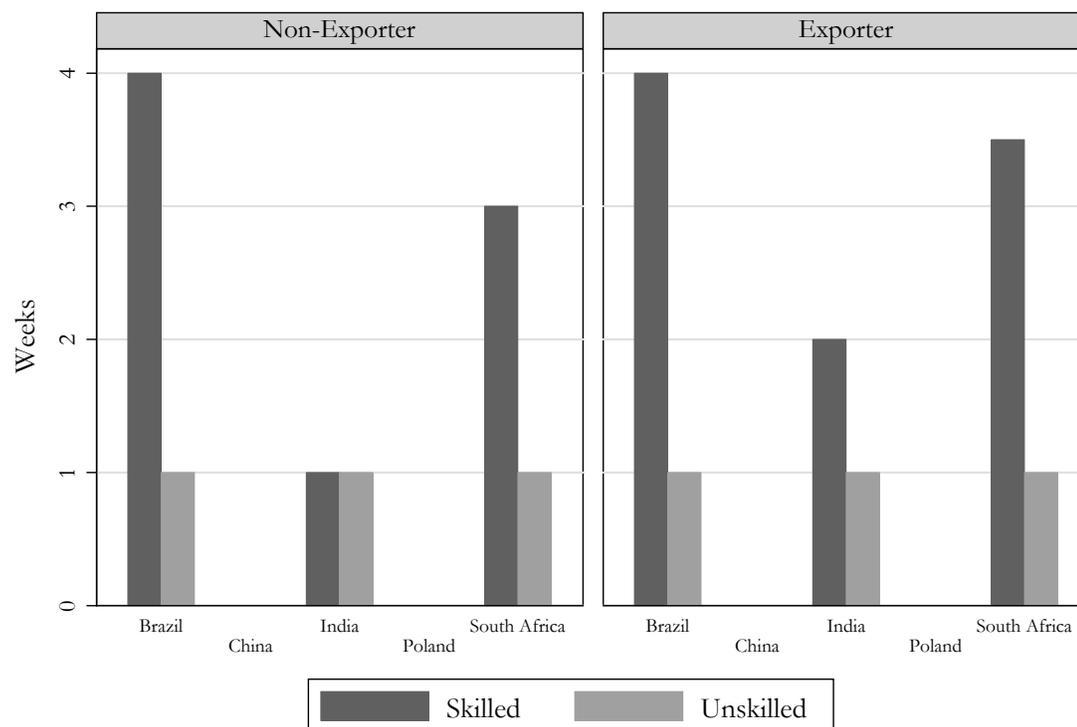
**Table 18: Median monthly wages, by worker type**

Country	Managers	Professionals	Skilled Production workers	Unskilled Production Workers	Total
Brazil	542	568	241	167	224
China	128	120	72	76	131
Poland	738	369	320	246	408*
South Africa	1848	803	487	241	675

Median monthly wages in South Africa are considerably higher than for all the comparator countries and all job categories. Examining the median wages of unskilled workers is important as it is a driver for foreign direct investment in textiles and other labor-intensive industries. At \$241/month, South Africa is only second to Poland and is about 4 times as expensive as China. Management in South Africa is very highly paid relative to other job categories. Managers in South Africa earn a median monthly wage that is 2.5 and 3 times as large as in Poland and Brazil. Brazil and South Africa show very clear wages-firm size patterns, particularly for skilled labor. Wages for each of the job categories in Poland and China are uniform across firm size indicating minimal intra-industry wage differentials.

We present evidence on the relative scarcity of skilled and unskilled workers that might explain further sources of the differences in median wages in cross country context. Figure 21 below shows the median number of weeks required to fill a vacancy for skilled and unskilled workers.

**Figure 21: Time Required to Fill Vacancies of Skilled and Unskilled positions**

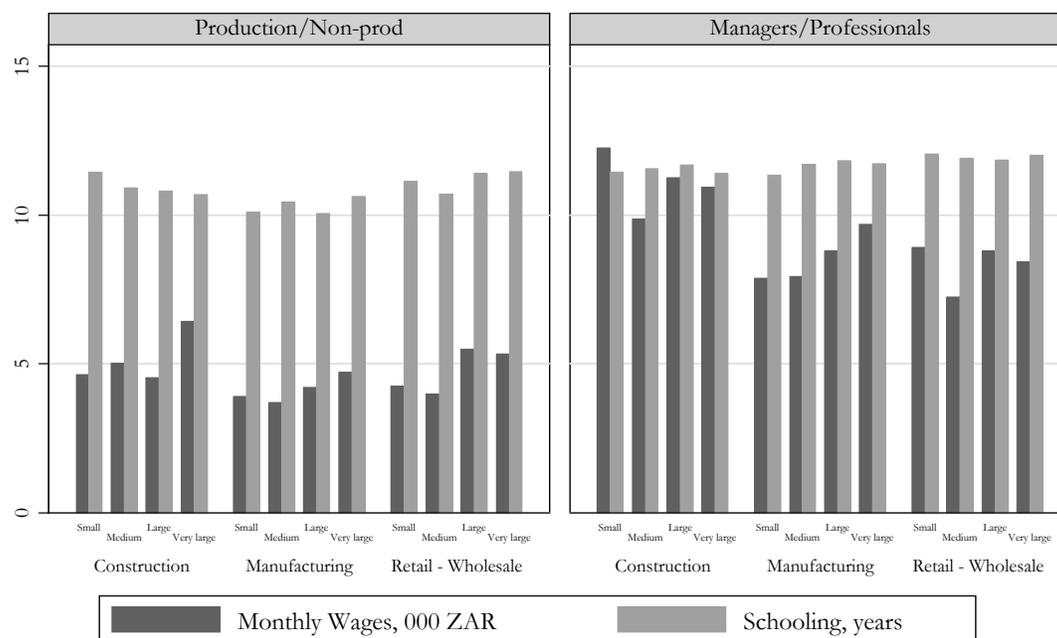


Graphs by Firm exports in excess of 10% sales

All the countries for which we have data need only a median of 1 week to fill an unskilled vacancy. Firms require a median of 4 weeks in Brazil, 3-4 in South Africa and 1-2 in India to fill a skilled vacancy. On the whole this is not very strong evidence for excessive demand for skilled workers in South Africa that is generating the wage distribution discussed above.

We explore the wage setting mechanism further using sampled workers. Sampled workers were asked to report current wages and frequency of pay. We convert all reported wages into monthly wages, and throw away the top and bottom 5% of the wage distribution that are likely to reflect erroneous payment frequencies. The figure also includes average levels of schooling to delineate potential differences in labor quality by firm size. Consistent with the firm-level data, the employee wage firm-size gradient is largest for managers and professionals in the manufacturing sector. In addition, there is no obvious sorting in observable indicators of quality.

**Figure 22: Monthly Wages, Schooling for Skilled/Unskilled Workers**



Graphs by manpro

Notes: Average monthly wages, schooling calculated using sampled employees. Only the 5-95<sup>th</sup> percentile of wage data used in calculations.

We explore this question further estimating Mincer-type regressions with the individual level data. We exploit the employer-employee matched data to control for observable differences in firm quality that could drive labor sorting.

The results of these estimations are shown in columns 1 –7 of Table 19 below.

Returns to schooling in this sample are very high. Controlling for other factors, an additional year of schooling is associated with an increase in wages of 11-12%. This compares to recent returns to education on the order of 5-7% in developed economies.

Controlling for other factors, females earn about 14% less than males. A substantial fraction of this difference is accounted for by differences in the type of job chosen by females; there is a disproportionate fraction of females in service and non-production occupations.

**Table 19: Individual level Wage Regressions**

	Dependent Variable: Log Monthly Wages						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Schooling	0.116 (0.004)**	0.109 (0.004)**	0.110 (0.004)**	0.107 (0.004)**	0.108 (0.004)**	0.114 (0.005)**	0.114 (0.005)**
Experience	0.055 (0.004)**	0.052 (0.004)**	0.052 (0.004)**	0.052 (0.004)**	0.059 (0.005)**	0.070 (0.007)**	0.072 (0.007)**
Experience squared	-0.001 (0.000)**	-0.001 (0.000)**	-0.001 (0.000)**	-0.001 (0.000)**	-0.001 (0.000)**	-0.001 (0.000)**	-0.001 (0.000)**
Female	-0.135 (0.020)**	-0.135 (0.020)**	-0.132 (0.020)**	-0.141 (0.020)**	-0.141 (0.020)**	-0.121 (0.024)**	-0.089 (0.024)**
Member of Union	-0.299 (0.021)**	-0.309 (0.021)**	-0.306 (0.021)**	-0.338 (0.021)**	-0.341 (0.021)**	-0.332 (0.025)**	-0.326 (0.025)**
Worker is full time	0.002 (0.001)**	0.002 (0.001)**	0.002 (0.001)**	0.002 (0.001)**	0.002 (0.001)**	0.001 (0.001)	0.001 (0.001)
Received training the past		0.301 (0.020)**	0.305 (0.020)**	0.260 (0.021)**	0.251 (0.022)**	0.255 (0.026)**	0.256 (0.026)**
Log (hours/week)			0.192 (0.080)*	0.189 (0.072)**	0.198 (0.075)**	0.146 (0.071)*	0.159 (0.072)*
TFP Residuals						0.449 (0.097)**	0.465 (0.097)**
Constant	-0.208 (0.097)*	-0.194 (0.097)*	-0.896 (0.313)**	-0.897 (0.283)**	-0.571 (0.340)	-0.740 (0.350)*	-0.781 (0.357)*
Industry Controls	X	X	X	X	X		
Size Controls				X	X	X	X
Sector Controls							X
Other Controls					X	X	X
Observations	3683	3611	3585	3535	3521	2436	2436
R-squared	0.33	0.37	0.37	0.39	0.39	0.40	0.41
F-Test Firm Size Matters				24.22	19.74	12.00	16.55
Prob>F				0.00	0.00	0.00	0.00

Wages rise with experience until 26-30 years and then drop off thereafter. The effect of being in a union is surprisingly negative. Union workers earn about 30% less than non-unionized workers, controlling for other factors. This result can be rationalized by the fact that skilled workers are more likely to negotiate their remuneration terms individually while unskilled workers are more likely to be unionized thereby ceding their individual objectives to the union's objectives.

Individuals that have received training in the past earn about 30% more than individuals that have not received training, other factors remaining the same. While this result might reflect the fact that firms select (on unobservable traits) better workers to receive training, the returns are sufficiently large to warrant individuals financing their own training.

Tests for firm size are all rejected at the usual levels of significance, suggesting that even when we control for observable individual characteristics, an individual in a large firm earns more than an otherwise similar individual in a small firm.

Both firm- and individual-level regressions provide tentative evidence that wage setting behavior in South Africa is motivated by efficiency wage considerations. To the extent that this is the case, then improvements in firm prospects will not necessarily be immediately accompanied by increased employment growth. The role of labor market regulations is crucial in

this respect. Emphasis should be placed on the ability of firms to provide the right incentives to work and to monitor effort levels of workers.

### III. EMPLOYMENT GROWTH

Employment growth is at the heart of the governments' policy to redress historical inequalities and reduce unemployment. Understanding the sources of employment growth informs the choice of policy to reach this goal. As Table 20 below shows, overall growth between 2001/2 is positive for all three sectors, with construction employment growth leading the other two sectors at 7%. Overall, growth in skilled labor matches growth in unskilled labor.

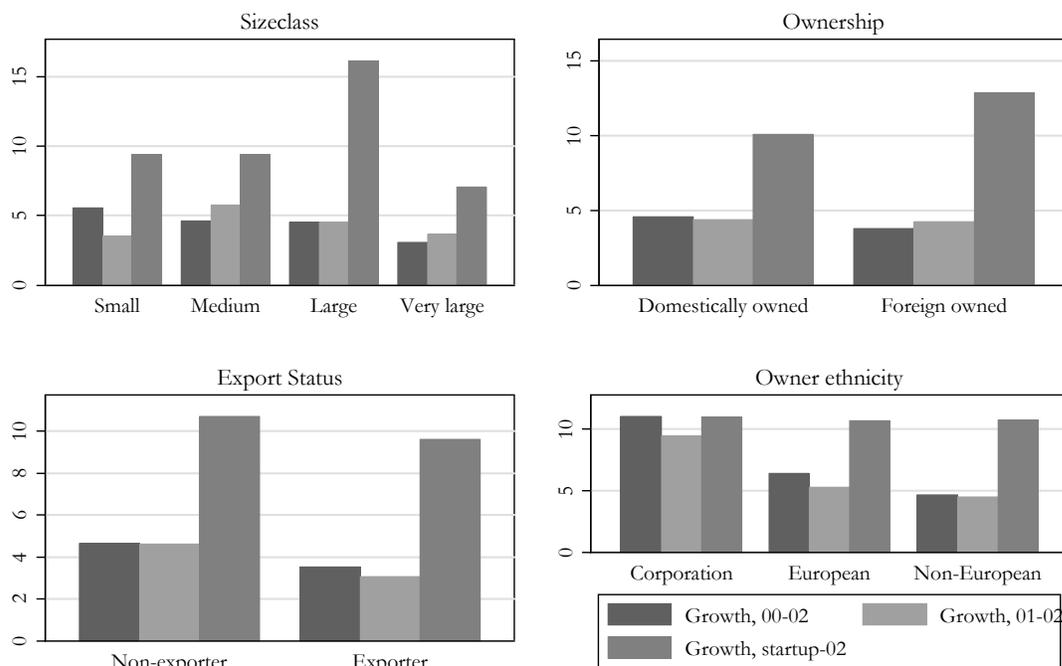
**Table 20: Growth between 2000 and 2002**

	Permanent Employment growth 2000/2	Permanent Employment growth 2001/2	Temp labor growth 2000/2	Temp labor growth 2001/2
Construction	7.06	13.01	-2.85	-10.59
Manufacturing	4.45	4.36	6.83	11.47
Retail – Wholesale	4.75	4.45	3.55	-3.66
Total	4.79	5.44	5.48	8.02

Figure 23 below shows employment growth for the manufacturing sector.

**Figure 23: Employment Growth Startup, 2001-2002**

#### Employment growth startup, 2001-2002



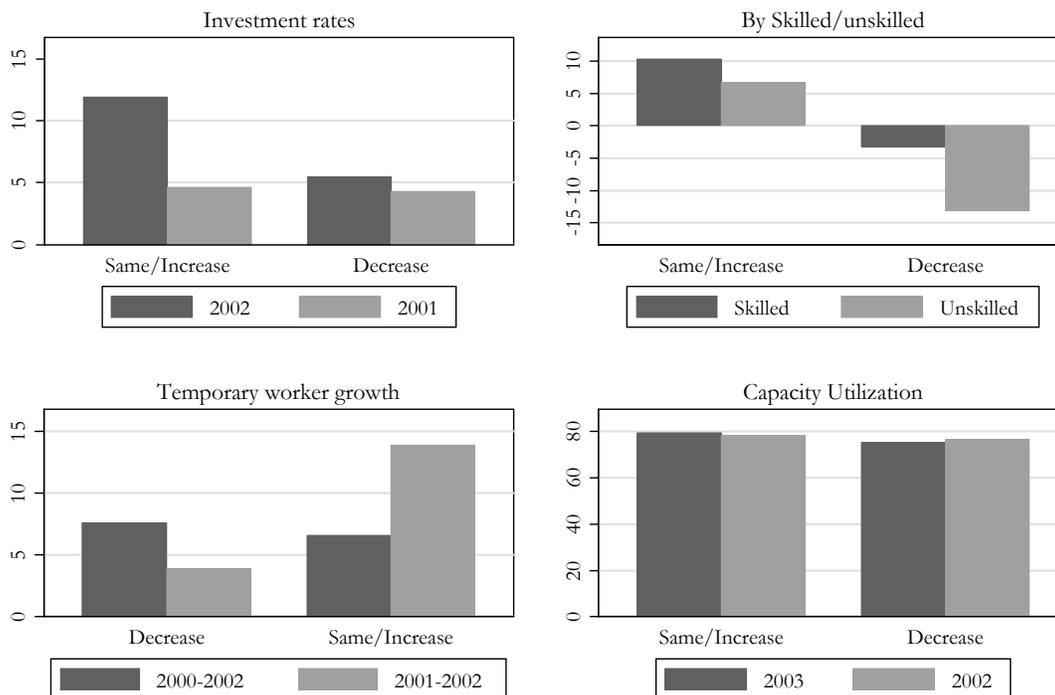
Source: South Africa Investment Climate Assessment, 2004

Employment growth in 2001/2 is only about half as strong as employment growth from startup to 2002. Strongest growth is concentrated in incorporated companies and foreign owned firms.

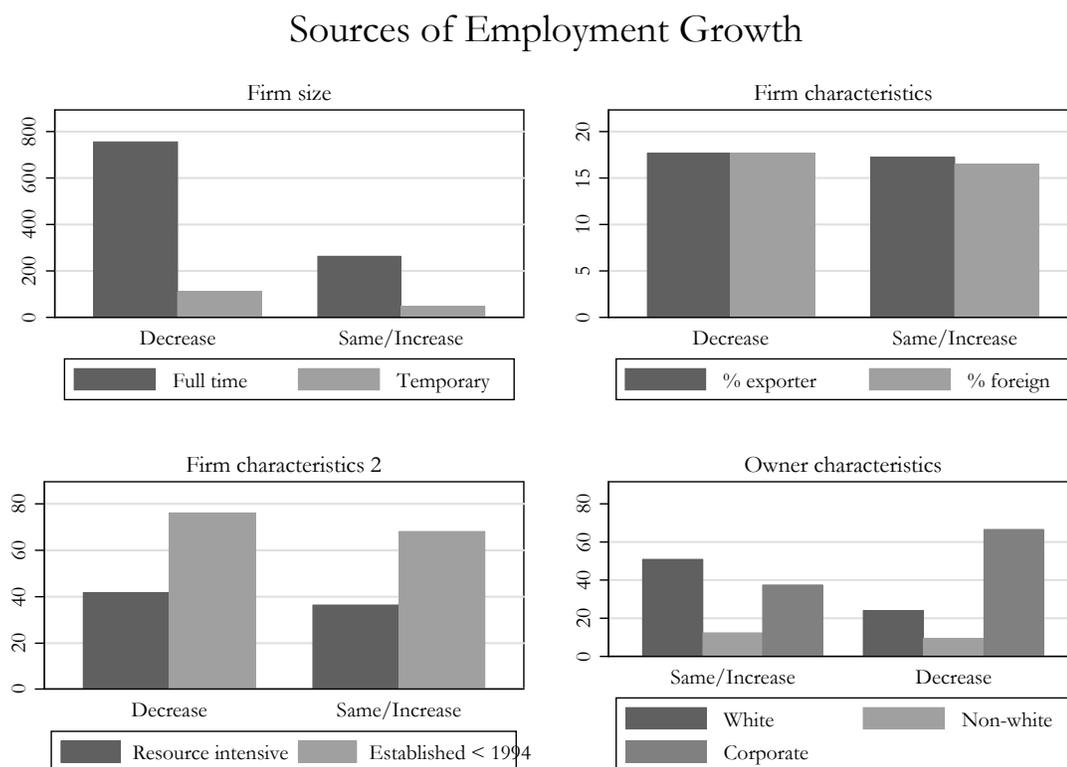
We examine graphically whether firms that do not experience any employment growth between 2000-2002 are also firms facing a difficult business environment. Firstly we investigate whether declines in employment are related to idiosyncratic shocks to demand or supply as measured by capacity utilization, and the composition of employment declines. Figure 24 below shows that investment rates in 2001/2 are lower for firms that are reducing employment suggesting that reductions in employment are not driven by substitution away from labor. Interestingly permanent employment growth is positively associated with growth in part-time employment. Firms experiencing a decline in permanent employment do not have different levels of capacity utilization from firms with positive employment growth. Declines in the number of unskilled workers comprise the major part of declines in permanent employment.

**Figure 24: Proximate Causes of Employment Growth**

### Proximate Causes of Employment Growth



**Figure 25: Source of Employment Growth**



The average firm size that experiences declines in employment has an average of 750 permanent workers and 100 temporary workers, compared to 250 permanent and 40 temporary workers for firms with positive employment growth. This confirms government's emphasis on the SMME sector as an engine for employment growth. There is no difference in the proportion of exporters or foreign owned firms between those firms experiencing declines or positive changes in employment. This suggests that between 2000/2002, changes in exchange rates and associated export competitiveness are not responsible for employment growth. About 75% of firms that experience negative employment growth were established before 1994 compared to about 66% for positive growth firms. There is also some evidence that white owned firms are more likely to experience positive employment growth. Employment declines are concentrated amongst corporate firms.

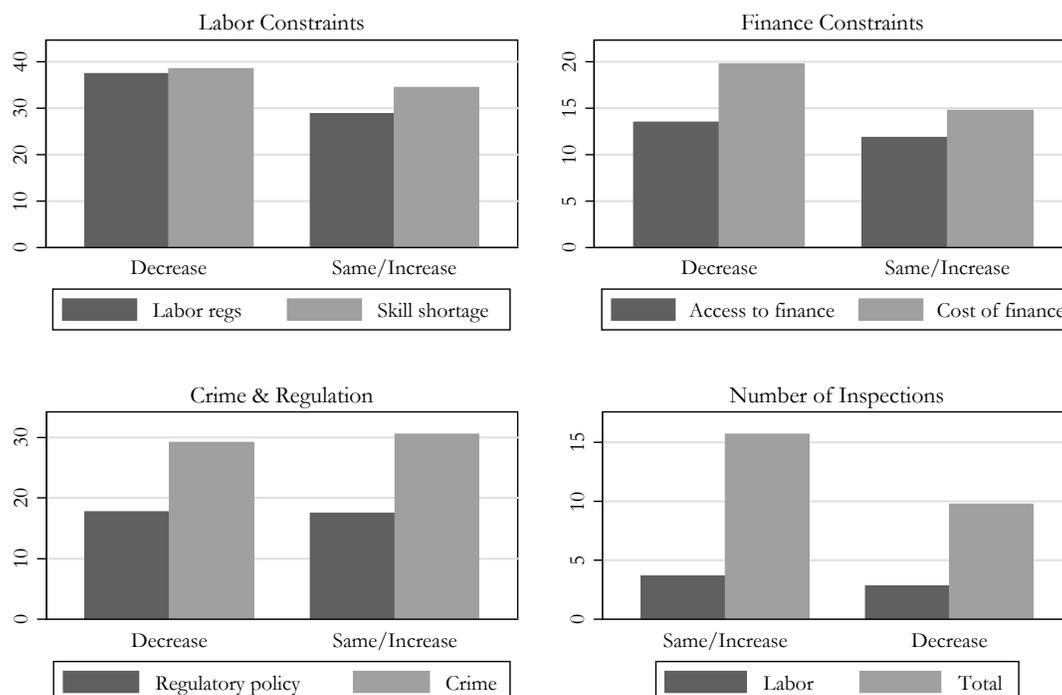
Finally we investigate the extent to which business environment variables affect the likelihood of employment growth. Figure 26 below shows that 40% of firms with declining employment state labor regulations as being severe or major constraints compared to just less than 30% of firms with positive employment growth. A similar difference exists for the proportion of firms reporting a shortage of skilled labor as an important constraint to operation.

20% of firms experiencing negative growth report that cost of finance is prohibitive compared to about 15% of firms with positive growth. There are no major differences in the extent to which crime and policy uncertainty across the two employment growth categories.

Similarly, we do not find evidence that firms that declined experienced a higher intensity of labor regulation.

**Figure 26:Source of Employment Growth—Constraints**

### Sources of Employment Growth--Constraints



## IV. TRAINING

The shortage of skills is one of the leading constraints reported by manufacturing firms in South Africa. Training represents one way to address the scarcity of skilled labor and is crucial to maintaining a competitive labor force. This is especially crucial in South Africa where a significant fraction of the population has very low levels of schooling. For this group of individuals, on-the-firm training represents the single most important channel of augmenting human capital. Firms in each of the comparator countries were asked to report whether they provide training to workers and what fraction of skilled and unskilled workers were offered training. The figure below shows that with the exception of India, nearly all firms, irrespective of size, provide worker training. It is important to note that the quality of this training might differ both within and between countries.

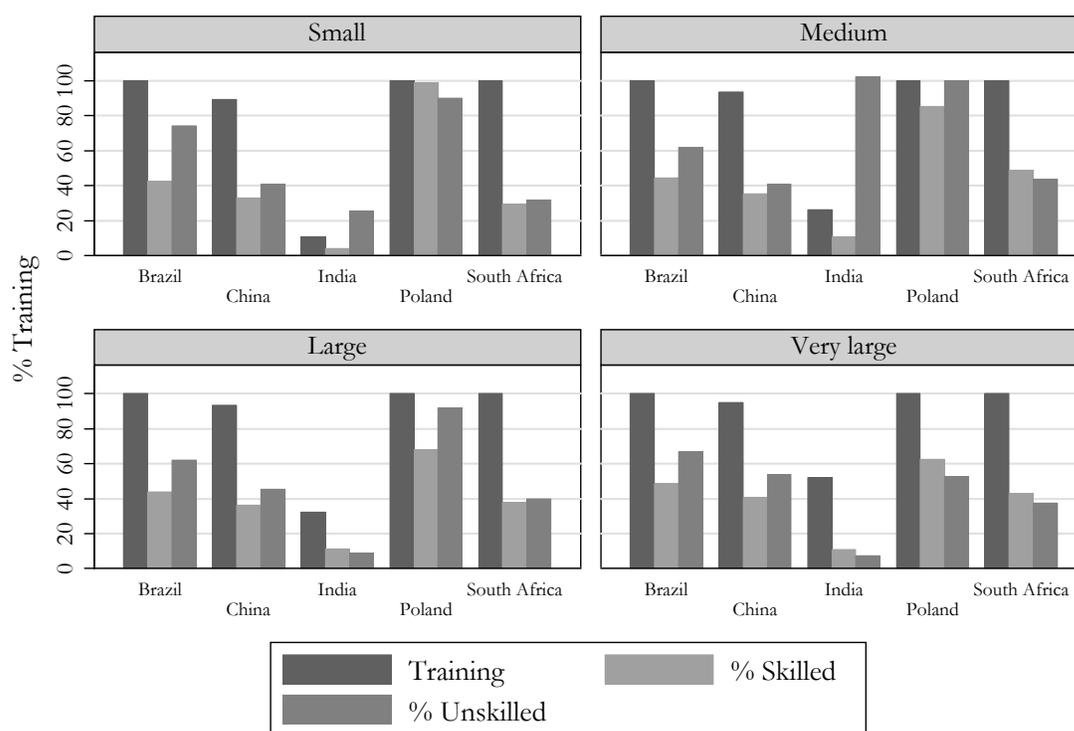
More than 80% of all workers receive firm based training in Poland. Firm-based training is provided to 68% of unskilled workers in Brazil and 63% in China. Less than half of skilled and unskilled workers in South Africa have access to firm-based training. With the exception of unskilled workers in India, this is the lowest level of training provided among the comparator countries.

**Figure 27: Workers Receiving Training, by country**

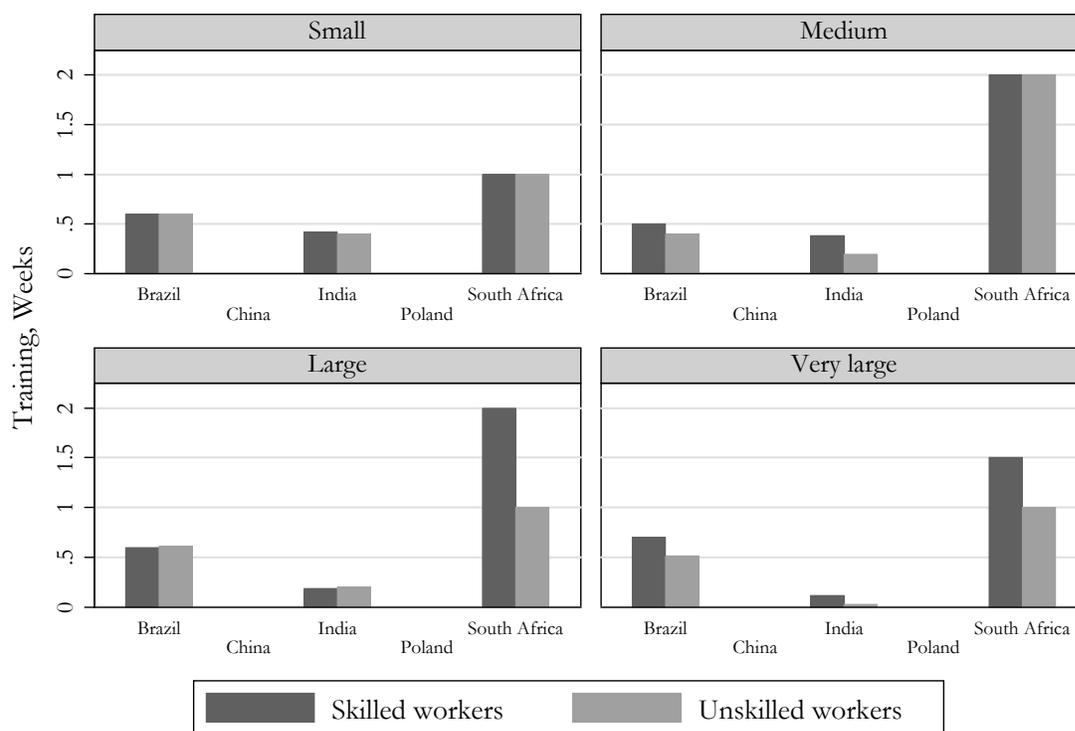
**Table 21: Percentage of Workers Receiving Firm-Based Training**

Country	% of Skilled workers	% of Unskilled workers
Brazil	77.3	68.3
China	69.1	63.0
India	55.0	33.0
Poland	79.9	86.2
South Africa	44.6	45.8

An examination of the length of training offered by firms in each of the comparator countries suggests that South Africa does not lag behind in the amount of training offered. Median training time in South Africa is 2 weeks compared to only about 3 days in Brazil and 2 days in India.



Graphs by sizeclass

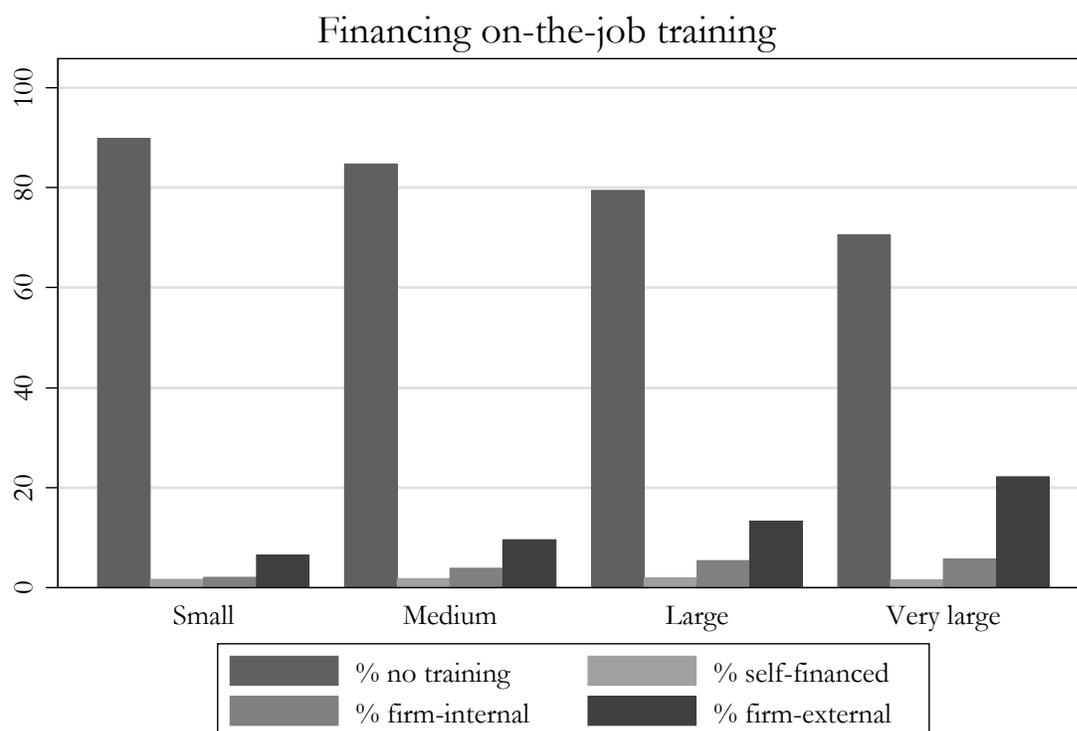


Graphs by sizeclass

We use employee data to further explore this question. Sampled workers were asked whether they have received training and how this training was financed. The figure below reveals a discrepancy in the numbers reported by personnel managers and individual workers.

More than 80% of sampled workers have not received any training. The financing of training is borne by firms across the all size categories. Small firms rely on training provided outside the firm, while large firms provide some internal training.

Given the large fraction of workers who have not received training, it is clear that the role of training agencies set up by government (SETAs) is crucial in providing the training to raise human capital levels in South African industry.



Source: South Africa Investment Climate Assessment, 2004

## V. LABOR REGULATION

Managers in the Investment Climate Survey were concerned about the impact of labor regulation on their enterprise's operations and growth. When firms were asked to whether certain areas of the investment climate were a problem for their business, close to 33 percent said that it was a major or very severe obstacle—only two other problems, worker skills and macroeconomic instability were more likely to be seen as major or very severe obstacles.

Previous work has also stressed the potential impact of these regulations. For example, a paper published by the World Bank Southern Africa group on constraints to growth and employment shows that 10-15% of a sample of SMEs reduced employment as a result of the four major labor regulations. Firms also reported less hiring, substituting capital, using temporary labor and subcontracting.<sup>46</sup> Second, a study on the regulatory environment in South Africa noted that it took 2.7 months on average to retrench an entry-level employee. It cost R9,000 to hire and R2,160-2,900 to fire a least skilled worker. Partly as a result, 40% of firms hired fewer workers, used more machinery, hired temporary staff, or subcontracted.<sup>47</sup> Lastly, in the 2003 South Africa Human Development Report, the authors discuss a policy bias during apartheid toward capital intensity. These included corporate tax incentives, depreciation allowances, tariff

<sup>46</sup> Chandra and Other (2001b).

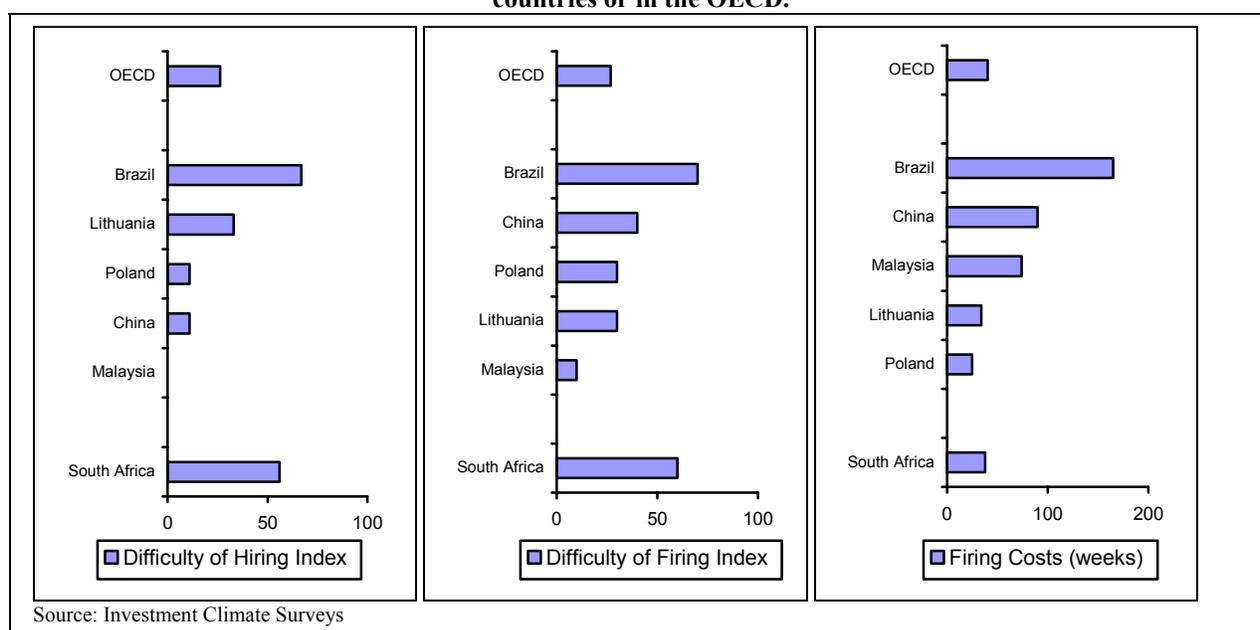
<sup>47</sup> Hudson, 6.

rebates, debt financing, subsidized interest rates and provision of utilities and infrastructure. Since 1994, policies have continued to promote capital intensity at the expense of employment.<sup>48</sup>

## V.1 The burden of labor regulation in international context

To get an idea about the burden that labor regulations impose on South African businesses, we compare South African regulations with regulations in the middle income comparator countries and OECD economies. The Doing Business database, maintained by the World Bank, includes several indices that measure the rigidity of hiring and firing regulations, and the cost of firing.<sup>49</sup> The difficulty of hiring index for South Africa is 56. This is higher than in all of the comparator countries except Brazil and is also higher than the average for the OECD. Since higher values indicate more restrictive regulation, this suggests that hiring regulations are relatively strict in South Africa.

**Figure 28: Labor Regulations are stricter in South Africa than in the best performing comparator countries or in the OECD.**



A similar picture emerges for firing restrictions. South Africa receives a ranking of 60 on the 'difficulty of firing' index, higher than all the comparator countries except Brazil and higher than the average for the OECD. On one particular measure, the cost of firing an individual in weeks of wages, South Africa performs better. The cost in South Africa is 38 weeks, lower than the average for the OECD and several of the comparator countries.

Overall, South Africa performs worse on most measures than the comparator countries and performs considerably worse on the two indices than OECD countries do. To the extent that

<sup>48</sup> UNDP (2003).

<sup>49</sup> World Bank (2004d). Note that calculation errors in an earlier version of the Doing Business data base and a change in methodology resulted in South Africa being misclassified in early versions of the database. These errors have been corrected in the most recent publications.

South African industry needs to compete with industry in advanced economies, rather than with sometimes poorly performing firms from elsewhere in Africa, this assessment is quite sobering.

## V.2 South Africa Labor Market Regulations:

In South Africa, four pieces of legislations are essential in understanding the labor market. These laws are the Labor Relations Act (LRA), the Basic Conditions of Employment Act (BCEA), the Equity Employment Act (EEA) and the Skills Development Act (SDA). Also, a separate bill, the Broad-Based Black Economic Empowerment Act (BEE), has received much attention and will be discussed as well. Each of these pieces of legislation was passed after apartheid to govern a new labor market in South Africa.

The Labor Relations Act was passed in December 1995.<sup>50</sup> It was the first of the four bills passed and remains the most comprehensive piece of labor legislation. It covers employee rights, collective bargaining and union rights, strikes and lockouts, workplace forums, dispute resolution, dismissals, and other general provisions.

Chapter 8 discusses dismissals in detail and in what situations said they are unfair. The law stipulates situations in which a dismissal would be classified as unfair. Section 188 states that a dismissal is not automatically unfair, but is unfair if the employer fails to prove that the reason for dismissal is a fair reason. Thus, the burden of proof lies with the employer. The Schedule 8 Code of Good Practice for Dismissal lists the three grounds for legitimate termination, or fair dismissal: employee conduct, employee capacity, and operational requirement of the business. The employer must also prove that the dismissal procedure was fair.

For the conduct and capacity reasons, the employer may request a council, accredited agency, or Commission to arbitrate the allegations about the conduct or capacity of an identified employee. The council, accredited agency or Commission must appoint an arbitrator on receipt of payment by the employer. It is not clear from the law whether this arbitration is required or optional. If optional, it is unclear how often arbitration occurs, the cost of the arbitration (time and money) or duration of the arbitration. Understanding these questions will help to better assess the degree to which this law contributes to labor market rigidities associated with firing and employee on these grounds.

When the employer dismisses an employee(s) for operational reasons, the employer must consult with any groups with whom the employer is required to consult under any collective agreements. If no collective agreement is in place, then the employer must consult with impacted workplace forums or trade unions. If these do not exist either, the employer must consult with the impacted employees or their representatives. In these consultations, the groups must attempt to reach consensus on measures: to avoid dismissals, minimize dismissals, change the timing of dismissals and mitigate the adverse effects of the dismissals. They must also seek consensus on the method for selecting employees to be dismissed and their severance pay. The employer must issue written notice inviting this party to consult with them, and the employer

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<sup>50</sup> *Labor Relations Act*, (1995).

must also disclose all relevant information including, but not limited to: reasons for dismissals, alternatives considered with reasons for rejecting each alternative, number of employees effected with their job category, proposed method for selecting employees, projected time of dismissal, proposed severance, proposed assistance to effected workers, possibility of reemployment, total number of employees within the business, and total number of employees dismissed for operational reasons within the past 12 months. The employer must allow the consulting party to make representations. The employer must consider and respond to each representation; and if they disagree, they must state the reasons for disagreeing. The selection process for dismissed employees must be agreed to or criteria must be used that is fair and objective. Similar to the dismissal process for capacity and conduct issues, it is unclear how often this process takes place, how much it costs, and its average duration

The Code for Good Practice details fair procedures that are recommended prior to dismissal. These practices include: presenting the allegation to the employee and allowing them to prepare a response, disciplinary action and a period of probation. If a Labor Court or an arbitrator find that the dismissal was unfair, they may order reinstatement, reemployment, or compensation to the employee. This set of dismissal provisions in the LRA favor the employee by placing the burden of proof, and much of the cost, on the employer.

The second piece of legislation is the Basic Conditions of Employment Act of 1997.<sup>51</sup> This act covers such areas as: working time, leave, remuneration, termination, child and forced labor, sectoral determinations, as well as monitoring and enforcement. Here we will focus on termination and monitoring. In the case of a termination, the employee must be notified prior to dismissal. The amount of time before dismissal depends on the employee's tenure with the business. For an employee that has been with the business for four weeks or less, one week's notice is required. For an employee that has been with the business for greater than four weeks and less than a year, two weeks is required. For an employee that has been with the business for a year or more, four weeks notice is required. Severance pay for an employee will equal one week's remuneration for each year of employment.

Chapter 10 of the BCEA focuses on the monitoring and enforcement of labor regulations. The Minister can appoint any person in public service as a labor inspector. These inspectors promote, monitor and enforce labor regulations. They may enter workplaces at any reasonable time without warrant or notice to question employees/employers and inspect the operations of the business. The act does not specify a minimum or maximum number of inspections per business.

The third piece of legislation to be considered is the Employment Equity Act of 1998.<sup>52</sup> It covers the basic ideas of unfair discrimination and affirmative action policies of South Africa, as well as the institutions that govern these policies. Chapter 2 states that a person may not be unfairly discriminated against on the basis of race, gender, sex pregnancy, marital status, family

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<sup>51</sup> *Basic Conditions of Employment Act, (1997).*

<sup>52</sup> *Employment Equity Act, (1998).*

responsibility, ethnic or social origin, color, sexual orientation, age, disability, religion, HIV status, conscience, belief, political opinion, culture, language and birth. Similar to dismissal legislation, the burden of proof regarding discrimination disputes is on the employer.

Chapter 3 focuses on affirmative action. It requires all designated employers to implement affirmative action measures. These are to include the following: the identification and elimination of employment barriers which can adversely affect designated groups, measures to further diversity, make reasonable accommodations to ensure designated groups have equal opportunities and are equitably represented, and ensure representation of suitably qualified people within all occupational categories, as well as the retention and development of said groups. Aside from these measures, employers must consult with employees, conduct analysis to identify barriers and assess the diversity levels within occupational categories, and prepare and implement an Employment Equity Plan. When describing the term ‘suitably qualified’, the act states that a person can have formal qualifications, prior learning, relevant experience, or the capacity to acquire, within a reasonable timeframe, the ability to do the job. It states that employers must assess each of these factors. It emphasizes that employers may not discriminate against a potential employee solely on the grounds of the person’s lack of relevant experience.

Section 27 of the chapter on affirmative action focuses on income differentials, which deserve some attention. Per the previously mentioned BCEA, an employer must submit a statement to the Employment Conditions Commission on the remuneration and benefits received within each occupational category and level. Where disproportionate differentials exist, employers must take measures to reduce these differentials subject to guidance given by the Minister. It is likely that the reduction of differentials would lead to some wage inflation.

The fourth key piece of labor legislation in South Africa is the Skills Development Act of 1998.<sup>53</sup> The act is geared towards improvement of South African labor force skills through a levy-grant scheme. This act discusses little regarding labor market rigidities; however, the difficulty in claiming back the levy has led many small businesses to view this program as more of a tax.<sup>54</sup>

The final piece of legislation is the Broad-Based Black Economic Empowerment Act of 2003. This act goes beyond the affirmative action of the EEA, and sets goals of changing the racial composition of ownership and management structures of existing companies and new enterprises. This act only sets the goals and allows for the institutions to pursue the goals. The action to be taken will be decided in a BEE plan and codes of good practice stipulated in the act.

### **V.3 Work Permits:**

Given the relatively high pay levels for managers and skilled professionals, it is important to consider regulations that affect the ability of firms to employ foreign workers. In general, it is difficult to hire foreign workers: work permits will normally not be granted for foreign workers

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<sup>53</sup> *Skills Development Act*, (1998).

<sup>54</sup> Hudson, Judi. “RIAS and private sector development: Some thoughts from the South African context,” *Small Business Project*, (Johannesburg, South Africa, 2003): 5.

to pursue work for which locals are qualified. However, if the worker holds skills which are scarce in South Africa, or they intend to start a business that will result in: capital being brought in from abroad, manufacturing of goods for export, or employment of South Africans, the workers are welcome.<sup>55</sup>

For employers wishing to obtain a work permit for a foreign national, the South African Department of Home Affairs website stipulates that the following criteria will be examined:

- Date on which the position became available
- Whether the vacancies were advertised and if so, in which national papers or other suitable media and the number of insertions. Internet is not acceptable.
- Reasons why applicants from the South African labor market who may have responded to the advertisements could not be appointed
- Whether the Department of Labor, private employment bureaus, or relevant trade unions were approached with regard to filling the position.
- Whether a local unit can be trained to fill the position, even if a foreign specialist has to undertake the task of training for a limited time
- Whether the applicant appointed or to be appointed is in possession of any exceptional qualifications, training and experience not obtainable in South Africa
- In the case of senior positions, whether the proper filling of the vacancy or position by the promotion of existing personnel has received due consideration
- He/she must be in possession of a firm offer of employment which is of a temporary nature and the maximum duration for which the temporary employment is required, must be clearly defined
- The position must be commensurate with the applicant's qualifications
- Professionally qualified persons must register with the appropriate South African bodies.<sup>56</sup>

They must also pay a tariff equal to \$132. A timeline for this process was not available.

## VI. CONCLUSIONS

Of the three sectors included in the survey, average wages in the manufacturing sector are the highest. This is largely due to the composition of skilled labor: average wages within occupation are uniform across sectors.

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<sup>55</sup> South African Department of Home Affairs. Website: [http://www.home-affairs.gov.za/service\\_detail.asp?id=113](http://www.home-affairs.gov.za/service_detail.asp?id=113).

<sup>56</sup> Ibid.

Median wages in South Africa are very high. The unskilled worker earns \$246 per month compared to about \$76/month in China. In order to remain competitive, South African firms must endeavor to be considerably more efficient.

The results above suggest that firm size and productivity are significantly associated with wages for management and unskilled workers. These results are broadly consistent with high wages being paid to workers when effort is difficult to observe and higher bargaining power for managers with respect to productivity gains.

Returns to schooling are high. An extra year of schooling is associated with an 11% rise in monthly earnings. The gender gap in earnings is quite substantial. Women earn about 13% less than men, all else equal.

The returns to training are very high. A worker that has received some training earns about 30% more. While this result is likely to be confounded by unobserved worker ability, it suggests positive returns to training.

Training in South African firms remains lower than the levels required to bolster the human capital of a generation of workers that did not receive sufficient schooling. In addition, high wage levels in South Africa require rigorous and continuous training in order to maintain a competitive advantage. The performance of SETAs will have to improve dramatically in order to meet the training needs of industry.

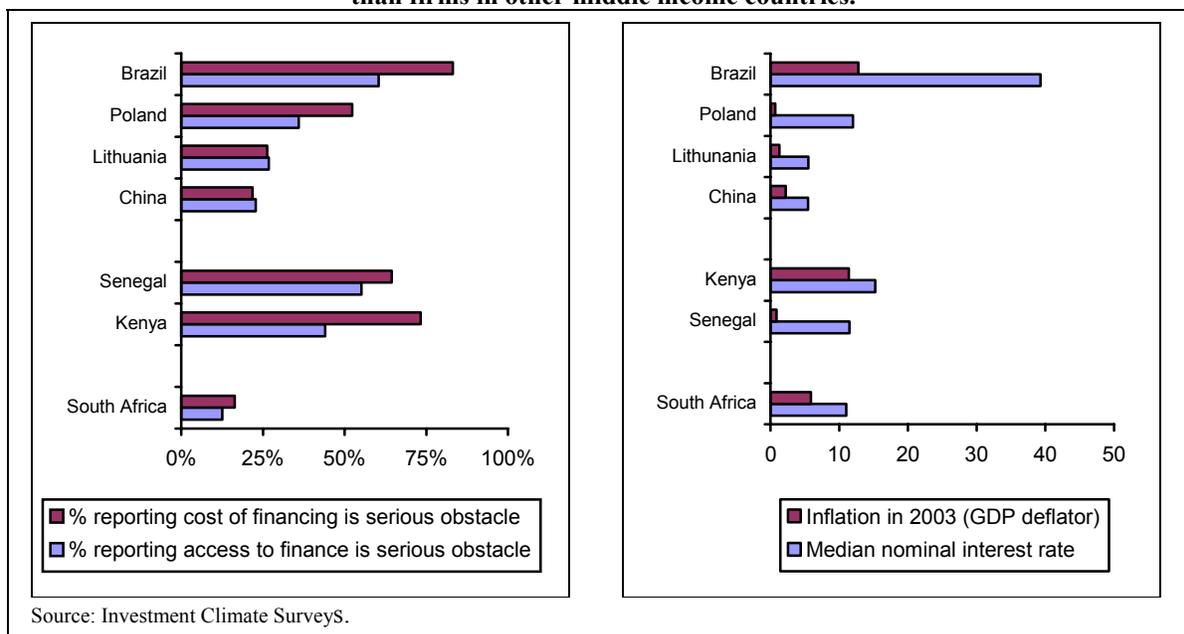
## CHAPTER 4: ACCESS TO FINANCE

Enterprise managers often see access to finance and the cost of financing as serious obstacles to their enterprises' operations and growth. In 17 of 49 low- and middle-income countries, over 40 percent of enterprises reported that finance was a major or very severe problem.<sup>57</sup> It has been an especially great problem in Sub-Saharan Africa, with access and cost of finance rating among the top five investment climate related problems in most countries.<sup>58</sup>

### I. FINANCE AS AN OBSTACLE TO ENTERPRISE OPERATIONS AND GROWTH

In contrast to results in other countries, firms rated neither access to finance nor cost of financing as serious obstacles to enterprise operations and growth. Fewer than 20 percent of enterprises rated either as a major or very severe obstacle, placing them at eighth and eleventh among the eighteen constraints that the survey asks about. This was considerably lower than in most of the middle income comparator countries (See Figure 29). For example, over 50 percent of enterprises in Poland and Brazil rated cost of financing as a major obstacle and over one-third rated access to finance as the same. It is also low relative to other countries in sub-Saharan Africa. Over 40 percent of firms in both Senegal and Kenya rated access to finance as a serious obstacle and over 60 percent rated cost of financing as the same. Even in China, the comparator country closest to South Africa in this respect, about 20 percent of enterprises rated access and cost of financing as major constraints.

**Figure 29: South Africa firms are less concerned about access to financing and the cost of financing than firms in other middle income countries.**



<sup>57</sup> World Bank (2004b)

<sup>58</sup> For example, cost of and access to financing ranked first and fourth in Uganda (Cotton and others, 2004); second and eleventh in Kenya (Blattman and others, 2004); and third and sixth in Tanzania (World Bank, 2004a).

Is objective data from the investment climate survey consistent with this? In some respects, South Africa also performs well on objective measures of the cost of finance (see Figure 29). As part of the Investment Climate Survey, enterprises were asked what the interest rate was on their most recent loan. The median nominal interest rate reported by enterprises in South Africa was 11 percent—lower than in Senegal (12 percent); Poland (12 percent), Kenya (15 percent) and Brazil (40 percent). Although nominal interest rates were lower in Lithuania and China (about 5.5 percent in both cases), inflation is also lower in these countries. In 2002 and 2003, inflation was 0 and 1 percent in Lithuania and -1 percent and 2 percent in China. In comparison, inflation was 10 percent and 6 percent in South Africa in 2002 and 2003.<sup>59</sup> In summary, real interest rates appear to be relatively low in South Africa compared to other middle income countries and other countries in sub-Saharan Africa. This is consistent with the perceptions based data that suggests that most enterprises in South Africa do not see the cost of financing as a serious obstacle

The next question is whether objective data on access to finance supports the view that access is also relatively good in South Africa. With respect to this question, although South Africa's performance seems similar to other middle income countries, it is harder to argue that it outperforms them on this dimension.

**Figure 30: Objective indicators of access to finance suggest that firms in South Africa do not rely on bank finance more than firms in other middle income countries.**

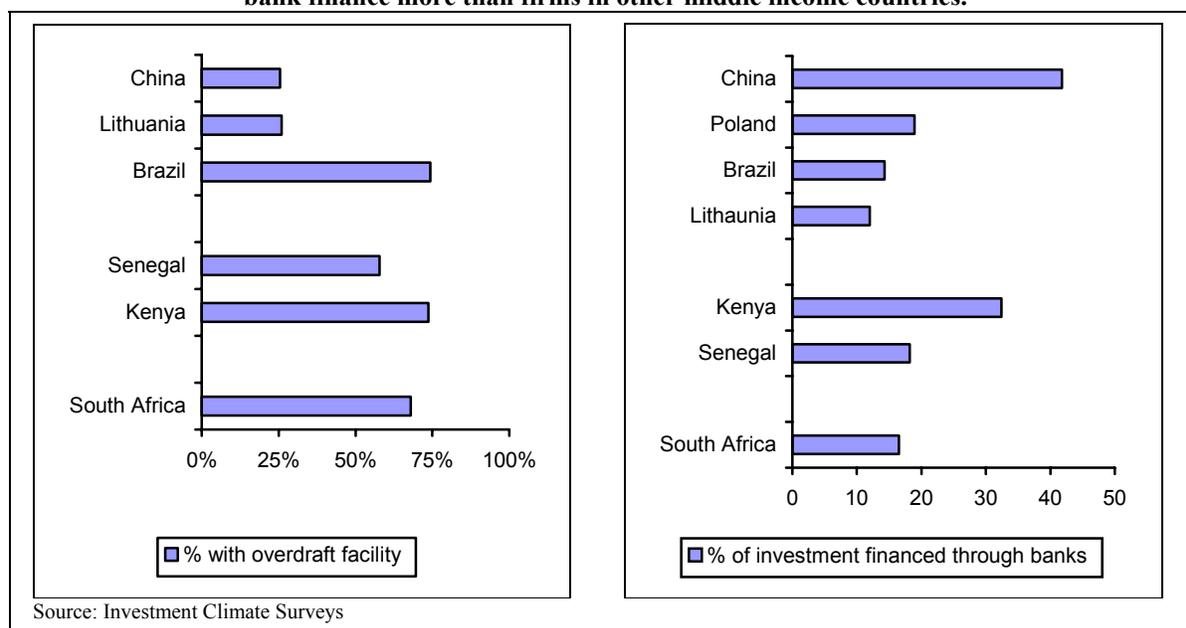


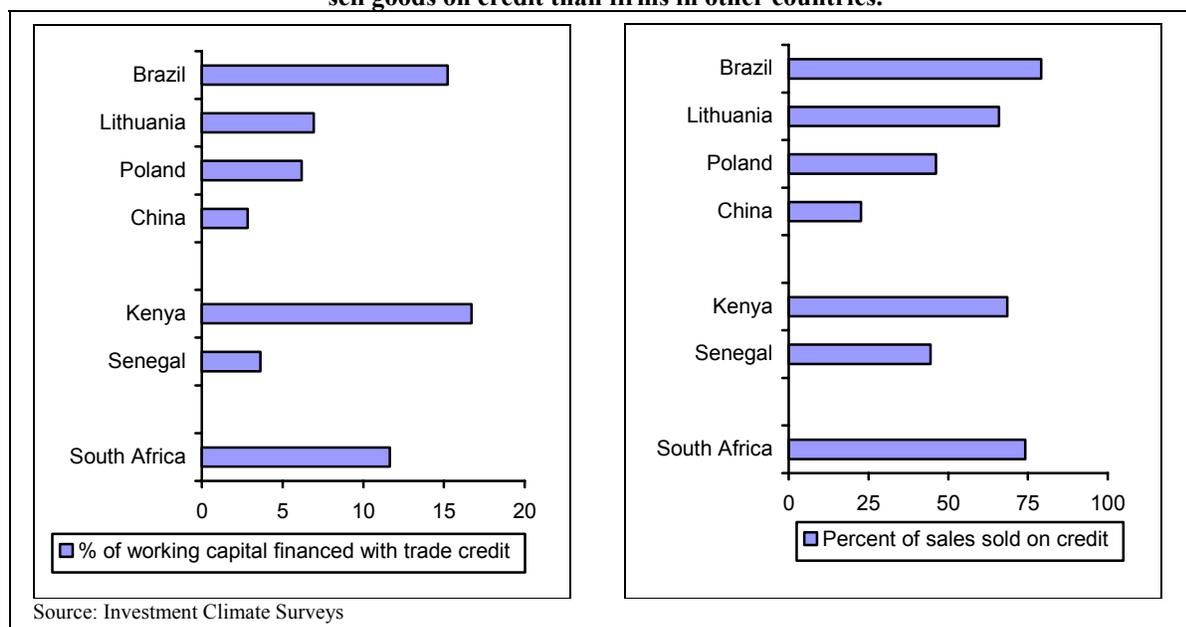
Figure 30 shows the percent of firms with overdraft facilities and the percent of new investment that firms finance with funds from local and foreign commercial banks. In general, South Africa performs relatively well—although it does not clearly outperform any other countries. About 70 percent of South African firms have overdraft facilities. This is higher than in China (25 percent), Lithuania (26 percent) or Senegal (58 percent), but lower than Brazil or Kenya (both about 74 percent).

<sup>59</sup> Inflation is the change in the implicit GDP price deflator for those years, taken from

South African firms also finance about 17 percent of new investment with funds from local and foreign commercial banks. This is higher than in Lithuania (12 percent), and similar to Brazil (14 percent), Poland (19 percent) and Senegal (18 percent). But it is lower than in either Kenya (32 percent) or China (42 percent). Data on the number of firms with loans also supports this. About 36 percent of firms had a bank loan, compared to about 39 percent in Kenya, 40 percent in Senegal, and 58 percent in China. In Hangzhou, one of the fastest growing Chinese cities, close to 70 percent of firms reported that they had bank loans. Thus, while South African firms do not appear to be facing a serious financing crunch, they are not as awash with credit as firms in some of the comparator countries.

Another important source of financing, especially for working capital, is trade credit. This part of the South African financial system is also well-developed compared to both countries elsewhere in Sub-Saharan Africa and other middle-income countries. South African firms rely upon trade credit to finance close to 12 percent of their working capital needs (see Figure 31). This is higher than in any of the comparator countries except Kenya and Brazil. Firms are also more likely to sell goods on credit than firms in any of the comparator countries other than Brazil. This reliance upon trade credit and willingness to extend credit to other firms suggests that firms are able to enter arms-length deals with other firms and that they believe that they can rely upon formal and informal enforcement mechanisms to ensure payment. This is consistent with evidence that South African firms trust the court system to uphold their property rights and enforce contracts.

**Figure 31: Firms in South Africa use trade credit to finance working capital and are more likely to sell goods on credit than firms in other countries.**

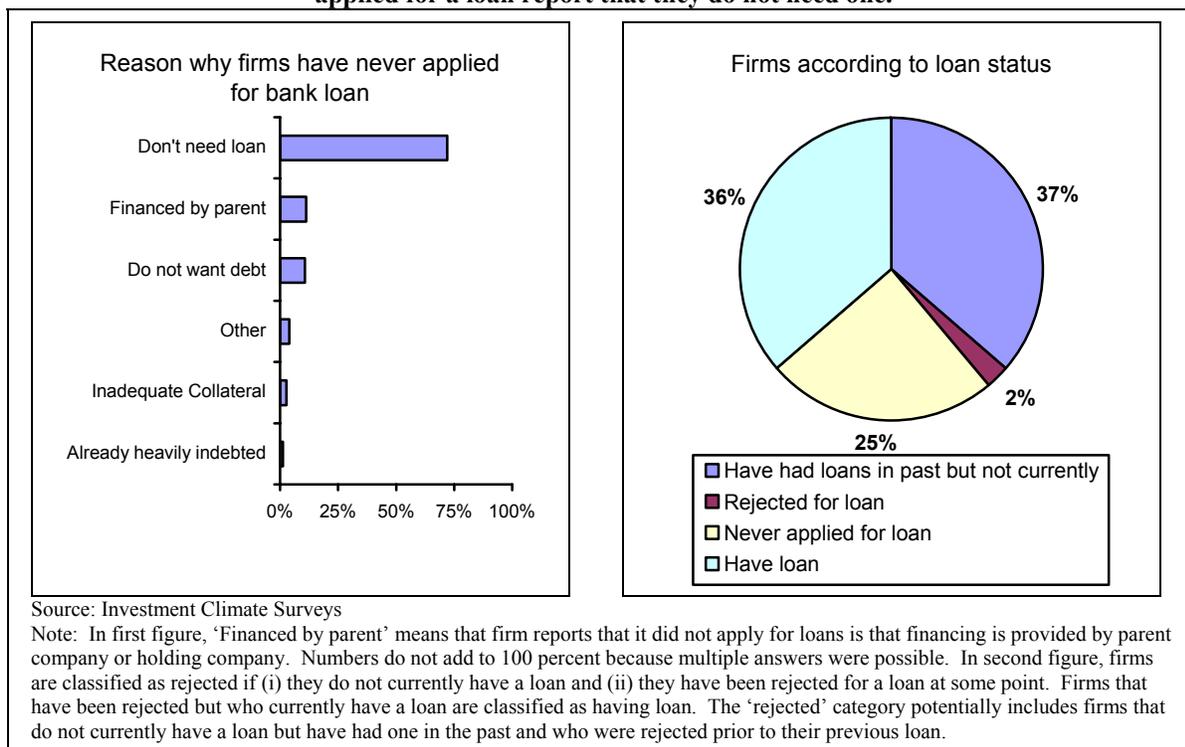


Why are South African firms less likely to rate access to finance as a serious a problem than firms in the comparator countries? In addition to asking firms whether they have loans and overdrafts, the surveys also ask firms that do not have loans why they do not (see Figure 32). As noted above, about 36 percent of South African firms currently had a bank loan. These firms were unlikely to rate either access to finance or the cost of financing to be a serious problem.

About 17 percent of these firms rated access as a serious obstacle and about 22 percent rated cost as a serious obstacle.

An additional 25 percent of firms reported that they had never applied for a loan. These firms were even less likely to rate either access or cost of financing to be a serious obstacle. Only 6 percent rated access as a serious obstacle and only 9 percent rated cost as one. When asked why they had not applied for a loan, most of these firms reported either that they did not need a loan (72 percent), that they received financing from their parent company (10 percent) or that they did not want to incur debt (10 percent). This suggests that many of the firms that have never applied for a loan do not see themselves as credit constrained.

**Figure 32: Most firms have a loan currently or have had one in the past. Most firms that have not applied for a loan report that they do not need one.**



About 6 percent of firms reported that they had had a loan application rejected at some point in time. But many of these firms also reported having loans, suggesting that either before or after being rejected, they had managed to get a loan. About 2 percent of firms reported that they did not currently have a loan and that they had been rejected for a loan at some point in time. Firms that did not have a loan but had had an application rejected were far more likely to report access to finance and the cost of finance as serious problems—35 percent reported that access was a serious obstacle and 41 percent reported that the cost of finance was.<sup>60</sup>

<sup>60</sup> Firms with loans but who had had an application rejected were also more likely to report that access and cost were serious obstacles.

The final category is firms who did not currently have a loan, but who had had loans in the past. This final group accounted for the remaining 37 percent of firms. Although the survey did not ask these firms why they did not currently have a loan, they were not especially likely to rate access to finance or cost of financing as serious obstacles. About 13 percent rated access as a serious obstacle and 16 percent rated the cost as a serious obstacle.

In summary, although South African firms do not appear to use bank financing as heavily as firms in some other countries (e.g., China)—and remain heavily dependent upon retained earnings for both investment and working capital (66 percent of working capital and 58 percent of investment)—most do not see access or cost of financing as a serious obstacle. The low usage appears to be due to low demand—most firms that had never applied for a loan reported that they did not want or need one and few firms had been rejected for a loan.

## **II. PERCEPTIONS ABOUT ACCESS TO FINANCE BY FIRM TYPE**

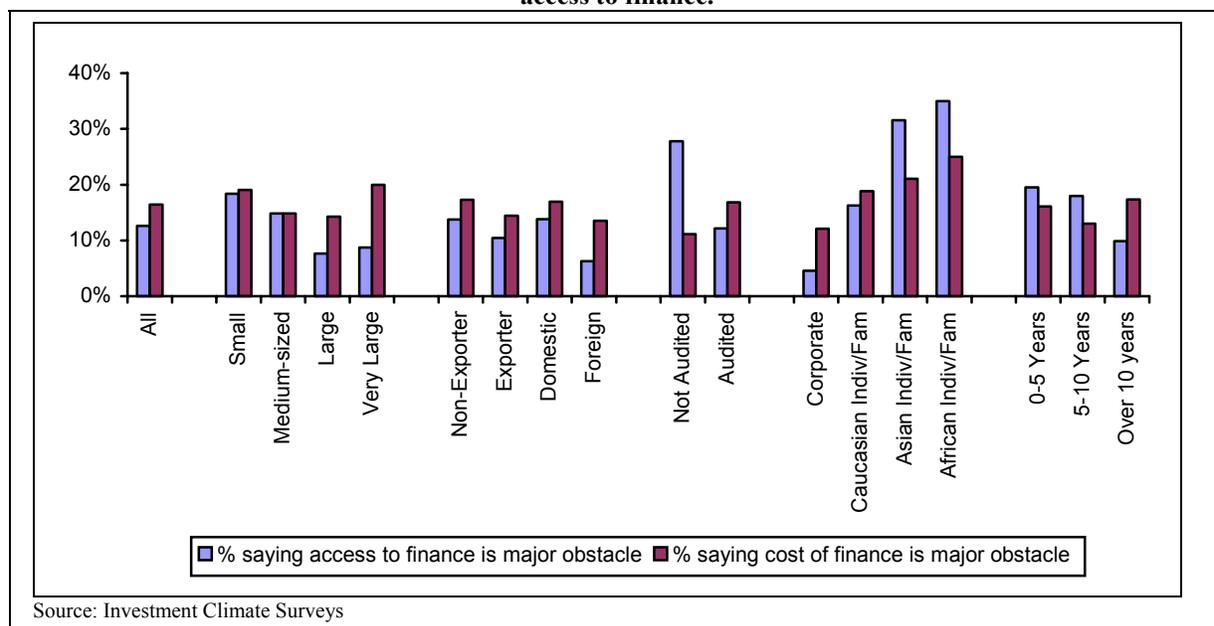
Although access to finance appears reasonable overall, access and cost of financing can vary across firms. For example, foreign-owned firms in developing countries are often less likely to obtain financing from the domestic sources than domestically owned firms, instead relying on their parent company for financing. Figure 33 shows the percent of firms in different categories that rated access and cost of financing as major or very severe obstacles to their operations and growth.

Several interesting patterns emerge from this data. First, small and medium-sized firms were more likely to rate access to finance as a serious constraint than larger firms were, but there was no similar pattern for cost of financing—very large firms were as likely to complain about the cost as firms in other size categories. Second, foreign-owned firms were far less likely to complain about both the cost of financing and access to finance than domestically owned firms were. Exporters were also less likely to see both access and cost as serious obstacles. Audited firms were far more likely to report that access was a serious problem, but were not more likely to complain about the cost of finance. Older firms—especially those founded before 1994—were less concerned about access than younger firms were, but once again there was no pattern with respect to cost of financing.

Perhaps the most notable difference is with respect to ownership. First, corporate-owned firms were far less concerned about both access and cost than firms owned by individuals and families. One plausible explanation for this is that corporate-owned firms rely heavily on their parent companies or holding companies for financing.

But there are also differences in perception among firms owned by families and individuals. In general, firms owned by people of European descent were less likely to rate both access and cost as a serious concern than firms by people of Asian or African descent.<sup>61</sup> Can the

**Figure 33: Size, ownership, presence of audited accounts, and age all seem to affect perceptions about access to finance.**



difference in perception be explained by observable differences between firms owned by Africans and Asians and firms owned by Caucasians? Since black and Asian owned firms tend to be smaller (110 and 118 employees on average) than Caucasian owned firms (128 employees) and younger (19 and 15 years on average compared to 23 years), this might explain differences in perceptions across ownership categories.

To test whether this is the case, we ran multivariate regressions of perceptions about access to finance on dummy variables indicating ownership and a series of control variables. After controlling for size, export status, foreign ownership, the presence of audited accounts, years of education for the manager and the age of the firm, the difference remained statistically significant for both Africans and Asians in the regression for access to finance. In the regression for cost of financing, the coefficients remain positive, indicating that African and Asian firms believe that the cost of financing is a greater obstacle than white-owned firms, but are statistically insignificant. It is important to note, however, that although the coefficients are statistically insignificant, the number of African and Asian firms is small making it difficult to find statistically significant results.

<sup>61</sup> Because so few firms were owned by colored individuals, these firms are omitted from this section.

Although this is consistent with the idea that African and Asian owned firms suffer from discrimination, it is important to note that there are also other potential explanations. First, there may be unobserved differences between firms that we are unable to control for in the empirical analysis such as the availability of collateral or education or the business experience of the management team. Further, since Africans were actively discriminated under the previous regime, even including objective indicators such as years of education in the analysis might not adequately control for this if quality of education differed by race.<sup>62</sup>

Second, the differences in perceptions might not accurately mirror objective indicators. Perceptions tend to change slowly over time, even when the underlying objective indicators might change more quickly. To investigate whether the second explanation is valid, we extend the analysis to look at several objective indicators of financial sector performance.

### III. OBJECTIVE INDICATORS ON ACCESS TO AND THE COST OF FINANCE

Whether a firm sees access to finance and the cost of financing as a serious obstacle will depend partially upon how good the firm's access is (i.e., whether they can get a loan). But it will also be affected by other factors. For example, firms owned by larger holding companies might be less concerned about access to finance because they can get better terms on loans or might be less concerned because they have less need for outside financing. That is, if they can rely upon their parent company for investment when they need financing, they might perceive access to be a lesser concern even if they are no more likely to get a bank loan than a similar firm owned by a family or individual. Similarly, they might be less concerned about the cost of financing (i.e., interest rates) if they usually have access to cheap financing from their parent company.

On some measures, there was very little variation across firm types. For example, the median firm in all categories reported that collateral equal to 100 percent of the loan value was required to get a loan. In addition, the median firm in all categories other than foreign-owned firms reported loan lengths equal to five years. Foreign-owned firms reported a median length of 4.5 years. But there was variation along some dimensions (see Table 22).

***Age and Firm Size.*** Although younger firms were more likely to see access to finance as a greater constraint, they are more likely to have bank loans than older firms (46 percent of firms younger than five years old compared to 37 percent of firms older than ten years old) and also finance more working capital through bank financing than older firms (see Table 22). These numbers probably reflect the fact that younger firms often are less able to finance investment and working capital through retained earnings and that they will often have greater investment needs in the short term. Consistent with this, younger firms were over twice as likely to have been rejected for loans (11 percent of firms less than 5 years old compared to 5 percent of firms older than ten years old) and the median firm under five years old paid fractionally higher interest rates than older firms (11 percent compared to 10 percent).

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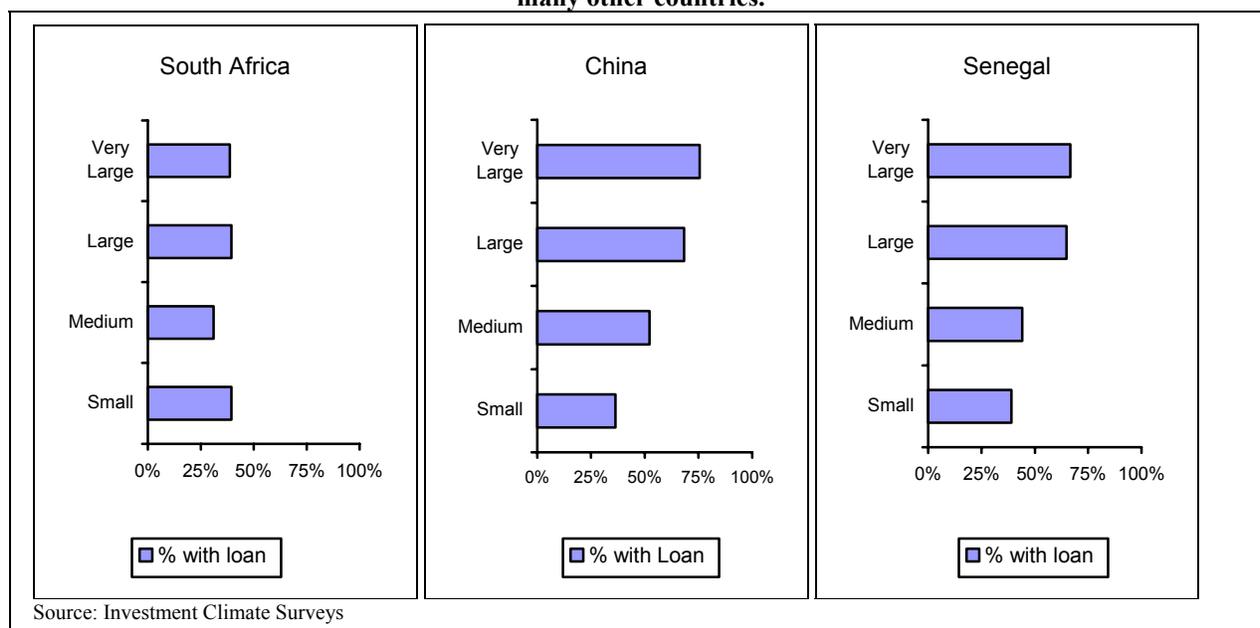
<sup>62</sup> See, for example, Fedderke, de Kalt, and Luiz (2000), Case and Deaton (1999) and Selod and Zenou (2003) for discussions of this issue. Selod and Zenou (2003) note, for example, that per capita spending was four times higher for white children than for black children and that the student/teacher ration was twice as high.

**Table 22: Financing by type of firm**

	<b>% ever applied for loan</b>	<b>% with loan</b>	<b>% with overdraft</b>	<b>% ever rejected for loan</b>	<b>Median Interest Rate</b>	<b>% of working capital financed through banks</b>
<b>All</b>	<b>75%</b>	<b>38%</b>	<b>68%</b>	<b>6%</b>	<b>11%</b>	<b>16.5%</b>
<b>Firm Size</b>						
Small	79%	39%	73%	7%	11%	17.2%
Medium-sized	73%	31%	66%	9%	11%	15.2%
Large	75%	40%	64%	3%	11%	16.8%
Very Large	74%	39%	75%	6%	10%	16.5%
<b>Internationalization</b>						
Non-Exporter	76%	38%	68%	7%	11%	17.3%
Exporter	73%	37%	67%	4%	10%	14.8%
Domestic	78%	38%	70%	7%	11%	16.9%
Foreign	58%	34%	55%	0%	10%	14.3%
<b>Accounting</b>						
No Audited Accounts	56%	28%	56%	11%	11%	14.7%
Audited Accounts	76%	38%	69%	6%	11%	16.7%
<b>Ownership</b>						
Corporate	65%	33%	58%	2%	10%	11.9%
Caucasian	84%	42%	77%	9%	11%	20.3%
Asian	79%	37%	66%	14%	10.5%	20.4%
African	70%	40%	75%	10%	11.5%	12.3%
<b>Age</b>						
Less than 5 years	71%	46%	60%	11%	11%	21.1%
5-10 Years	69%	34%	69%	5%	10.0%	14.8%
Over 10 years	78%	37%	70%	5%	10.5%	15.9%
<b>Province</b>						
Gauteng	78%	35%	65%	6%	10.5%	14.0%
KwaZulu-Natal	71%	38%	68%	13%	11.5%	22.1%
Western Cape	76%	45%	77%	4%	11.0%	22.1%
Eastern Cape	53%	33%	72%	8%	10.8%	12.3%

Medium-sized firms were less likely to have loans and overdrafts and financed less of their working capital through banks than either smaller or larger firms (see Table 22). This pattern is different from the pattern observed in most countries—in most countries smaller firms are less likely to have bank financing than larger firms. For example, whereas only about 40 percent of small firms in Senegal had a bank loan, nearly two-third of large firms did (see Figure 34). Similarly, about one-third of small firms in China had a bank loan, compared to nearly three-quarters of very large firms.

**Figure 34: Differences in access to finance due to firm size are less pronounced in South Africa than in many other countries.**



There is little evidence that this is due to lower demand from larger firms. Very large firms were almost as likely to report being rejected from a loan as small firms were and were nearly as likely to have applied for a loan. The median very large firm reported slightly lower interest rates than smaller firms, but the difference was not large.

**Internationalization.** Foreign-owned firms were less likely to have loans or overdraft facilities (34 percent and 55 percent respectively) than domestically owned firms were (38 percent and 70 percent) (see Table 22). They also financed less of their working capital with financing from banks (14 percent compared to 17 percent for domestically owned firms). The main reason for this is likely to be lower demand—they were less likely to have ever applied for a loan (58 percent compared to 78 percent of domestically owned firms) and none of the foreign owned firms in the sample had been rejected for a loan. Further, the median foreign-owned firm paid lower interest rates than the median domestically owned firm (10 percent compared to 11 percent).

The difference between exporters and non-exporters was more modest than the difference between foreign and domestically owned firms. Although fewer firms involved in exporting had loans or overdraft facilities than non-exporters, the difference was not larger. They were also less likely to finance their working capital needs through the banking sectors. In this case, the difference is more noticeable—on average, exporters financed 15 percent of working capital needs through the banking system while non-exporters finance about 17 percent. Exporters were also less likely to use trade credit. Similar patterns hold for new investment. As a result, exporters rely more heavily on retained earnings to finance both working capital and new investment (69 percent and 64 percent) than non-exporters (64 percent and 55 percent respectively).

**Accounting.** Firms without audited accounts was far less likely to have loans and overdraft facilities than firms with audited accounts and were far more likely to have been rejected for a loan—11 percent compared to 6 percent of firms without audited accounts (see Table 22). It is important to note that there were very few firms without audited accounts in the sample—about 97 percent of firms had audited accounts. This is high even compared to other middle income countries. In comparison, only 80 percent of Brazilian firms and 40 percent of Polish firms had audited accounts. Most of the firms without audited accounts (9 of 18) were small.

**Ownership.** Firms owned by other corporations were far less likely to have loans or overdrafts facilities and financed less new investment and working capital through bank finance than firms owned by individuals or families (see Table 22). They were also far less likely to have ever applied for a loan—only 65 percent of corporate-owned firms had ever applied for a loan compared to 83 percent of firms owned by individuals or families.

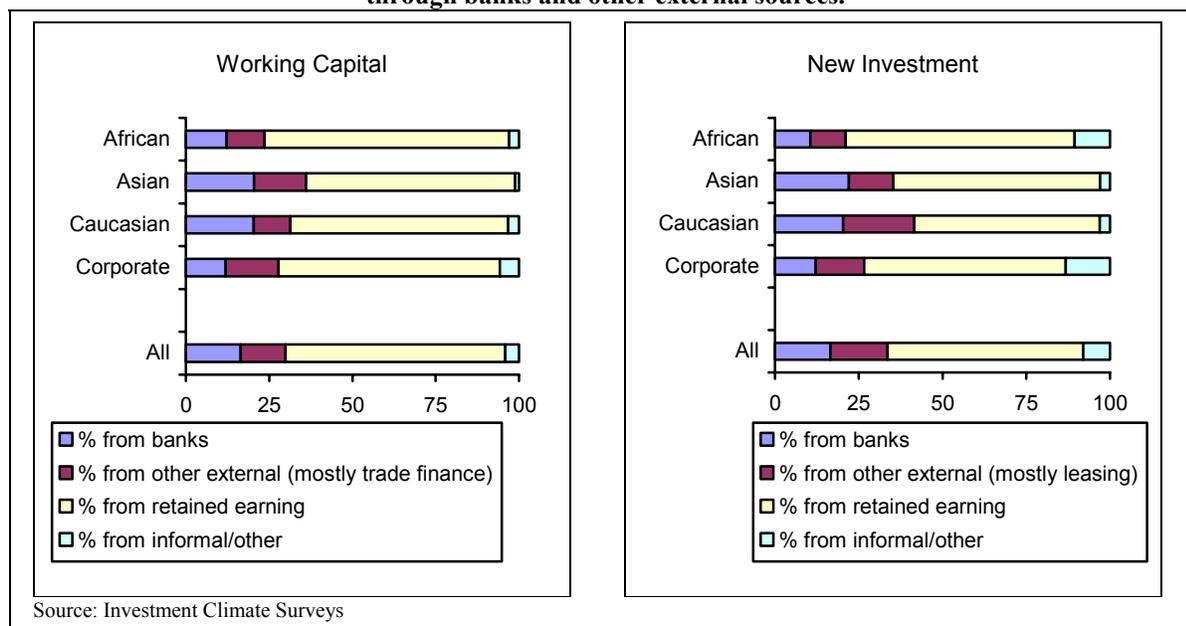
Although corporate owned firms appear less reliant upon bank financing, this does not appear to be because they are unable to obtain loans. Only 2 percent of corporate-owned firms reported ever being rejected for a loan and most firms that had not applied reported that they had not done so because they did not need a loan, because they were financed by their parent company or because they did not want to incur debt. Only 2 of 92 corporate-owned firms that had not applied for a loan said that they had inadequate collateral and 2 reported that they were already heavily indebted.

Consistent with the perceptions-based data, African and Asian-owned firms generally appeared to be less likely to have access to bank financing (see Table 22). The differences in the objective indicators, however, were generally modest. About 40 percent of African-owned firms and 37 percent of Asian-owned firms had a bank loan. In comparison, 42 percent of Caucasian owned firms had a loan. Asian and African-owned firms were also less likely to have an overdraft facility and were more likely to report that they had been rejected for a loan. African-owned firms, but not Asian-owned firms, financed less working capital and less investment through banks than white-owned firms. They also relied less on trade finance to finance working capital and less on leasing to finance new investment than white owned firms (see Figure 35).<sup>63</sup> As a result, they tend to rely more heavily on retained earnings for both new investment and working capital.

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<sup>63</sup> Lease financing accounts for almost all of the category ‘other external sources’ for new investment, while trade credit accounts for almost all of the category ‘other external sources’ for working capital

**Figure 35: Black-owned firms finance less of their working capital and new investment needs through banks and other external sources.**



The median African-owned firm also reported paying a higher interest rate (11.5 percent) than the median Caucasian-owned firm (11 percent). In contrast, the median Asian firm reported paying a slightly lower interest rate than the median Caucasian-owned firm.

Although the objective data are consistent with the perception based data cited earlier, it is important to treat these results cautiously. First, the differences in the objective data are not statistically significantly different from zero at conventional significance levels, even after controlling for other things that might affect access to finance. That is, we are unable to rule out the possibility that the differences are due to random variation (see Table 23). Second, as noted above, the difference could be due to unobserved differences between firms (e.g., in the quality of education that managers or workers received) that we are unable to control for in the empirical analysis.

**Table 23: Impact of ownership on perceptions about access to finance**

	Ordered Probit			
	Access to Finance (high values mean greater obstacle)		Cost of Financing	
<b>Observations</b>	586	586	586	586
<b>Firm Characteristics</b>				
Age of Establishment (natural log)	-0.1416** (2.51)	-0.1362** (2.44)	-0.0206 (0.42)	-0.0178 (0.36)
Number of Workers (natural log)	-0.0016 (0.04)	-0.0011 (0.03)	0.0532 (1.32)	0.0534 (1.33)
Company has audited accounts (dummy)	0.0535 (0.16)	0.0465 (0.14)	0.0942 (0.35)	0.0936 (0.35)
<b>Manager</b>				
Manager has university education (dummy)	-0.1714 (1.28)	-0.1713 (1.29)	-0.3208** (2.54)	-0.3203** (2.54)
<b>Globalization</b>				
Any foreign ownership (dummy)	-0.2071 (1.40)	-0.2005 (1.36)	-0.0881 (0.69)	-0.0859 (0.67)
Exporter (dummy)	0.0489 (0.45)	0.0504 (0.46)	0.0308 (0.31)	0.0321 (0.32)
<b>Ownership</b>				
Owner - Corporation (dummy)	-0.4381*** (3.53)	-0.4422*** (3.57)	-0.2881** (2.52)	-0.2898** (2.54)
Owner - Non-European Individual/Family (dummy)		0.4704*** (3.01)		0.2296 (1.52)
Owner - African individual/famiy (dummy)	0.6926*** (2.59)		0.3306 (1.15)	
Owner - Asian individual/family (dummy)	0.3423 (1.60)		0.1508 (0.76)	
Owner - Other/Colored individual/family (dummy)	0.5185*** (2.92)		0.3232 (1.45)	
Pseudo R-Squared	0.05	0.05	0.02	0.02

## CHAPTER 5: OTHER ASPECTS OF THE INVESTMENT CLIMATE

As a first cut for assessing investment climate problems, the Investment Climate Survey (ICS) asks firms to rate various areas of the investment climate and to say how serious an obstacle they are to enterprise operations and growth. Perception-based measures provide a good starting place for an analysis of the investment climate. Although perception-based measures suffer from several problems, an enterprise manager probably has a reasonable grasp of the immediate problems facing his or her business.

But they have several drawbacks:

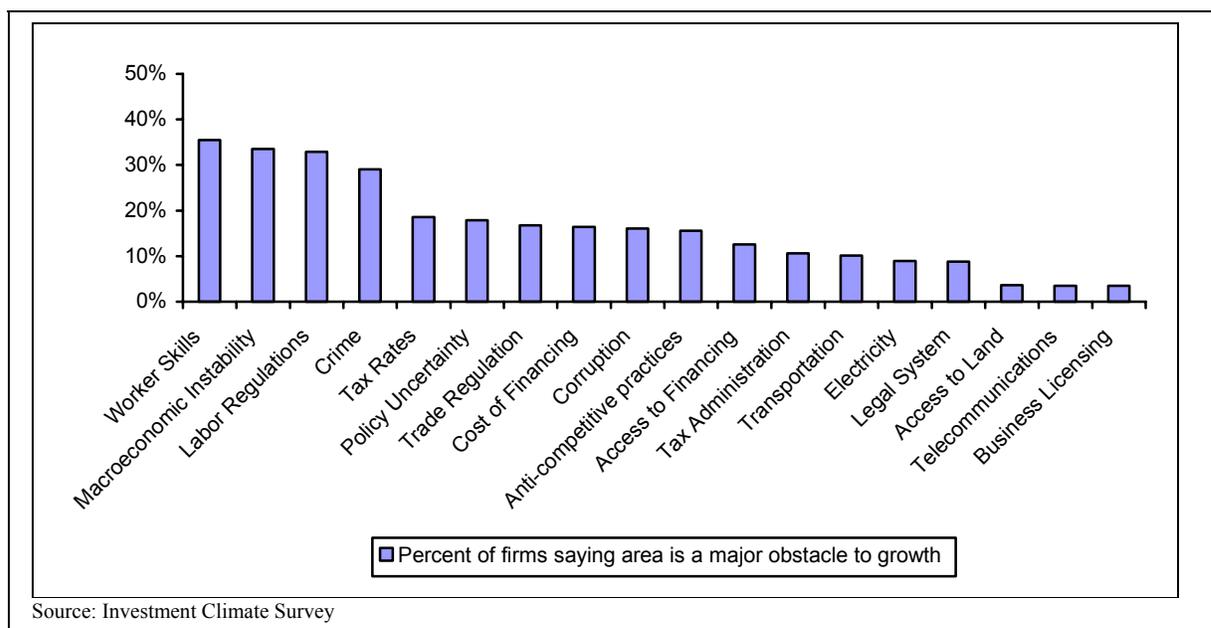
- Firms' experiences and expectations differ significantly between countries, meaning that it is difficult to compare perceptions across countries. Benchmarking performance across countries is far easier using objective measures of the investment climate.
- It is difficult to quantify and aggregate perception-based data across firms. This, in turn, means that it is difficult to assess exactly what would need to be done to reduce the constraint.
- Although managers may be aware of a problem, they might not be aware of the underlying causes. For example, managers might know that it is difficult to get bank loans, but might not know the underlying reasons for this (e.g., lack of competition in the banking sector, government debt issues crowding out private investment or problems with land registration that result in illiquid land markets and make it difficult to use land as collateral).
- Managers of existing enterprises might perceive obstacles differently than potential entrepreneurs would. For example, managers that have already completed registration procedures might not be concerned about entry costs even if they remain high. Similarly, if transportation costs are especially high in some areas, firms might only be located close to transportation facilities. Since only existing enterprises are asked about obstacles, this might mean some issues are missed.

Although perception based data are used as a starting point for the analysis, these concerns mean that this information is supplemented with quantitative data from elsewhere on the ICS and from other sources. Using this additional data allows us to explore questions in greater detail and to benchmark South Africa's performance against other countries.

### I. PERCEPTIONS ABOUT INVESTMENT CLIMATE PROBLEMS

In the Investment Climate Survey, managers were asked how whether different aspects of the investment climate were a problem for their enterprise's operations and growth. They responded using a five-point scale, ranging from 'no problem' to a 'very severe problem'. For each area, we calculate the percent of firms that rated it as a 'major' or 'very severe' problem. The responses for manufacturing firms are shown in Figure 33.

**Figure 36: Worker skills, macroeconomic instability, labor regulation and crime are firms' biggest concerns in South Africa.**



One interesting feature of the South African data is that relatively few enterprises rated each of the constraints as a major or very severe problem. For the biggest constraint, worker skills, only about 35 percent of firms rated it as a serious problem. This is far lower than in most countries. For example, close to 85 percent of firms in Brazil rated tax rates, the biggest problem in that country, as a major or very severe constraint. Similarly, about 74 percent of firms in Kenya rated corruption as a major or very constraint. Although it is difficult to compare perception-based measures across countries, this does suggest that enterprise managers are not greatly concerned about any of the 18 areas.

With this proviso in mind, managers were more likely to be concerned about worker skills, labor regulations, crime and macroeconomic instability than any other area of the investment climate. Between 29 and 35 percent of enterprises rated each of these areas as a major or very constraint. No more than 20 percent enterprises rated any other area as a major problem.

**Ownership.** Enterprises of all types were likely to rate crime as a major or very severe obstacle (see . For all groups of firms—corporate-owned firms, firms owned by Caucasian/European individuals, firms owned by Asian individuals and firms owned by African or colored individuals—crime ranked among the top 4 constraints. Labor regulations were rated among the top four problems for all groups except firms owned by Asian individuals. Corporate-owned firms were more likely to report macroeconomic instability as a serious problem than other firms (38 percent of enterprises) than other firms. This could be because corporate-owned firms were more likely to export (44 percent exported) than non-corporate owned firms (26 percent). Since exporters were more concerned about macroeconomic instability, this could explain the difference. Firms owned by Caucasian individuals or families were also more likely to rate macroeconomic instability as a serious issue.

The most notable difference, however, was that African and Asian-owned firms were far more likely to rate financial issues as major constraints than corporate or Caucasian-owned firms. Differences related to access to finance are discussed in detail in the previous chapter on Finance.

**Table 24: Percent of firms rating investment climate areas as major or very severe constraints, by enterprises type**

	Ownership				Export Status		Foreign Participation	
	Corporate	Indiv - European	Indiv - Asian	Indiv - African/ Other	Non-Exporter	Exporter	Domestic	Foreign
Worker Skills	44%	30%	29%	17%	37%	32%	35%	37%
Macroeconomic Instability	38%	33%	18%	17%	28%	44%	33%	37%
Labor Regulations	35%	33%	21%	23%	35%	28%	34%	27%
Crime	25%	32%	42%	27%	31%	24%	30%	26%
Trade Regulation	20%	15%	13%	7%	14%	22%	16%	22%
Policy Uncertainty	19%	18%	11%	17%	16%	22%	17%	21%
Corruption	16%	14%	34%	13%	17%	15%	17%	14%
Anti-competitive practices	15%	17%	18%	10%	16%	16%	16%	14%
Tax Rates	15%	22%	18%	20%	19%	18%	18%	19%
Cost of Financing	12%	19%	21%	27%	17%	14%	17%	13%
Transportation	11%	10%	8%	10%	11%	9%	10%	12%
Electricity	9%	9%	8%	3%	8%	11%	8%	14%
Tax Administration	7%	15%	8%	10%	12%	8%	11%	9%
Legal System	6%	12%	8%	7%	9%	8%	10%	5%
Access to Financing	5%	16%	32%	27%	14%	10%	14%	6%
Access to Land	5%	3%	5%	3%	4%	2%	4%	3%
Business Licensing	5%	3%	0%	7%	4%	2%	4%	3%
Telecommunications	3%	4%	0%	7%	3%	4%	3%	4%

Source: Investment Climate Survey

Note: Breakdowns only include manufacturing firms to ensure comparability across groups.

**Export Status.** Exporters and non-exporters generally had similar concerns. Firms in both groups were more likely to rate worker skills, macroeconomic instability, labor regulations and crime as serious obstacles than any of the other 14 areas. The two most noticeable differences between exporters and non-exporters were that exporters were more concerned about macroeconomic instability and trade regulation than non-exporters were.

**Foreign Participation.** There were also few differences between foreign and domestic firms. The top four constraints were the same for both groups. The largest difference was for access to financing, which only 6 percent of foreign-owned enterprises but 14 percent of domestically owned enterprises rated as a serious concern.

**Provincial Differences.** For the most part, problems were similar across provinces. For three of the four provinces included in the Investment Climate Survey, Gauteng, KwaZulu-Natal, and Western Cape, the main constraints were worker skills, labor regulations, crime and macroeconomic instability. Enterprises in Eastern Cape ranked two of these four areas among the top constraints, but were less likely to rate crime or labor regulations as a serious concern.

**Table 25: Percent of firms rating investment climate areas as major or very severe constraints, by sector and province.**

	Province				Sector		
	Gauteng	KwaZulu-Natal	Western Cape	Eastern Cape	Manufacturing	Construction	Retail
Worker Skills	37%	44%	30%	19%	35%	45%	31%
Labor Regulations	32%	33%	39%	17%	33%	37%	33%
Crime	31%	41%	23%	6%	29%	28%	28%
Macroeconomic Instability	28%	44%	44%	36%	33%	21%	18%
Corruption	19%	21%	10%	6%	16%	17%	17%
Tax Rates	17%	33%	20%	8%	19%	23%	19%
Policy Uncertainty	17%	27%	22%	0%	18%	19%	15%
Anti-competitive practices	16%	25%	13%	8%	16%	15%	18%
Trade Regulation	14%	21%	20%	31%	17%	8%	11%
Cost of Financing	13%	24%	21%	19%	16%	18%	13%
Access to Financing	12%	21%	12%	11%	13%	26%	11%
Transportation	9%	19%	9%	14%	10%	8%	11%
Electricity	9%	13%	5%	14%	9%	9%	2%
Tax Administration	8%	16%	18%	6%	11%	17%	22%
Legal System	8%	11%	11%	8%	9%	8%	8%
Telecommunications	3%	6%	2%	6%	3%	4%	8%
Business Licensing	3%	5%	4%	3%	3%	4%	7%
Access to Land	3%	8%	3%	8%	4%	10%	5%

Source: Investment Climate Survey

Note: Breakdowns by province only include manufacturing firms to ensure cross-region comparability.

Enterprise managers in the Eastern Cape were more likely to rate trade regulation as a serious problem than any other issues except macroeconomic instability. The concern about these two issues in the Eastern Cape might be partially due to the large number of exporters in this province. Exporters were more likely to rate both trade regulation and macroeconomic instability as a major concern than other non-exporters were.

**Sector.** There were also only minor differences across sectors. Enterprises in manufacturing, construction and retail trade all rated workers skills, crime and labor regulations among the four largest obstacles. The only difference was that manufacturing enterprises were far more likely to rate macroeconomic instability as a major concern than enterprises in construction or retail trade. One explanation for this might be that manufacturers are less domestically oriented than firms in the construction and retail trade sectors. Consistent with this, manufacturing enterprises with a more international focus—that is, exporters and foreign-owned enterprises—were more likely to rate macroeconomic instability as a problem than domestically oriented manufacturing firms.

## II. MAJOR CONSTRAINTS ON ENTERPRISE OPERATION AND GROWTH

This section discusses two of the four constraints that enterprise managers were most likely to rate as a major or very severe obstacle: crime and macroeconomic instability. The other two constraints identified by managers, worker skills and labor regulation, are discussed in the earlier chapter on labor. Access to finance and cost of financing are discussed in the chapter on finance. Additional constraints identified by fewer enterprises or by specific types of enterprises are discussed in the next section of this chapter.

## II.1 Crime

About 30 percent of enterprises in the Investment Climate Survey rated crime as a major or very severe problem. Although there were a few differences, complaints about crime were common among most types of enterprise and in most regions. This section looks at the impact of crime on businesses in South Africa and compares South Africa to other countries where Investment Climate Surveys have been completed.

### II.1.1 *Trends in crime over the past decade*

The worst violent crimes, especially murder, have become less common in South Africa in recent years. Between 1994 and 2003, the murder rate fell by 36% to 0.47 murders per 1000 people. This is similar to Washington D.C. and is lower than in Columbia, where the rate was 0.66 per 1000 people (Leggett, 2003). On the other hand, property-related crime has been escalating at an alarming rate. Between 1994 and 2000, common robbery rose 168% to 2.1 per 1000 people and aggravated robbery rose 31% to 2.7 per 1000 people (Altbeker, 2001). Since 2000, robberies and most other property crimes have continued to increase, particularly in the Western Cape, where property crimes have doubled since 1994.<sup>64</sup>

Although there are few detailed analyses, the existing evidence suggests that crime has a serious impact on the South African population and economy. About 44 percent of blacks and 58 percent of whites cite crime as the most serious problem facing the nation and about one-quarter of surveyed households reported that they experienced crime in 1995 (NEDCOR, 1996).

The impact of business is also large. Using data from a 1999 survey of enterprises in Johannesburg, Chandra et al (2001) report that 60 percent of businesses suffered break-ins, 40% suffered employee theft, and 20% suffered vandalism in the previous year. They also find that larger firms are more likely to suffer from crime, especially break-ins, while ethnicity is only a weak predictor of victimization.

There is little work explaining crime levels and trends in South Africa. Brown (2001) presents simple correlations between local crime rates and local levels of a range of economic and social indicators, finding a moderate correlation between crime and the probability of prosecution—a point which he traces to the efficacy of the law enforcement and criminal justice systems. The NEDCOR project (1996, 76, as cited in Brown, 2001) claims that “the present criminal justice system is not functioning at a level where it constitutes a credible deterrent to criminals.” Brown (2001) also finds moderate inverse correlations between average educational levels and crime and between average age levels and crime. Poverty, unemployment, average income and income inequality all are only weakly correlated with crime.

Crime waves are not unusual in countries undergoing transitions to democracy, particularly those with a legacy of armed resistance to authoritarian rule (Brown, 2001). The increase might also partly reflect increased reporting, particularly among Africans, who had had

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<sup>64</sup> Leggett (2003) notes that government officials cite fraudulent theft claims as potentially responsible for rising crime statistics, but finds that the falling rate of reported fraud cases undermines this explanation.

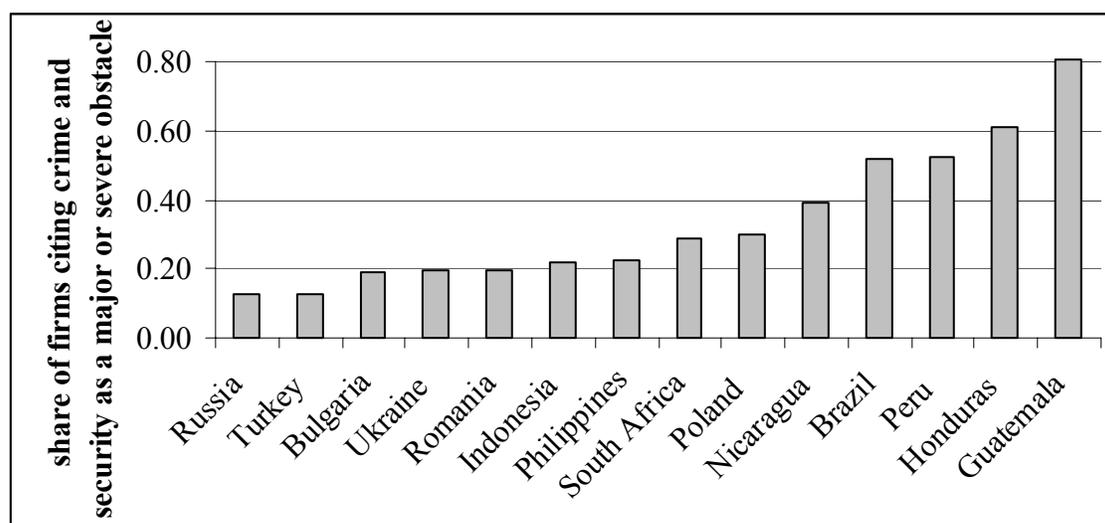
little recourse before the democratic transition. But regardless of its cause, crime in South Africa is clearly a major issue.

### *II.1.2 Crime and Security in a Comparative Perspective*

Results from the Investment Climate Survey suggest that South Africa is representative of countries where crime and security may be considered an important, though not critical, problem. In many Latin American countries—particularly in Central America—the security situation is probably the largest bottleneck to competitiveness and economic growth. South Africa’s situation is not this dire. But compared to other middle-income countries, such as Brazil, Indonesia, Poland, Russia, Turkey, and Ukraine, it is evident that the security environment harms competitiveness and makes South Africa a less attractive destination for foreign investment.

About 30% of South African firms cite security issues as a major or severe obstacle to doing business (see Figure 37). This compares favorably with the more volatile Latin American countries, where between 50 and 80% of firms rate crime as a severe obstacle, but is considerably higher than most other middle-income countries (between 10 and 20% of enterprises).

**Figure 37: South African firms see security as a problem, more so than in most middle-income comparators, but not as much as in Latin America**



Objective measures of the cost of security are consistent with the perception based data. The direct costs associated with the security situation in South Africa are large and significant for many firms: 1.1 percent of sales (3 percent of net value-added; 5 percent of labor costs) at the median, and 3 percent of sales at the 75<sup>th</sup> percentile (see Figure 38).<sup>65,66</sup> Consistent with the

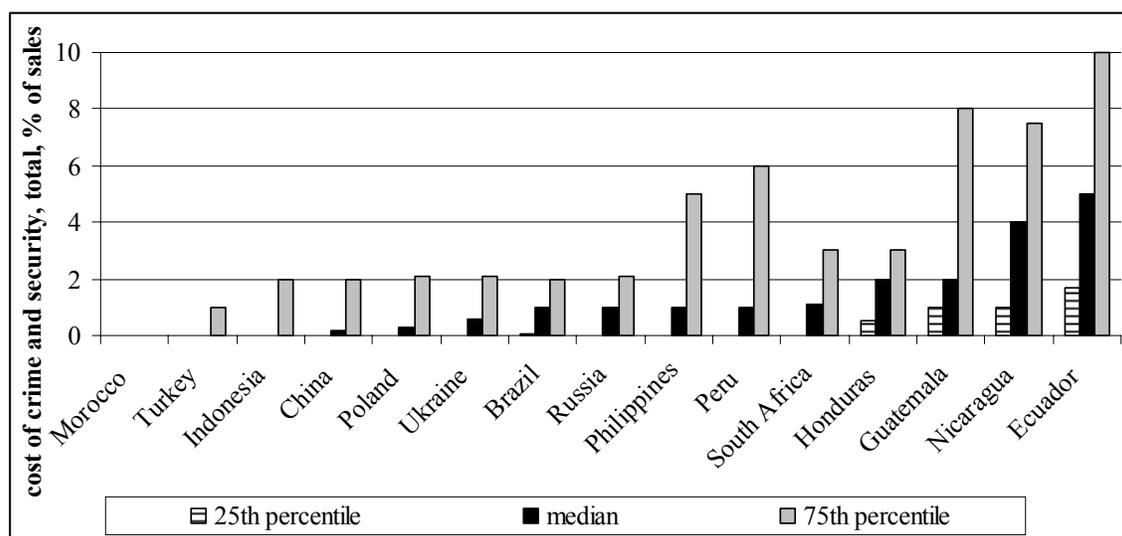
<sup>65</sup> As in most countries, costs at the 25<sup>th</sup> percentile are quite low, indicating that some firms are escaping major costs. The next section on variance within South Africa will return to this question.

<sup>66</sup> At the median, net value-added and labor costs are 35% and 24% of sales. While many figures on the cost of crime are given here in terms of sales, it may be intuitive to think about the impacts relative to value-added and labor costs.

perceptions data, the cost of crime and security does not appear to be as great in South Africa's as in the most volatile Latin American cases, where firms lose 2-5 percent of sales at the median and 3-10 percent at the 75<sup>th</sup> percentile.

For the median enterprise, the cost of crime in South Africa is roughly comparable to Brazil, Russia, the Philippines and Peru, but is significantly higher than in Morocco, Turkey, China, Poland and the Ukraine, where security issues cost the median firm less than 0.5 percent of sales. Relative to the benign security environment facing Moroccan and (Turkish) firms, the cost disadvantage for South African firms is roughly equivalent to a labor cost disadvantage of 5 percent at the median and 15 (10) percent at the 75<sup>th</sup> percentile.

**Figure 38: The cost of crime and security is high in South Africa, although lower than in many countries in Latin America**



Source: Investment Climate Surveys

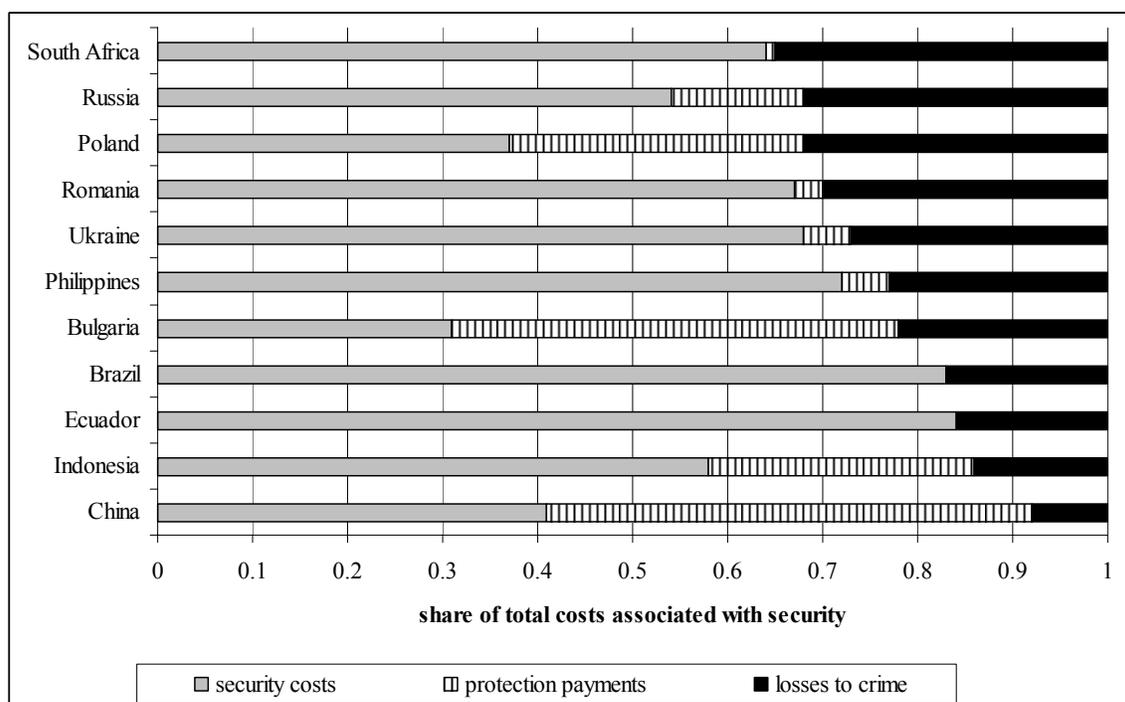
Note: in Honduras, Guatemala and Nicaragua, *only* losses to crime (not security costs or protection payments) are available. However, response rates on losses to crime in these countries were low, so accuracy is questionable.

Although the total cost of crime is similar in South Africa to other middle-income countries, the breakdown is slightly different (Figure 39). Few South African firms report that they make unofficial protection payments—a sharp contrast to Eastern Europe and Asia, where firms are often forced to pay police or mafia to avoid being the targets of crime. Direct losses to crime and vandalism in South Africa represent the largest share of total security-associated costs in any of the comparators (35 percent). One possible explanation for this is that the means by which firms protect themselves from crime are less effective in South Africa, meaning that the burden of crime is primarily in terms of losses rather than preventative costs.

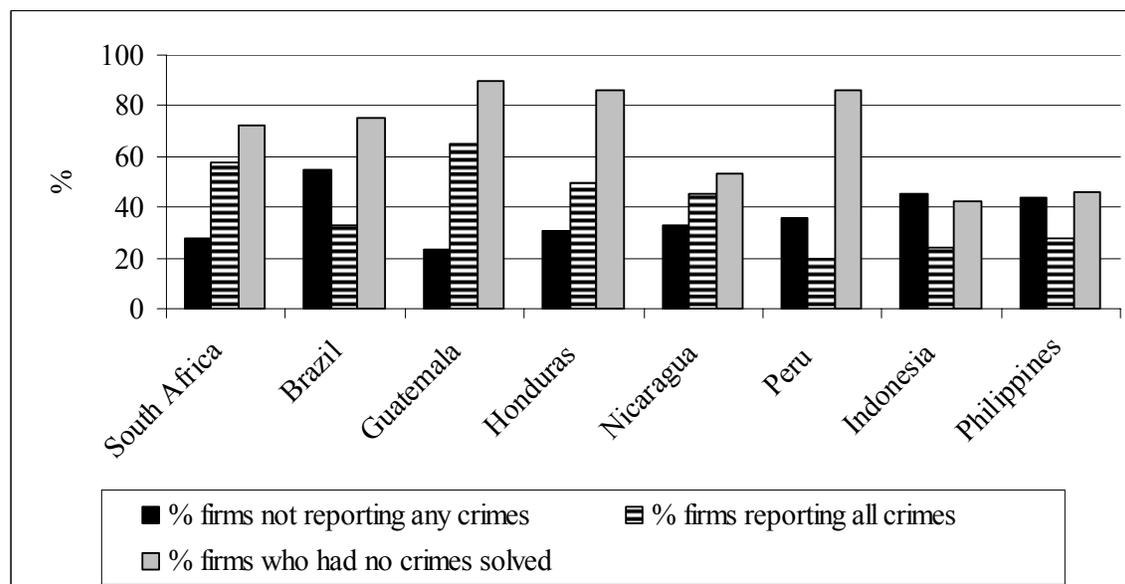
Figure 40 shows the degree to which firms turn to public security institutions in response to crime and the frequency with which those institutions are effective. In all countries, most firms either report all crimes to the police or do not report at all, implying that reporting is a measure of trust in the effectiveness of public security. In South Africa, 58% of firms reported all

incidents of crime and only 28% reported none, suggesting that firms have more trust in the police than do firms in most of the comparator countries. However, 72% of firms reporting criminal incidents to the police report that none of the incidents were solved, which compares unfavorably to Indonesia (42%) and the Philippines (46%).

**Figure 39: Direct losses due to crime make up a large share of the total cost of crime for South African firms**



**Figure 40: Although firms often report crimes, they are not usually solved**



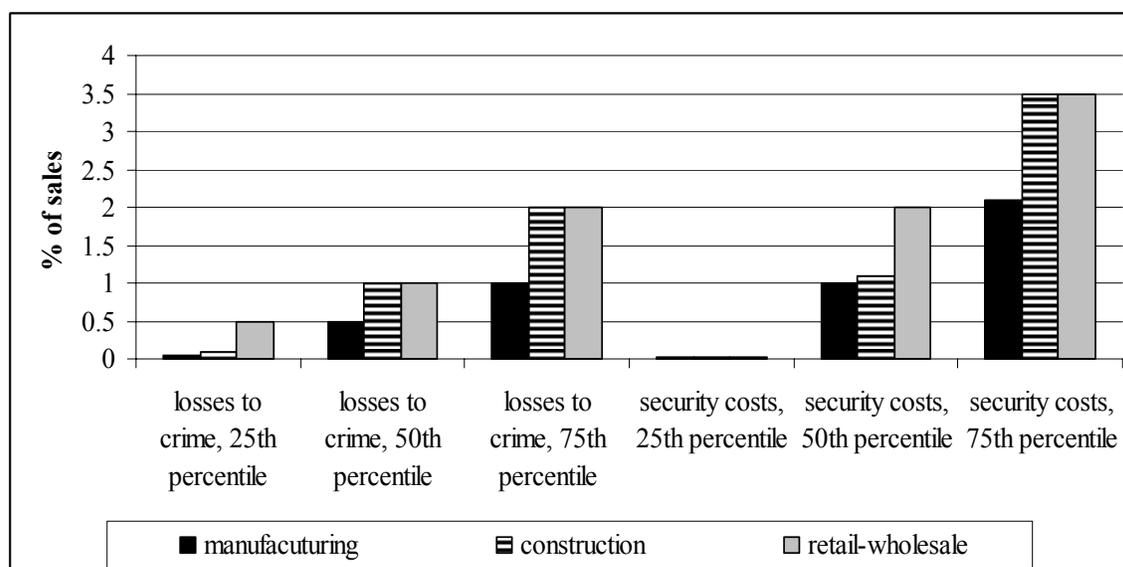
### II.1.3 *The Varying Burden of Crime: Location, Firm Size, Ownership*

The burden of crime and security is not uniform across the South African economy. The data from the Investment Climate Survey suggest that the burden of crime and security:

- is relatively low for manufacturing firms, and is particularly high for wholesale-retail firms, whose inventory is more attractive for criminals;
- tends to fall disproportionately on larger firms, which are more obvious targets, though this pattern is not uniform;
- is heaviest in Durban out of the major metropolitan areas, and is surprisingly moderate in Johannesburg given its harsh reputation for crime.

The first finding is hardly surprising. While manufacturing firms are vulnerable to various types of crime and vandalism, it will often be difficult to turn manufacturing firms' assets, raw materials and inventories into cash. The inventories of wholesale-retail firms are much more enticing to thieves in this respect (including to employees, who were responsible for 21% of the losses in wholesale-retail sector). The assets of construction firms (especially vehicles) are often scattered at various job sites and are therefore more vulnerable than those enclosed in factories in the manufacturing sector. About 52 percent of manufacturing firms experienced losses from crime in 2003, compared to 54 percent of construction firms and 64 percent of wholesale-retail firms. Losses vary more significantly across firms (see Figure 41); construction and retail firms incur costs as high as 2-3% of sales at the median and 5.5% of sales at the 75<sup>th</sup> percentile. Controlling for other firm characteristics, wholesale-retail firms (and to a lesser degree, construction firms) incur significantly higher total costs related to crime and security, and wholesale-retail firms are significantly more likely to suffer losses from crime (Appendix 1).

**Figure 41: Crime is more costly for firms in the retail and wholesale trade and constructions sectors than it is for manufacturing firms.**



The second finding is that large firms are more heavily burdened by crime (as in Chandra 2001), though not uniformly so. The right-most column of Table 1 illustrates the costs of security and crime by size; for large firms they are 1, 1.6 and 4 percent of sales at the 25<sup>th</sup>, 50<sup>th</sup> and 75<sup>th</sup> percentiles, substantially higher at all levels than those for micro firms and SMEs. The 25<sup>th</sup> percentile figure is perhaps the most significant, as it implies that relatively few large firms avoid incurring significant costs related to security. Logit and OLS models also indicate that size is a powerful determinant of victimization when controlling for other factors (see Appendix 1). The odds ratio of suffering losses to crime is estimated to be 80% higher for large firms than micro firms, and the total cost of crime and security is estimated to be around 35% higher.<sup>67</sup>

**Table 26: Total costs of crime and security, by size and location, % of sales**

Size	% sales lost at percentiles...	Cape Town	Durban	Johannesburg	Other	All
All	25	0.2	0.5	0.0	0.1	0.0
	50	1.5	3.2	1.0	1.1	1.1
	75	4.0	8.0	2.1	3.7	3.3
Micro	25	0.0	0.2	0.0	0.0	0.0
	50	1.2	1.0	1.0	1.0	1.1
	75	3.5	3.9	2.3	3.5	3.5
SME	25	0.5	0.5	0.1	0.1	0.0
	50	2.1	4.5	1.0	1.0	1.0
	75	5.0	11.0	2.0	3.7	3.0
Large	25	0.8	0.8	0.1	1.0	1.0
	50	2.0	3.0	1.2	1.8	1.6
	75	4.0	7.5	3.3	4.0	4.0

Costs are nonetheless high for micro firms and SMEs, particularly in the upper percentiles. Costs and losses for smaller firms do seem to be more dispersed; more firms escape relatively unscathed, and costs and losses tend to be lower overall, but a major crime incident can hit a small firm very hard (e.g. SMEs in Durban; micro firms in Cape Town). This pattern is similar to that in El Salvador (World Bank, 2005a).

The differences across regions are consistent, but not in line with common stereotypes. Durban and Cape Town stand out as particularly crime-ridden. The cost of crime for smaller firms in Durban is quite dispersed, with many firms avoiding significant costs but with some suffering badly (6% of sales at the 75<sup>th</sup> percentile). Larger firms appear to be regular targets, with heavy losses of 1.7% of sales at even the 25<sup>th</sup> percentile. Firms of all sizes in Cape Town report relatively high losses, in some cases exceeding their counterparts in Durban.<sup>68</sup> Johannesburg's numbers are slightly lower, slightly surprising given its reputation for crime. Part, but not all, of these differences can be explained by other firm characteristics that differ across regions; for example, large firms tend to suffer more from crime, and 19% of firms in Johannesburg are large compared to 26% in Durban and 31% in Cape Town. Controlling for size, ownership, and losses

<sup>67</sup> For example, if the probability of suffering from crime is 25%, the odds ratio is 1:3 or 0.33. If the odds ratio increases by 100%, the new odds ratio is 1:1.5 or 0.66, and the probability of suffering from crime is  $(0.66 / 1 + 0.66) = 0.40$ .

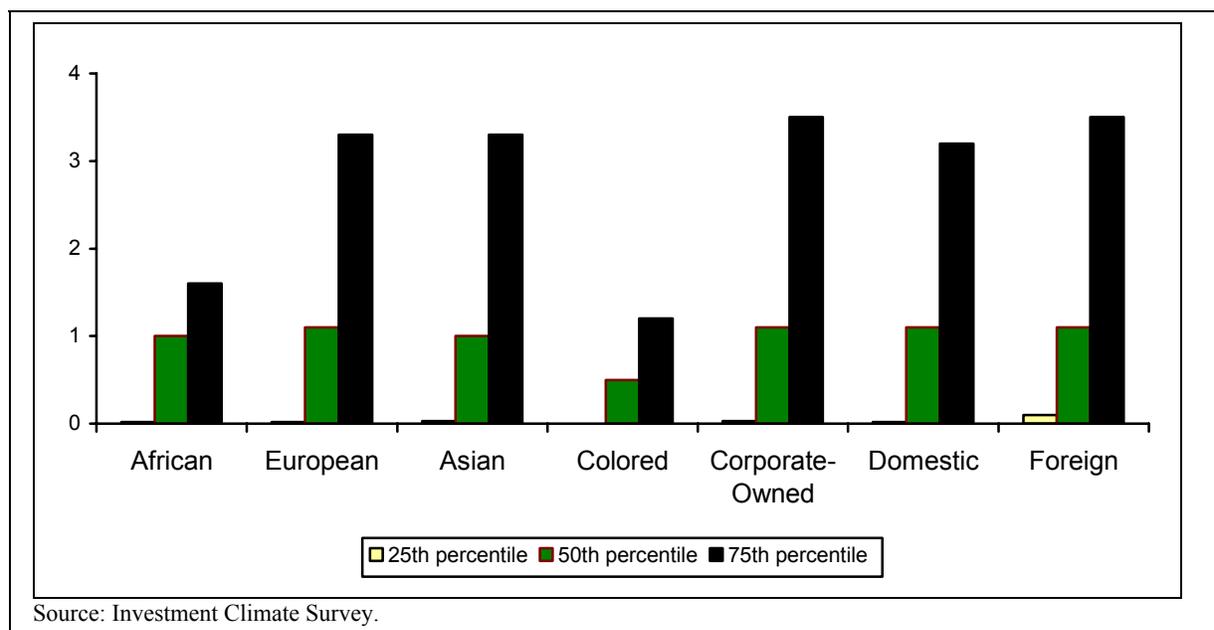
<sup>68</sup> Demombynes and Ozler (2005) find that jurisdictions which are the wealthiest among their neighbors have burglary rates that are 20-30% higher, consistent with a story relating inequality and crime. Cape Town, often thought of as a prosperous, largely white region, may attract more crime for this reason.

and costs associated with crime, firms in Cape Town are most likely to suffer any losses from crime, although firms in Durban experience the highest total costs associated with crime and security (see Appendix 1).

In terms of perceptions, firms in Durban cite security and crime as a major obstacle at a rate of 48%, compared to 29% (Cape Town), 30% (Johannesburg), and 24% (other). Being located in Durban is a powerful determinant of citing security and crime as a major obstacle, all else constant. It is interesting that firms in Cape Town systematically face higher crime-related costs and losses than those in Johannesburg, but do not rate crime as a greater issue. This suggests that firms' perceptions are influenced by common public perceptions of regional crime patterns.

There is also variation in the burden of crime by firm ownership, particularly along the lines of ethnicity. About 57 percent of European-owned firms and 59 percent of corporate-owned firms had losses due to criminal incidents in 2003, compared to 47% of Asian-, 30% of colored- and 35% of African-owned firms. Total security- and crime-related costs also vary substantially (Figure 42), with colored-owned firms incurring substantially lower costs at the median and the 75<sup>th</sup> percentile, and African-owned firms at the 75<sup>th</sup> percentile. Domestic versus foreign ownership makes less difference, with 51 percent of domestic firms suffering criminal incidents compared to 58 percent of foreign firms.

**Figure 42: Total costs of crime and security, % of sales, by ownership.**



A more in-depth analysis suggests that ethnicity plays only a minor role when controlling for other firm characteristics, particularly in the hard data. In terms of perceptions, foreign ownership is a robust predictor of firms citing crime as a major or severe obstacle, but white-owned firms are not significantly more likely than black-owned firms to do so.

### II.1.4 Aggregate Direct Costs of Crime to South African Firms

As a final exercise, this section looks at the aggregate cost of crime and security in the sample, quantifying it in terms of labor costs and value-added and then extrapolating it to a back-of-the-envelope estimate of the total costs throughout the South African manufacturing, construction and retail-wholesale sectors.

Table 4 show total losses to crime and the cost of security in the sample are presented in the first two data columns, and then compared to total labor costs and total value-added. The result is striking: the costs are equivalent to around 6% of net value-added, and to 15% of labor costs (18% in the manufacturing sector). In the firm-level data, the costs of crime at the median were 5% of labor costs; the higher aggregate result is generated by several very large businesses with relatively low ratios of labor costs to value-added.

Table 5 show estimates of the cost of crime extrapolated to the entire economies, based on value-added and/or sales figures. Given that the sample for the Investment Climate Survey is random, the observed costs of crime and security can be extrapolated to the remaining economic activity in the three sectors. This yields a number of about R 28.5 billion per year, or US\$4.75 billion – around R700 per capita. While high, this number is in line with existing estimates; the NEDCOR project in 1996 estimated the total annual cost of crime and violence (including indirect costs of lower investment) at R31 billion,<sup>69</sup> and Stallion Security's 2004 surveys put the cost of white-collar crime to the South African economy at nearly R 40 billion.<sup>70</sup>

**Table 27: Costs of Crime and Security relative to Labor Costs and Value-Added**

<i>Sector</i>	Losses to crime, mill. Rand	Cost of Security, mill. Rand	Net value-added, mill. Rand	Total labor costs, mill. Rand	Total cost of crime and security (% of labor costs)	Total cost of crime and security (% of net value-added)
<i>Retail &amp; wholesale</i>	83	203	5,151	3,574	8.0	5.6
<i>Manufacturing</i>	1,962	1,368	55,168	17,270	19.2	6.0
<i>Construction</i>	227	192	6,724	5,668	7.3	6.2
<i>All</i>	<b>2,272</b>	<b>1,764</b>	<b>67,045</b>	<b>26,511</b>	<b>15.2</b>	<b>6.0</b>

**Table 28: Costs of Crime and Security, Millions of Rand**

<i>Sector</i>	Losses to Crime, mill. Rand	Cost of Security	Sample, estimated % of total sector	Extrapolated cost of crime, mill. Rand	Extrapolated cost of security, mill. Rand
<i>Retail &amp; wholesale</i>	83	203	2.3	3,544	8,717
<i>Manufacturing</i>	1,962	1,368	23.1	8,495	5,925
<i>Construction</i>	227	192	23.2	978	827
<i>All</i>	<b>2,272</b>	<b>1,764</b>		<b>13,017</b>	<b>15,470</b>

<sup>69</sup> Business Times, 14 February 1999

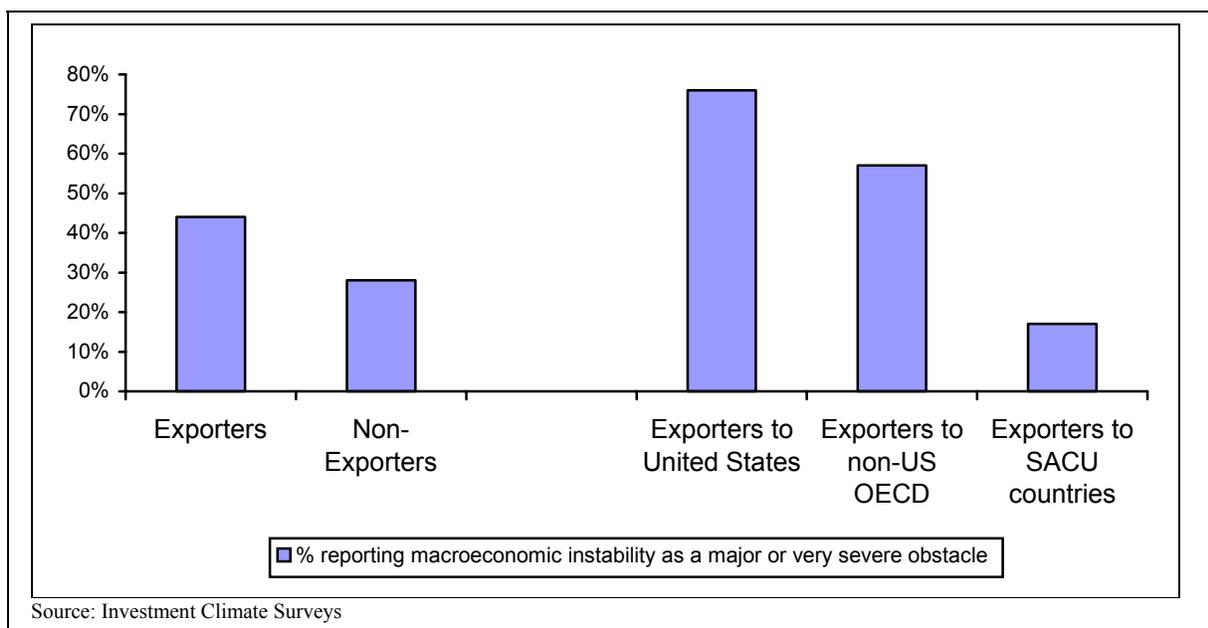
<sup>70</sup> Mail & Guardian, Sunday 7 November 2004

## II.2 Macroeconomic Instability

Macroeconomic instability was rated as a serious obstacle to enterprise operations and growth by about 33 percent of South African firms—making it the second greatest constraint asked about in the Investment Climate Survey. This might seem puzzling given that although growth has not been spectacular over the past decade—at least when compared to the fastest growing economies in Asia such as China (see Figure 5 in Chapter 1)—it has not been especially poor either. Similarly, inflation has also been relatively modest. It has averaged about 7 percent over the past decade and was only about 4 percent in 2004.

One possible explanation for the concerns about macroeconomic instability is that, as discussed in Chapter 1, exchange rates have been relatively unstable—especially against the U.S. dollar. Consistent with the idea that exchange rate instability is driving the negative perceptions about the macroeconomic instability, exporters were far more concerned about it than non-exporters. Whereas 28 percent of non-exporters rated macroeconomic instability as a major or very severe problem, 44 percent of exporters did the same. Since many South African manufacturing firms appear to be price takers on international markets, changes in the exchange rate can have a serious impact of enterprise revenues.

**Figure 43: Exporters—and especially exporters to the United States—were far more likely to rank macroeconomic instability as a serious obstacle than non-exporters.**



Also consistent with this idea, there were noticeable differences between different types of exporters. About 76 percent of firms that export to the United States—the major currency against which the Rand has appreciated most over the past two years—saw macroeconomic instability as a serious problem, compared to only 57 of exporters that exported to other OECD economies and 17 percent of exporters that export to other countries in SACU. Since most other countries in SACU peg their currencies against the Rand, exchange rate instability would presumably be a lesser concern for these enterprises.

### III. OTHER CONSTRAINTS ON ENTERPRISE OPERATIONS AND GROWTH

Crime, macroeconomic instability, labor regulations and worker skills were identified as serious constraints by more firms than other areas of the investment climate. As noted above, however, there are several concerns about perceptions based data. Although these problems can be overemphasized—firm managers certainly have a better idea about the constraints that affect their enterprise than anyone else—it suggests that it is worthwhile looking at areas that most firms do not consider to be a large constraint to benchmark South Africa’s performance in these areas against other countries.

#### III.1 Impact of HIV/AIDS

In addition to being a human catastrophe in terms of lost lives, HIV/AIDS undermines economic development. Although the perception based data does not include a specific question about perception of the impact of HIV/AIDS on firm operations, there is a growing awareness of the burden that the epidemic could place on South African businesses.

The HIV prevalence profile implies that the typical worker in the sectors surveyed is at the highest risk of being HIV positive. According to the Mandela study (2002) and the Stats SA (2004) sentinel surveillance survey, 23% of all South Africans above the age of 15 are HIV positive.<sup>71</sup> The age-specific prevalence rates are even more severe between 25-35 for women and 30-40 for men. Prevalence rates for these groups are around 30%.

While there exists a surplus pool of economically active individuals who are unemployed, the prospects for firms looks especially grim when we consider the average experience and embodied know-how that is likely to be lost if a large fraction of workers become unable to work. In addition, the decline in life expectancy implies that knowledge embodied in workers through learning by doing/training is unlikely to be as enduring.

Firms were asked to evaluate the impact of the HIV epidemic on a number of common measures of firm performance. We focus here on investment, labor productivity, profit rates and overall performance. Table 29 shows the percentage of firms reporting strong or prohibitive impacts on each of the measures above.

**Table 29: Impact of HIV epidemic on Firm Performance**

Industry	Overall	Investment	Labor productivity	Profit rates
Construction	28.13	70.00	9.47	5.21
Manufacturing	32.71	44.07	6.31	3.79
Retail - Wholesale	13.70	25.00	2.74	1.37
<b>Total</b>	<b>30.30</b>	<b>45.45</b>	<b>6.37</b>	<b>3.73</b>

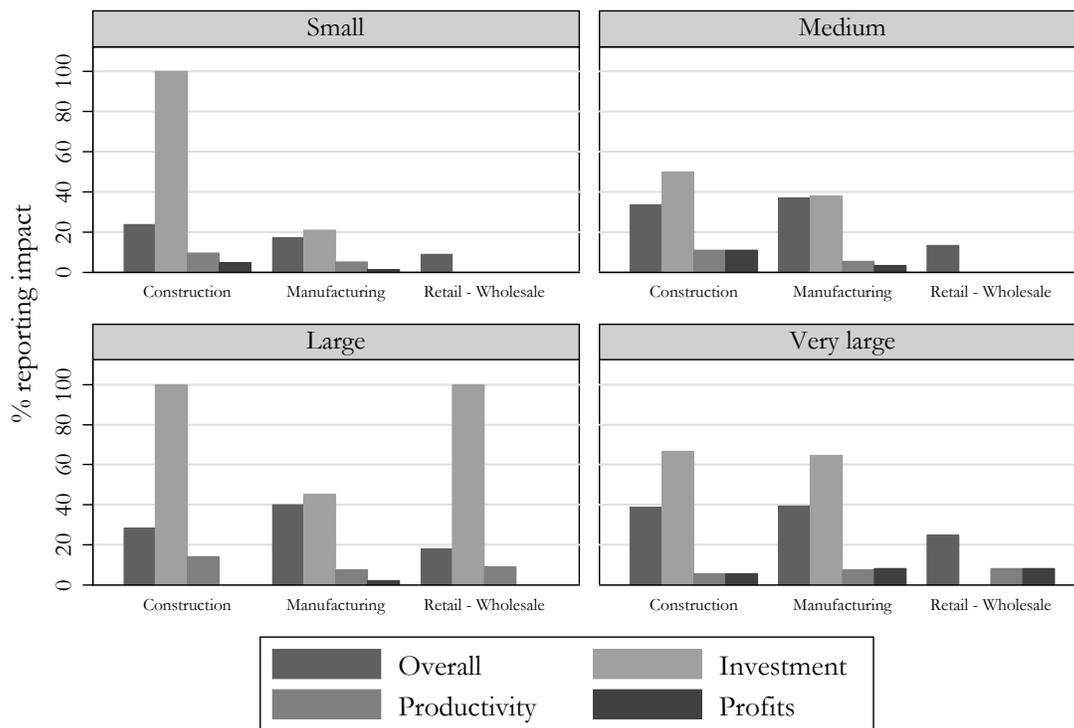
Nearly one third of firms in the sample report a strong or prohibitive impact of the epidemic on overall firm performance. The primary channel of the impact appears to be

<sup>71</sup> National estimates for HIV prevalence from the Mandela study are likely biased due to non-response rates of between 30-40% of sampled individuals.

investment, potentially driven by the increased uncertainty in future productivity of workers and market size. This is most severe in the construction and manufacturing sectors where 70 and 44% of firms report strong or prohibitive impacts of the epidemic on investment.

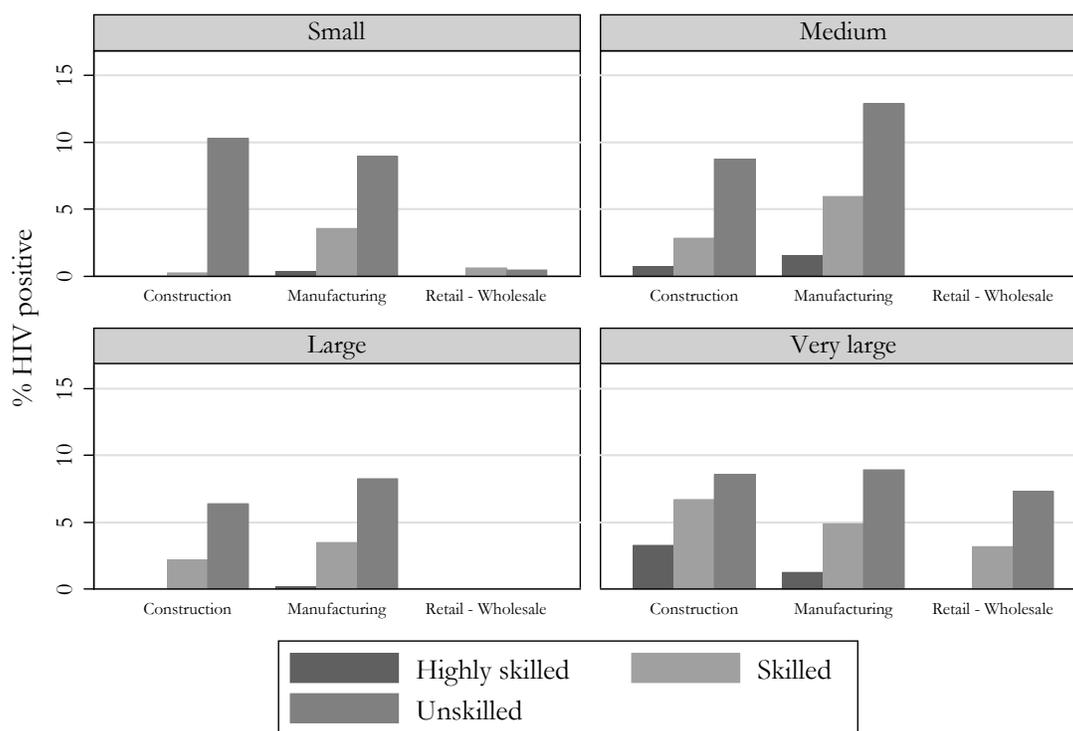
Figure 44 below shows the proportion of firms reporting strong/prohibitive impacts broken down by size class. The figure does not show any discernible size-class patterns in the construction and wholesale sectors that would indicate differential ability to cope with the disease. All construction firms in the small and large size categories report strong/prohibitive impacts. However, overall and investment impacts increase with firm size in the manufacturing sector suggesting that variation in perceived risk to firms as a function of market or firm size.

**Figure 44: Impact of HIV on Firm Performance**



Graphs by sizeclass

Figure 45 below shows HIV prevalence rates reported by firms for the highly skilled, skilled and unskilled cohorts of their respective labor forces. Prevalence rates reported by firms are considerably lower than estimates from household surveys and ANC sentinel surveys. In addition, the results of this survey show a strong skill-prevalence gradient; prevalence rates amongst the unskilled category are more than twice as high as prevalence rates amongst the skilled labor category. Reported prevalence rates amongst the highly skilled category are very low.

**Figure 45: Firm Level HIV Prevalence**

Graphs by sizeclass

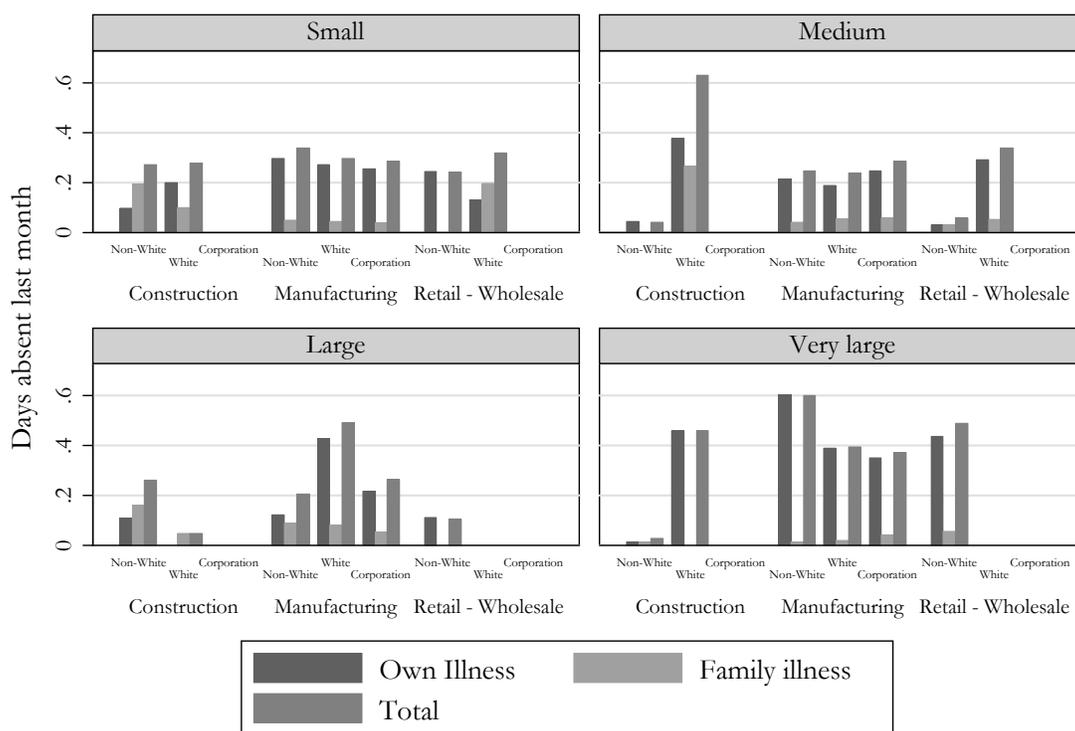
Several theories have been advanced as likely channels of the adverse effects of HIV on affected economies (Bloom and Mahal (1995), Over (1992), Over (2001) and Young (2005)). We examine these channels by asking firms to report the impact of HIV on labor productivity, turnover, absenteeism and medical expenditure. Table 30 show sample averages for each of the suggested channels. The modal response for each of these potential channels is an adverse impact of the epidemic that is less than 5% of the baseline. The impact of the epidemic is particularly severe for the construction sector where 7.5, 11 and 22 % firms report impacts of 10-20% on labor productivity, turnover and absenteeism.

**Table 30: Impact of HIV epidemic**

	<b>No Impact</b>	<b>&lt;5%</b>	<b>5-10%</b>	<b>10-20%</b>	<b>&gt;20%</b>
<b>Impact on Labor Productivity</b>					
Construction	0.00	77.78	14.81	7.41	0.00
Manufacturing	9.38	78.13	9.90	1.56	1.04
Retail – Wholesale	0.00	80.00	20.00	0.00	0.00
<b>Total</b>	<b>7.86</b>	<b>78.17</b>	<b>10.92</b>	<b>2.18</b>	<b>0.87</b>
<b>Impact on Labor Turnover</b>					
Construction	11.11	59.26	18.52	11.11	0.00
Manufacturing	9.84	78.24	6.22	3.63	2.07
Retail – Wholesale	0.00	100.00	0.00	0.00	0.00
<b>Total</b>	<b>9.57</b>	<b>76.96</b>	<b>7.39</b>	<b>4.35</b>	<b>1.74</b>
<b>Impact on Employee Absenteeism</b>					
Construction	0.00	48.15	25.93	22.22	3.70
Manufacturing	3.63	70.47	16.58	3.63	5.70
Retail – Wholesale	10.00	80.00	10.00	0.00	0.00
<b>Total</b>	<b>3.48</b>	<b>68.26</b>	<b>17.39</b>	<b>5.65</b>	<b>5.22</b>
<b>Impact on Medical Costs</b>					
Construction	59.26	25.93	11.11	3.70	0.00
Manufacturing	30.57	57.51	6.74	2.07	3.11
Retail – Wholesale	40.00	50.00	10.00	0.00	0.00
<b>Total</b>	<b>34.35</b>	<b>53.48</b>	<b>7.39</b>	<b>2.17</b>	<b>2.61</b>

Only a handful of firms in the manufacturing sector report impacts of the disease on labor turnover and absenteeism greater than 10% of baseline. We turn to a more direct measure of worker absenteeism: Workers were asked to report the number of days of work missed due own illness or illness in the family in the 30 days preceding the survey. The data suggest very low levels of illness-related worker absenteeism: on average, workers in these sectors miss only 1 day every 3 months, 9 times lower than corresponding numbers in Central and Southern Africa with a similar HIV/AIDS burden.<sup>72</sup> Figure 46 below shows average number of days of absence due to illness for all three sectors by firm size.

<sup>72</sup> Central and East Africa have a much higher malaria burden than South Africa and this could account for the difference in sources of worker absenteeism.

**Figure 46: Average days absent in last 30 days due to illness**

Graphs by sizeclass

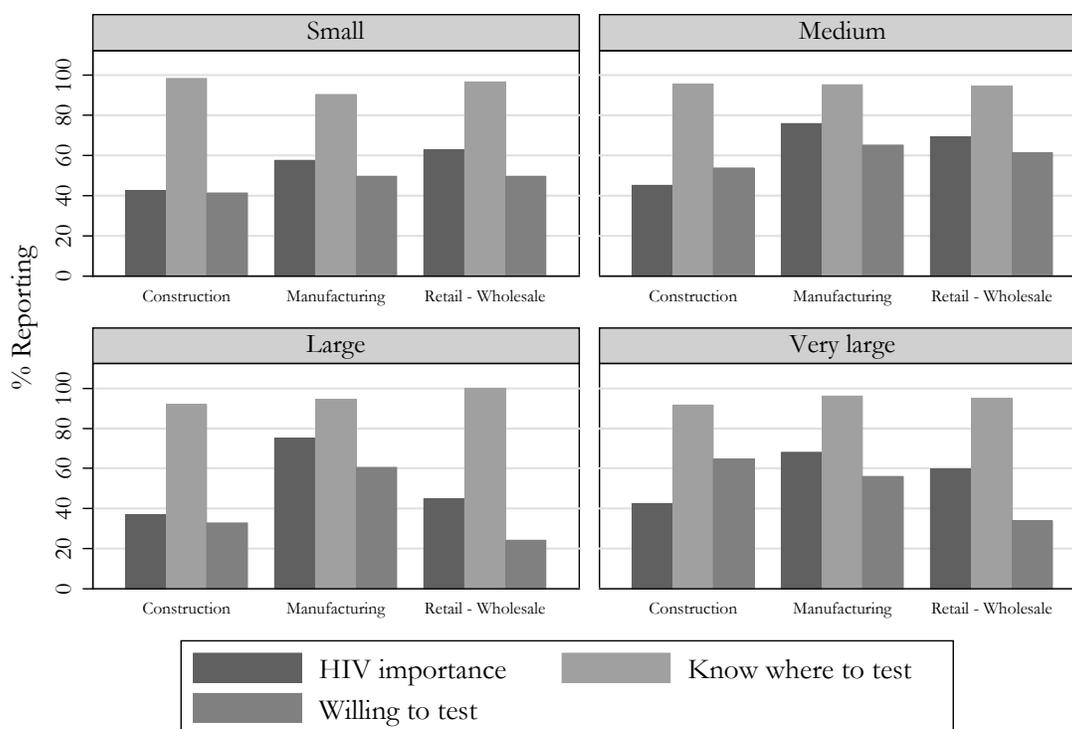
Firms report lower impacts on medical costs. In fact just over one third of firms report no impact on medical costs, while 53% report an impact of less than 5%. This is likely due to the stage of the epidemic and possibly a description of workplace or public programs to deal with the disease.

The deviation in firm-based reports of HIV prevalence from household survey data is suggestive of the channels of the impact of the disease on firm performance. While, it is likely that sample differences between workers in these sectors and household surveys explain a substantial difference in prevalence rates, it also underlines the fact that firms consider demand-side effects of the disease to be more important than within-firm effects.

To the extent that these figures represent firms' current perceptions of the problem, the impact of the disease on labor is likely to increase over time as infected workers progress to full-blown AIDS. A good measure of the likely trajectory of the disease and within-firm productivity effects is suggested by worker attitudes to the disease. Figure 47 and Table 31 below shows the percentage of workers reporting that HIV is an important concern, that have knowledge of testing centers and are willing to test.

**Table 31: Worker perceptions to HIV epidemic**

Industry	% HIV Important Concern	% Know where to get HIV test	% Willing to take HIV test
Construction	40.57	94.27	47.58
Manufacturing	69.55	94.17	58.37
Retail – Wholesale	62.00	95.97	46.07
Total	66.39	94.35	56.30

**Figure 47: Worker Perceptions/Knowledge about HIV**

Graphs by sizeclass

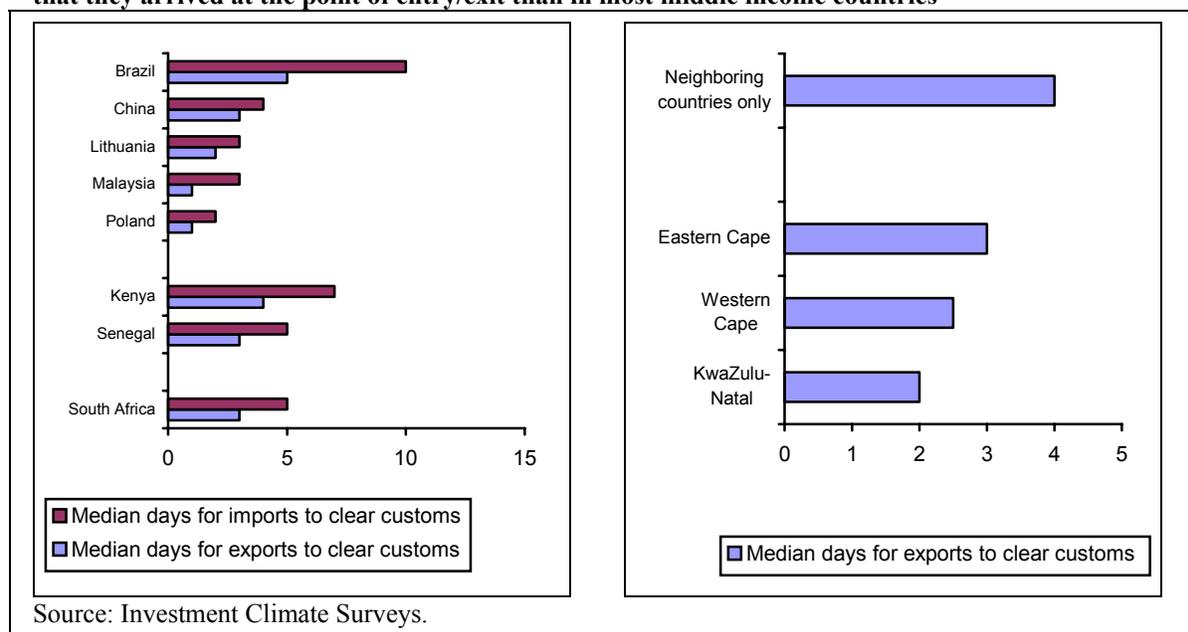
Only 40% of workers in the construction sector report being concerned about HIV compared to a sample average of 66%. Encouragingly, about 95% of all workers know where they can be tested for HIV. However, only half of these workers are willing to be tested. One explanation for this discrepancy is likely the absence of comprehensive treatment programs, private or public. Alternatively, sustained high levels of stigma about the disease inhibit employees from establishing their HIV status.

### III.2 Trade and Customs Regulations

Although customs and trade regulations were not seen as a serious obstacle by most enterprises—only 16 percent rated it as a major or very severe problem—exporters were more concerned than other enterprises. About 22 percent of exporters rated customs and trade regulations as a serious obstacle, making it the fifth largest problem for exporters overall.

In addition to the perception-based measure, firms were also asked how long it took for goods to clear customs after arriving at the point of entry or exit. The median enterprise that imported said it took about five days for imports to clear customs after arriving at the point of entry, while enterprises that exported said took about 3 days. Although this is better than in most other countries in Sub-Saharan Africa—for example, the median firm in Kenya said it takes about four days for exports to clear customs and seven days for imports to clear—this is longer than in most of the middle-income comparators. For example, the median Malaysian firm reported that it takes a day for exports to clear customs and three days for imports to do the same.

**Figure 48: It takes longer to clear imports and exports through South African customs after the time that they arrived at the point of entry/exit than in most middle income countries**



Although the Investment Climate Survey does not allow us to identify the exact point of entry and exit that each enterprise uses, it is possible to identify firms by their location. Excluding firms that export to neighboring countries (i.e., to try to ensure that they export through ports rather than through land borders), Figure 29 reports the median time to clear customs for firms from each province with port facilities included in the investment climate survey. The difference between provinces, however, appears modest. The median firm from KwaZulu-Natal reported it took two days for exports to clear customs, compared to two and half days in Western Cape and three days in Eastern Cape. Firms that only reported neighboring countries among their export partners reported slightly longer times—four days for the median firm. Overall, these results suggest that most major port facilities perform relatively well, although performance in all facilities lags behind performance in the best-performing middle-income countries.

### III.3 Regulatory Burden

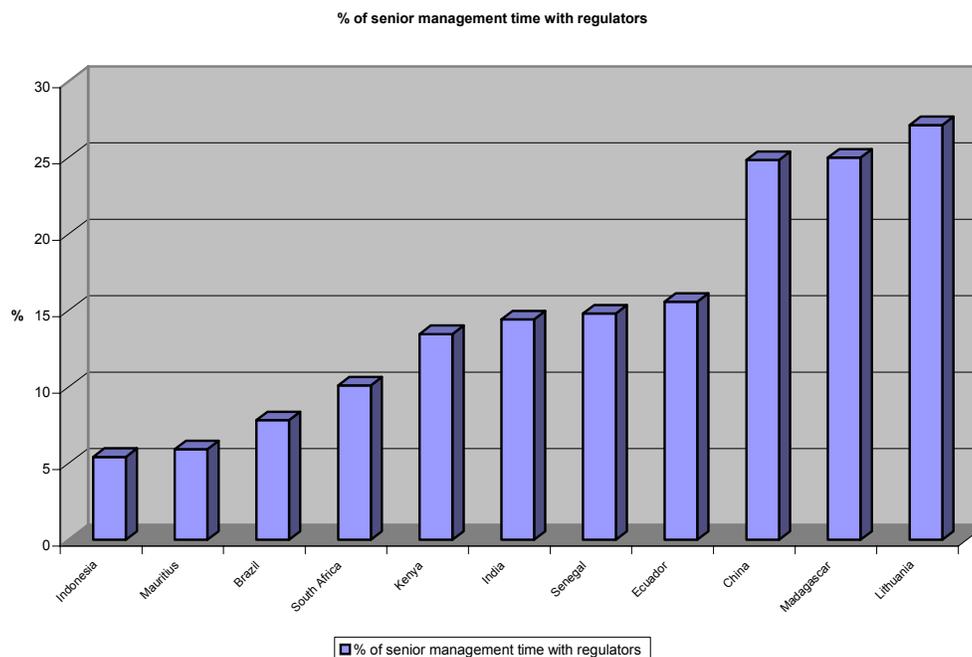
The figure below shows that senior management of manufacturing firms in South Africa spend an average of 10% of their time dealing with regulatory officials and regulations. The average time spent with regulations is uniform across different categories of firms. The

regulatory burden in international perspective shows that firms in South Africa face a less predatory regulatory regime than a number of middle-income countries. We examine a component of this measure of regulatory burden by looking at the average number of inspection visits by regulators. The average number of inspections is equivalent to about 1 inspection per month. Larger and exporting firms are subject to higher inspection visits: exporting firms experience twice as many inspection visits as non-exporting firms.

**Table 32: Regulatory Burden**

	% Senior mgmt time spent on regulation	Total number of Inspection Visits
Small	9.6	3.9
Medium	9.9	9.6
Large	10.0	15.1
Very large	8.2	14.2
Domestically own	9.7	13.3
Foreign owned	11.8	15.1
Non-exporter	9.9	9.6
Exporter	10.4	18.8
<b>Total</b>	<b>10.1</b>	<b>13.7</b>

**Figure 49: The burden of regulation is not particularly high by international standards**

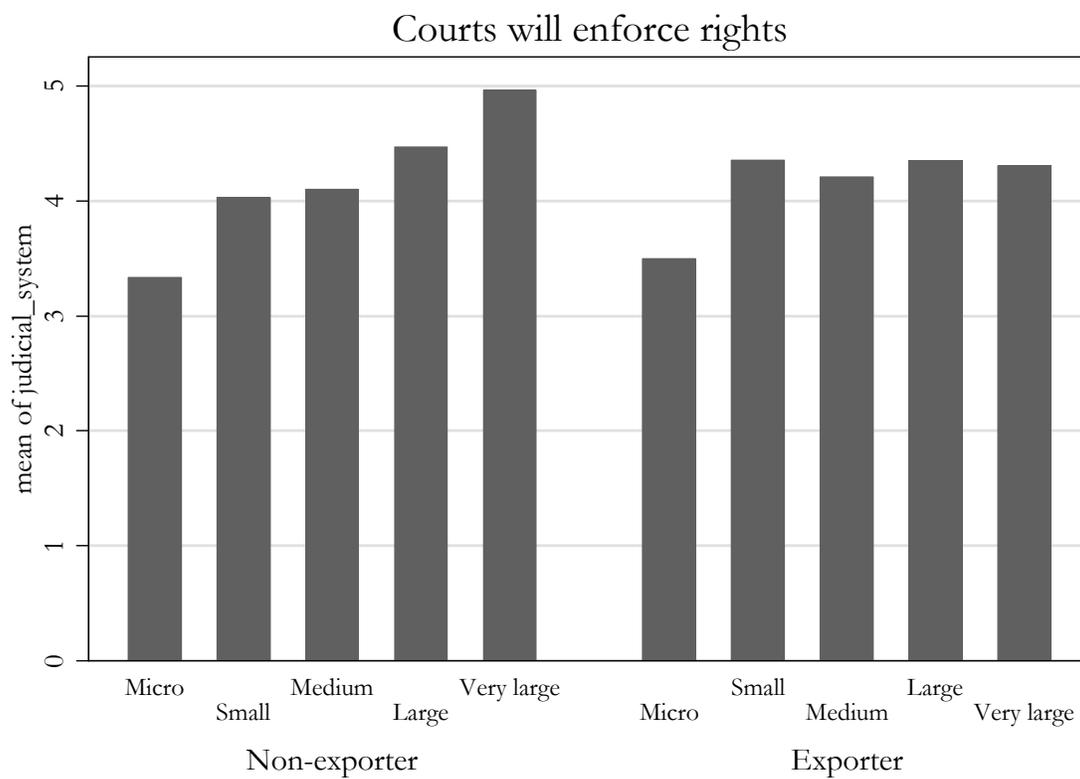


### III.4 Courts and Property Rights

Firms were asked how confident they were “that the judicial system will enforce my contractual property rights in business disputes”. The figure below shows the average response

of firms: 0 indicates strong disagreement, 6 indicates strong agreement. As the figure shows, manufacturing firms are generally confident in the judicial system. Non-exporting firms are more confident than exporting firms. Of potential concern is the average response of the micro firms in the survey. On average, these firms are unsure if they could use the judicial system to resolve disputes. This likely reflects the costs of using the judicial system that are potentially prohibitive for very small firms.

**Figure 50: South Africa firms are relatively confident that the courts will enforce their rights**

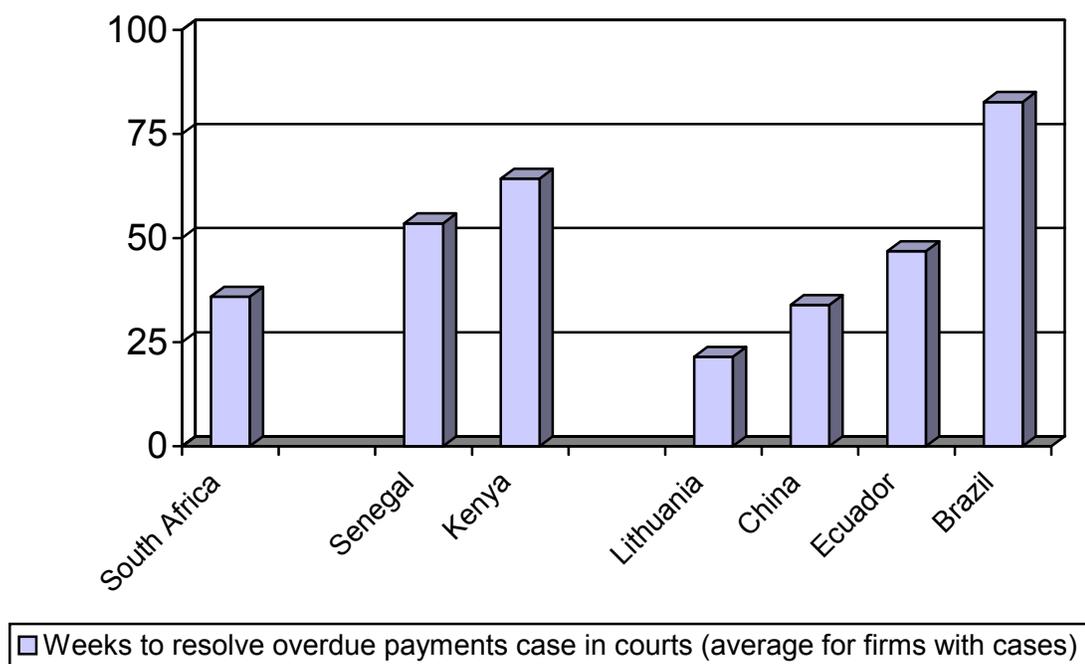


**Table 33: Time to courts take to resolve business disputes**

	Average, weeks	Median, weeks
Small	19.40	7.50
Medium	12.27	1.00
Large	23.03	7.00
Very large	36.59	1.50

The median time required to resolve business disputes is 4 weeks. There is significant variation in case duration as evidenced by the average which is about 6 times as large as the median court time. While there is substantial variation in case duration across firms in South Africa, court cases are resolved more quickly relative to a number of competing middle income economies. Firms in Brazil take 2.5 times as long to resolve cases, while firms in China take about the same time.

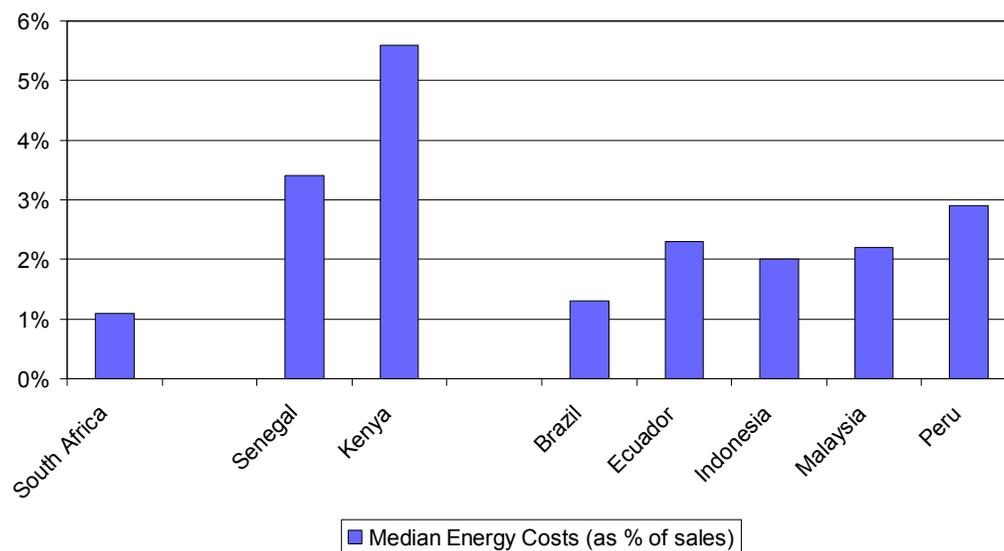
Figure 51:



### III.5 Power

The average share of electricity in manufacturing costs is just under 3%. This is considerably lower than corresponding cost shares in a number of competing economies. The figure below shows that median shares of electricity in Indonesia and Malaysia are twice as large as South Africa.

Figure 52:

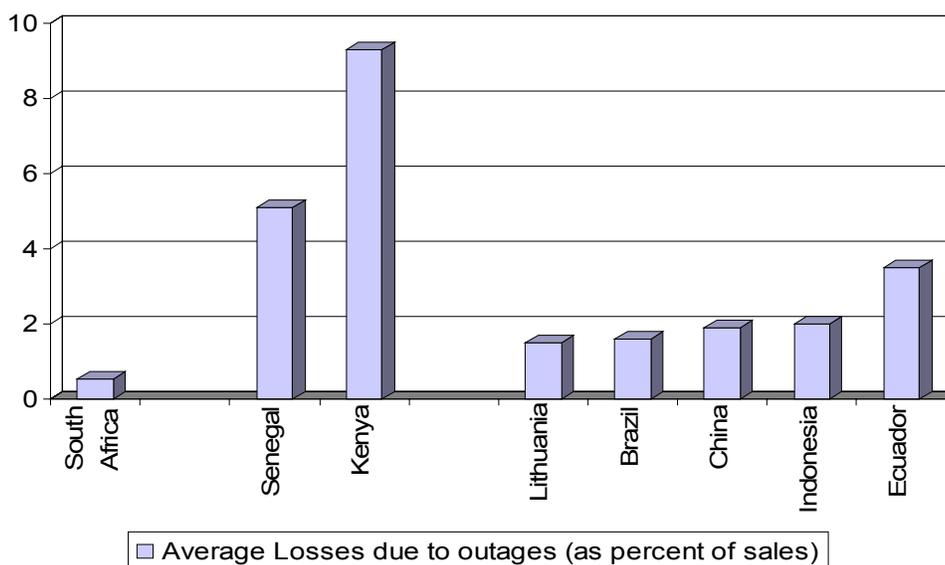


Not only is electricity relatively cheap in South Africa, it is also very reliable. The figures below show the percentage of output lost due to power outages. Non-exporting firms experience more unreliable power supply than exporting firms. This is likely due to differences in location.

Manufacturing firms in South Africa lose less than 1% of output to electricity outages. This is lower than all the comparator countries shown in the figure below. The average output lost in South Africa is about  $\frac{1}{2}$  of the output fraction lost due to poor power supply in China and Indonesia.

As a result of reliable electricity supply, South African firms are less likely to own a generator than firms in comparator countries. Only an average of 9.5% of South African firms own a generator compared to 18% in China, 22% in Lithuania and 39% in Indonesia.

Figure 53:



### III.6 Taxation

Most enterprises in South Africa did not see taxation—either tax rates or tax administration—as a major problem. Only 19 percent of enterprises saw tax rates as a serious problem and only 11 percent saw tax administration as a serious problem. Although tax rates ranked as the fifth greatest obstacle overall, there was a large gap between the fourth and fifth rate obstacles. Moreover, tax rates are typically seen as a serious obstacle—enterprises were less likely to say tax rates were a serious obstacle in only three of the 52 countries where investment climate surveys have been completed by mid-2005.<sup>73</sup>

Over the last decade the amount of income tax paid by South African companies has expanded at a very rapid rate. The only exception was in 1998/1999 when, following the Asian crisis, economic growth and company profits plummeted. Since that time, Company Income Tax (CIT) increased very rapidly. CIT has increased as a share of total tax revenue consistently over the last decade and now exceeds 20%. As a share of GDP, CIT has increased from around 3% in the mid-1990s to 5% in 2003/2004.

<sup>73</sup> Data from rapid response website at World Bank (<http://rru.worldbank.org/>).

**Table 34: Company Income Tax (CIT), 1994/5-2003/4**

Year	CIT Rand (million)	Y/Y change	% of tax revenue	% of GDP
1994/95	13 777	18.9	12.1	2.8
1995/96	15 831	14.9	12.4	2.8
1996/97	19 060	20.4	12.9	3.0
1997/98	21 609	13.4	13.1	3.1
1998/99	22 822	5.6	12.3	3.0
1999/2000	21 279	(6.8)	10.6	2.6
2000/01	29 956	40.8	13.6	3.3
2001/02	42 979	43.5	17.0	4.3
2002/03	56 326	31.1	20.0	4.9
2003/04	61 712	9.6	20.4	5.0

Notes: CIT comprises all provisional and assessed taxes paid by companies (net of refunds)

Source: South African Revenue Services Annual Report, 2004:15

The corporate rate of tax was 35% until 1998. It then declined to 30%. In the 2005 budget, the corporate tax rate fell to 29%. Despite the significant reduction in the tax rate, tax revenues increased substantially. From a base of 100 in 1995, revenue derived from taxes on companies doubled to 200.8 in 2000-2001 and then more than doubled to 410.9 in 2003.<sup>74</sup> The robust growth in CIT is a consequence firstly of increased company profitability, but also improved enforcement and compliance and a considerable increase in the company register.<sup>75</sup>

In addition to CIT, South African companies pay taxes on the profits that they distribute known as Secondary Tax on Companies (STC). While payments fluctuated considerably, the overall trend is for STC to increase its share of tax revenue from about 1% in the mid-19990s to a little over 2% in recent years. As a share of GDP, STC increased from around 0.2% in the mid-19990s to 0.5% in 2003/2004 (South African Revenue Services, Annual Report, 2004:16).

<sup>74</sup> National Treasury, 2004. Cited in Chamsa, 2004:10

<sup>75</sup> The number of companies on the register increased by almost 20% over the two year period 2001/02 – 2003/04. South African Revenue Services, Annual Report 2004:24

**CHAPTER 6: POLICY RECOMMENDATIONS AND CONCLUSION**

**[To Be Completed After Consultations With Government on First Draft]**

## SOUTH AFRICA INVESTMENT CLIMATE SURVEY QUESTIONNAIRE

Questionnaire  
idI.1.1 PRODUCTIVITY AND THE INVESTMENT CLIMATE  
I.1.2 PRIVATE ENTERPRISE SURVEY – MANUFACTURING**Please note that the following information will be handled with strict confidentiality.****INSTRUCTIONS:**

Please answer all the questions as accurately as possible. Unless otherwise specified, circle answers. Provide answers only in the space provided.

Good Day. My name is \_\_\_\_\_ and I am from Citizen Surveys, a research organization. We are presently conducting a survey on behalf of the Department of Trade and Industry to better understand conditions in the local investment climate and how they affect firm-level productivity. The goal is to advise government on ways to change policies that hinder private establishments like yours and to develop new policies and programs that support productivity growth. Your answers should reflect only your experience of doing business in your country. Please note that the information obtained here will be treated strictly confidentially. Neither your name nor the name of your firm will be used in any document based on this survey. Names and addresses will then be discarded - personal information will never be made public.

Date of interview: YYYY-MM-DD

Time interview start: HH : MM

<b>Organisation Name:</b>			
<b>Respondent Name/s:</b>	1. 2. 3.		
<b>Telephone:</b>	[W]	(CELL)	
<b>Province</b>	Gauteng	1	Western Cape
	KwaZulu-Natal	2	Eastern Cape
		3	4

**FOR CITIZEN SURVEYS' OFFICE USE ONLY**

	Name	Code	Phone number	Checked	Sign
Interviewer:					
Supervisor:				Y -1 / N - 2	
Field manager:				Y -1 / N - 2	
Back checked:				Y -1 / N - 2	

	Name
Debrief:	
Quota check:	
Editing:	

	Name
Extraction:	
Coding:	
Capturing:	
Back-checked:	

Interviewer/Supervisor pledge: I hereby certify that this interview has been completed in full with the respondent and according to the instructions I received from Citizen Surveys. Furthermore, this interview has been thoroughly checked.

Interviewer:		Supervisor:	Date:
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**1. GENERAL INFORMATION**

NOTE: QUESTIONS 1 THROUGH 6 APPLY TO YOUR ENTIRE FIRM, INCLUDING ALL ITS ESTABLISHMENTS (FACTORIES, STORES AND/OR SERVICE OUTLETS).

1. In what year did your firm begin operations in this country?

**THE YEAR THE COMPANY FIRST STARTED TRADING (IN ITS CURRENT FORMAT)**

C201

2. What is the current legal status of your firm? **C202**

Publicly listed company	1	Sole proprietorship	5
Private held, limited company	2	Partnership	6
Closed corporation	3	Other (specify): <b>c202x</b>	7
Cooperative	4		

3. What percentage of your firm is owned by...? **RECORD PERCENTAGES IN SPACE PROVIDED BELOW.**

a. Private Sector – domestic	<b>c203a</b> %
b. Private Sector – foreign	<b>c203b</b> %
c. Government/State	<b>c203c</b> %
d. Other (specify): <b>c203dx</b>	<b>c203d</b> %
	100%

4a. Was your firm previously owned by the government (the state)? **c2041**

Yes	1	→ ASK Q4b.
No	2	→ GO TO Q5.

4b. **IF YES:** When was it privatised? **RECORD YEAR.**

c2042

5a. What percentage of your firm is owned by the largest shareholder or owner?

c205a %

5b. Which of the following best describes the largest shareholder or owner in your firm? **MULTIPLE RESPONSES ALLOWED.**

Individual	<b>c205b1-10</b>	1	Investment fund	6
Family		2	Managers of the firm	7
Domestic company		3	Employees of the firm	8
Foreign company		4	Government or government agency	9
Bank		5	Other (Specify) <b>c205bx</b>	10

IF THE LARGEST SHAREHOLDER IS AN INDIVIDUAL OR FAMILY MEMBER (CODES 1 OR 2) ASK Q5c to Q5e, ELSE GO TO Q6.

5c. Is this principal owner also the manager/director? **C205c**

Yes	1
No	2

5d. Is the principal owner male? **C205d**

Yes 1

No	2
----	---

5e. What is the ethnic origin of the principal/majority owners? **q5e**

African	1	Coloured	6
European / Caucasian	2	Other	7
Asian	3	(Specify) <b>q5ex</b>	

ASK ALL:

6a. How many establishments (separate operating facilities) does your firm have in this country?  
i.e. **HAVING THEIR OWN ACCOUNTS / ACCOUNTING IDENTITY**

**C206a**

6b. Does your firm have holdings or operations in other countries? **C206b**

Yes	1
No	2

NOTE: FOR THE REMAINDER OF THIS SURVEY, PLEASE ANSWER WITH RESPECT TO THIS ESTABLISHMENT (FACTORY, STORE OR SERVICE OUTLET).

7i. What year did **this establishment** begin operations?

**q7i**

7iia. Where is **this establishment located** in this country? **(NAME OF CITY)**

**c2071x**

Enumerator code:

--	--

7iib. Where is your **headquarters** located in this country? **(NAME OF CITY)**

**c2072x**

Enumerator code:

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7. ENUMERATOR, PLEASE CODE AS FOLLOWS:

	7c. This <b>c2071</b> establishment	7d. Headquarters <b>c2072</b>
Capital City	1	1
Other city of over 1 million people	2	2
City of 250,000-1million	3	3
City of 50,000-250,000	4	4
Town or Location with less than 50,000 population	5	5

8. What is your main product line? **SHOW LIST - WRITE IN ISIC CODE. c208**

Enumerator code:

--	--	--	--

9a. Do you have other income generating activities beyond these main business lines? **c209a**

Yes	1	→ ASK Q9b.
No	2	→ GO TO Q10.

9b. **IF YES:** What percent of your workers time is accounted for by: **c209b**

1. Manufacturing:	<b>c209ba</b>	→	1a. Specify <b>main</b> line of business (e.g. textiles):	<b>c209bax</b>
2. Services:	<b>c209bb</b>	→	2a. <b>Main</b> service provided (e.g. consulting, transportation):	<b>c209bbx</b>
3. Commerce	<b>c209bc</b>			
4. Construction:	<b>c209bd</b>			
5. Other:	<b>c209be</b>	→	(specify):	<b>c209bex</b>
	100%			

10. At the end of the first year of operation, what was/were...?

**NOTE: IF THE FIRM WAS PRIVATISED, CONSIDER THAT YEAR AS THE START YEAR**

a. the total number of full-time paid employees?	<b>q10a</b>
b. Your annual sales?	R <b>q10b</b>

## 2. SALES AND SUPPLIES

11a. Within your main product line, what share of the **local market** in your city or town is made up by the sales of your establishment?

**c210a** %

11b. Within your main product line, what share of the **national market** is made up by the sales of your establishment?

**c210b** %

12a. What percent of your establishment's sales are:

	a. 2002	b. 2001	c. 2000
1. Sold domestically	<b>q12a1a</b> %	<b>q12a1b</b> %	<b>q12a1c</b> %
2. Exported directly	<b>q12a2a</b> %	<b>q12a2b</b> %	<b>q12a2c</b> %
3. Exported indirectly (through a distributor)	<b>q12a3a</b> %	<b>q12a3b</b> %	<b>q12a3c</b> %
	100%	100%	100%

12b. Approximately what percentage of your domestic sales are to:

1. The government	<b>c211b1</b> %
2. State owned or controlled enterprise	<b>c211b2</b> %
3. Multinationals located in your country	<b>c211b3</b> %
4. Your parent company or affiliated subsidiaries	<b>c211b4</b> %
5. Large domestic firms (those with approximately 300 plus workers)	<b>c211b5</b> %
6. Other (sales to small firms, individuals, etc.)	<b>c211b6</b> %
	100%

12c. If you export **more than 10 percent** of your sales: **(IF LESS THAN 10%, GO TO Q13.)**

i. What was the year your establishment first exported?

c211c1

ii. Which countries are the biggest destination for your exports?

a. c211c2x

b. c211c3x

c. c211c4x

13. What percentage of your establishment's material inputs and supplies in the last accounting year are:

1. Purchased from domestic sources	c2121 %
2. Imported directly	c2122 %
3. Imported indirectly (through a distributor)	c2123 %
	100%

14. At the time you receive delivery of your most important input or supply, how many days of inventory do you typically have on hand?

c213 days of inventory of main input

15. What percent of your purchased material inputs/supplies are of lower than agreed upon quality?

c214 % percent of purchased material inputs/supplies

16. What percent of sales in the last year were lost due to delivery delays from suppliers?

c215 % percent of sales

FOR THE FOLLOWING QUESTIONS, IF RESPONDENT DOES NOT KNOW THE PRECISE NUMBER, BUT KNOWS IT IS MORE THAN 20, PLEASE CODE AS "555")

17a. Over the last year, within your **main product line**, how many competitors do you have in the domestic market that are private domestic enterprises, state-owned enterprises or foreign-owned enterprises?

17b. Over the last year, within your **main product line**, how many suppliers of your main supply or input do you have that are private domestic enterprises, state-owned enterprises or foreign-owned enterprises?

17c. Over the last year, within your **main product line**, how many customers do you have that are private domestic enterprises, state-owned enterprises or foreign-owned enterprises?

	Q17a. Competitors in the domestic market	Q17b. Suppliers of your main supply or input	Q17c. Customers
1. Domestic Private Firms	c216a1	c216b1	c216c1
2. State Owned Firms	c216a2	c216b2	c216c2
3. Foreign Owned Firms	c216a3	c216b3	c216c3

### 3. INVESTMENT CLIMATE CONSTRAINTS TO THE ESTABLISHMENT

18. Please tell us if any of the following issues are a problem for the operation and growth of your business.

If an issue poses a problem, please judge its severity as an obstacle on a four-point scale where:

**0 = No obstacle 1 = Minor obstacle 2 = Moderate obstacle 3 = Major obstacle 4 = Very Severe Obstacle**

	No problem	Degree of obstacle			
		Minor obstacle	Moderate obstacle	Major obstacle	Very severe obstacle
a. Telecommunications <b>c218a</b>	0	1	2	3	4
b. Electricity <b>c218b</b>	0	1	2	3	4
c. Transportation <b>c218c</b>	0	1	2	3	4
d. Access to Land <b>c218d</b>	0	1	2	3	4
e. Tax rates <b>c218e</b>	0	1	2	3	4
f. Tax administration <b>c218f</b>	0	1	2	3	4
g. Customs and Trade Regulations <b>c218g</b>	0	1	2	3	4
h. Labour Regulations <b>c218h</b>	0	1	2	3	4
i. Skills and Education of Available Workers <b>c218i</b>	0	1	2	3	4
j. Business Licensing and Operating Permits <b>c218j</b>	0	1	2	3	4
k. Access to Financing (e.g. collateral) <b>c218k</b>	0	1	2	3	4
l. Cost of Financing (e.g. interest rates) <b>c218l</b>	0	1	2	3	4
m. Economic and Regulatory Policy Uncertainty <b>c218m</b>	0	1	2	3	4
n. Macroeconomic Instability (inflation, exchange rate) <b>c218n</b>	<b>c218n</b>	1	2	3	4
o. Corruption <b>c218o</b>	0	1	2	3	4
p. Crime, theft and disorder <b>c218p</b>	0	1	2	3	4
q. Anti-competitive or informal practices <b>c218q</b>	0	1	2	3	4
r. Legal system/conflict resolution <b>c218r</b>	0	1	2	3	4

### 4. INFRASTRUCTURE AND SERVICES

19. During how many days in the past year did your establishment...

- experience the following **service interruptions**,
- how long did they last (**HOURS PER DAY**), and
- what percent of your **total sales value** was **lost** last year due to...?

	i. # Days	ii. Average duration <b>HOURS PER DAY</b>	iii. Lost Value* <b>PERCENT</b>	N/A
a. power outages or surges from the public grid?	<b>c219a1</b>	<b>c219a2</b>	<b>c219a3%</b>	-777
b. insufficient water supply?	<b>c219b1</b>	<b>c219b2</b>	<b>c219b3%</b>	-777
c. unavailable mainline telephone service?	<b>c219c1</b>	<b>c219c2</b>	<b>c219c3%</b>	-777
d. transport failures?	<b>c219d1</b>	<b>c219d2</b>	<b>c219d3%</b>	-777
e. public postal service?	<b>q19e1</b>	<b>q19e2</b>	<b>q19e3%</b>	-777

\* FOR LOST VALUE, PLEASE INCLUDE LOSSES DUE TO LOST PRODUCTION TIME FROM THE OUTAGE, TIME NEEDED TO RESET MACHINES, AND PRODUCTION AND SALES LOST DUE TO PROCESSES BEING INTERRUPTED.

20a. What is your average cost of a kilowatt-hour (KwH) of electricity from the public grid?

R **c220a**

Take total of last bill and divide by total KwH

20b. Does your establishment own or share a generator? **c220b**

Yes	1	→ ASK Q20c and Q20d.
No	2	→ GO TO Q21.

20c. **IF YES:** What percentage of your electricity comes from your own or a shared generator?

**c220c** %

20d. **IF YES:** What was the generator's original cost to your establishment

R **c220d1**

YEAR

**c220d2**

21. What share of your firm's water supply do you get from...? **USED IN PRODUCTION**

a. Municipal/public sources	<b>c221a</b> %
b. your own well or a shared well	<b>c221b</b> %
c. purchased from private vendors	<b>c221c</b> %

22. What percentage of the value of your **average cargo consignment** is lost while in transit due to breakage, theft, or spoilage? *Includes incoming and outgoing consignments*

**c222** % percentage of consignment value lost

23. What percent of your workforce regularly uses a computer **in their jobs**?

**c223** % percentage of workforce

24. Does your enterprise regularly use e-mail or a website in its interactions with clients and suppliers?

	Yes	No
a. Email? <b>c224a</b>	1	2
b. A website? <b>c224b</b>	1	2

25a. Is your establishment/firm a member of a business association or chamber of commerce? **c225a**

Yes	1	→ ASK Q25b.
No	2	→ GO TO Q26.

Insert name(s):

a. **q25aax**

b. **q25abx**

c. **q25acx**

25b. **IF YES:** For each of the following, please indicate if this is a service the business association or chamber that is **most important** to your firm provides, and if so, what the value of this service is to your firm?

<b>c225ba – c225bf</b>	Not provided	Value to your firm				
		No value	Minor value	Moderate value	Major value	Critical value
a. Lobbying government	NP (-888)	0	1	2	3	4
b. Resolution of disputes (with officials, workers or other firms)	NP (-888)	0	1	2	3	4
c. Information and/or contacts on	NP (-888)	0	1	2	3	4

domestic product and input markets						
d. Information and/or contacts on international product and input markets	NP (-888)	0	1	2	3	4
e. Accrediting standards or quality of products; reputational benefits	NP (-888)	0	1	2	3	4
f. Information on government regulations	NP (-888)	0	1	2	3	4

## 5. FINANCE

26. How was the start up financed?

a. Owner savings	q26a %	
b. Borrowing from friends or relatives	q26b %	
c. Loan from a foreign bank or donor agency	q26c %	
d. Loan from a government-owned bank	q26d %	
e. Loan from a private bank	q26e %	
f. Loan from a finance company	q26f %	
g. Loan from a money lender	q26g %	
h. Loan from a supplier	q26h %	
i. Sale of stock/ equity	q26i %	
j. Loan from parent or affiliated company	q26j %	
k. Other	q26k %	Specify: q26k_x
	100 %	

27. Please identify the contribution over the last year of each of the following sources of financing for your establishment's:

i) **Working capital** (i.e. inventories, accounts receivable and cash)

ii) **New Investments** (i.e. new land, buildings, machinery and equipment)

	27i. Working capital	27ii. New investments
a. Internal funds or Retained earnings	c227a1 %	c227a2 %
b. Local commercial banks (loan, overdraft)	c227b1 %	c227b2 %
c. Foreign owned commercial banks	c227c1 %	c227c2 %
d. Leasing arrangement	c227d1 %	c227d2 %
e. Investment Funds/Special Development Financing/ or Other State Services	c227e1 %	c227e2 %
f. Trade credit (supplier or customer credit)	c227f1 %	c227f2 %
g. Credit cards	c227g1 %	c227g2 %
h. Equity, sale of stock	c227h1 %	c227h2 %
i. Family, friends	c227i1 %	c227i2 %
j. Informal sources (e.g. money lender)	c227j1 %	c227j2 %
k. Other (specify source):	c227k1 %	c227k2 %
	100 %	100 %

28a. Have you ever applied for a loan? **q28a**

Yes	1	→ GO TO Q28c.
No	2	→ ASK Q28b.

28b. If your enterprise never applied for a bank loan, why not? **q28b**

Inadequate collateral	1	
Didn't want to incur debt	2	
Process too difficult	3	
Didn't need one	4	
Didn't think I'd get one	5	
Interest rate too high	6	
Already heavily indebted	7	
Other	8	(specify): <b>q28bx</b>

28c. What financing arrangements do you have? **c228**

An overdraft or line of credit	1	→ ASK Q28d and Q29_1a-e.	<b>q28c1</b>
A loan payable in one year or less	2	→ ASK Q28d and Q29_2a-f.	<b>q28c2</b>
A loan payable in more than one year	3	→ ASK Q28d and Q29_3a-f.	<b>q28c3</b>
None of the above	4	→ GO TO Q30a.	<b>q28c4</b>

28d. **IF YES:** What percent is currently unused?

**c228y** %

**29\_1 For the most recent overdraft: (c229a – c229e)**

29\_1a. When was this financing approved (year)?

**q29\_1a**

29\_1b. Did the financing require collateral or a deposit? **q29\_1b**

Yes	1	→ ASK Q29_1c.
No	2	→ GO TO Q29_1e.

29\_1c. **IF YES:** What share of collateral was:

i. Land and buildings?	<b>q29_1c1</b> %
ii. Machinery?	<b>q29_1c2</b> %
iii. Intangible assets (accounts receivable, inventory)?	<b>q29_1c3</b> %
iv. Personal assets of owner/manager (e.g. house)?	<b>q29_1c4</b> %

29\_1d. What was the approximate value of collateral required as a percentage of the loan value?

**q29\_1d** %

29\_1e. What is the loan's approximate annual cost/ rate of interest?

**q29\_1e** %

**29\_2 For the most recent loan (less than or equal to 1 year): (c229a – c229f)**

29\_2a. When was this financing approved (year)?

q29\_2a

29\_2b. Did the financing require collateral or a deposit? q29\_2b

Yes	1	→ ASK Q29_2c.
No	2	→ GO TO Q29_2e.

29\_2c. **IF YES:** What share of collateral was:

i. Land and buildings?	q29_2c1 %
ii. Machinery?	q29_2c2 %
iii. Intangible assets (accounts receivable, inventory)?	q29_2c3 %
iv. Personal assets of owner/manager (e.g. house)?	q29_2c4 %

29\_2d. What was the approximate value of collateral required as a percentage of the loan value?

q29\_2d %

29\_2e. What is the loan's approximate annual cost/ rate of interest?

q29\_2e %

29\_2f. What is the duration (term) of the loan?

q29\_2f Months

**29\_3 For the most recent loan (more than 1 year): (c229a – c229f)**

29\_3a. When was this financing approved (year)?

q29\_3a

29\_3b. Did the financing require collateral or a deposit? q29\_3b

Yes	1	→ ASK Q29_3c.
No	2	→ GO TO Q29_3e.

29\_3c. **IF YES:** What share of collateral was:

i. Land and buildings?	q29_3c1 %
ii. Machinery?	q29_3c2 %
iii. Intangible assets (accounts receivable, inventory)?	q29_3c3 %
iv. Personal assets of owner/manager (e.g. house)?	q29_3c4 %

29\_3d. What was the approximate value of collateral required as a percentage of the loan value?

q29\_3d %

29\_3e. What is the loan's approximate annual cost/ rate of interest?

q29\_3e %

29\_3f. What is the duration (term) of the loan?

q29\_3f months

**ASK ALL:**

30a. Has this enterprise ever been rejected for a loan? q30a

Yes	1	→ ASK Q30b and Q30c.
No	2	→ GO TO Q31.

30b. **IF YES:** What institution rejected the application?

q30bx

30c. **IF YES:** Why was it rejected?

q30cx

31. What share of your total borrowing (loans, accounts payable) is denominated in foreign currency?

c230 %

32. How long does it take to clear the following payments through your financial institution (i.e. until the recipient can draw the funds)?

	Days	Charge (% of transaction)	OR	Fee (Rands)
a. a cheque	c231a1	C231a2 %		R c231a3
b. a domestic currency transfer	c231b1	C231b3 %		R c231b3
c. a foreign currency transfer	c231c1	C231c3 %		R c231c3
d. letter of credit	q32d1	q32d3 %		R q32d3

33. Does your establishment have its annual financial statement reviewed by an external auditor? c232

Yes	1
No	2

34. Of the land and buildings occupied by this establishment, what percent is owned or leased/rented?

	Owned	Leased or rented	If leased / rented, average contract length
a. Land	c233a1 %	c233a2 %	c233a3 (months)
b. Buildings	c233b1 %	c233b2 %	c233b3 (months)

35a. How much would you receive if you sold your equipment (machinery, trucks, etc.)?

R q35a

35b. What is your average age of your plant and equipment? **q35b**

Less than 1 year	1
Between 1 and 5 years	2
Between 6 and 10 years	3
Between 11 and 20 years	4
More than 20 years	5

**6. BUSINESS-GOVERNMENT RELATIONS**

36. What are the three biggest obstacles to doing business in South Africa?

**DO NOT READ THESE RESPONSES TO THE RESPONDENT. ASK THE QUESTION AND LET HIM/HER TELL YOU THE PROBLEMS THEN CODE APPROPRIATELY OR WRITE THE OTHER PROBLEMS BELOW.****CIRCLE UP TO 3 RESPONSES. q36a q36b q36c**

<b>No problem / not applicable</b>	<b>0</b>	High collateral requirements	12
Ownership regulations	1	High interest rates	13
Tax regulations and/or high taxes	2	Insufficient demand for my products	14
Skilled labour shortage	3	Competition from imports	15
Labour regulations	4	Crime and theft	16
Obtaining land and buildings	5	Official corruption	17
Foreign currency regulations	6	Regulations for starting a new business, new operations or expansion	18
Lack of business support services	7	Bureaucratic burden	19
Inadequate supply of infrastructure	8	Other (specify): _____ <b>q36_20x</b>	20
Utility prices	9	Other (specify): _____ <b>q36_21x</b>	21
Inadequate access to credit	10	Other (specify): _____ <b>q36_22x</b>	22
Import regime	11		

37. How would you generally rate the **efficiency** of government in delivering services (e.g. public utilities, public transportation, security, education and health etc.). Would you rate it as...? **READ 1-6 c234**

1	Very inefficient	4	Somewhat efficient
2	Inefficient	5	Efficient
3	Somewhat inefficient	6	Very efficient

38. "In general, government officials' interpretations of regulations affecting my establishment are consistent and predictable." To what extent do you agree with this statement? Do you...? **READ 1-6 c235**

1	Fully disagree	4	Tend to agree
2	Disagree in most cases	5	Agree in most cases
3	Tend to disagree	6	Fully agree

39a. If you **import**, what was the average and the longest number of days in the last year that it took from the time your goods arrived in their point of entry (e.g. port, airport) until the time you could claim them from customs?

<b>c236a1</b>	days on average	<b>N/A</b>
<b>c236a2</b>	days was the longest time in the last year	(we don't import)

39b. If you **export**, what was the average and the longest number of days in the last year that it took from the time your goods arrived in their point of exit (e.g., port, airport) until the time they clear customs?

<b>c236a2</b>	days on average	<b>N/A</b>
<b>c236b2</b>	days was the longest time in the last year	(we don't export)

40. If you could change the number of regular full-time workers you currently employ without any restrictions (i.e. without seeking

permission, making severance payments etc.), what would be your **optimal** level of employment as a percent of your existing workforce?

(e.g. 90% implies you would reduce your workforce by 10%, 110% means you want to expand by 10%)

c237 %

41a. In a typical month, what percentage of senior management's time is spent in dealing with requirements imposed by government regulations [e.g. taxes, customs, labour regulations, licensing and registration] including dealings with officials, completing forms, etc.?

c238 %

41b. What was this number three years ago?

q41b %

42. We've heard that establishments are sometimes required to make gifts or informal payments to public officials to "get things done" with regard to customs, taxes, licenses, regulations, services etc. On average, what percent of annual sales value would such expenses cost a typical firm like yours?

c239 %

43. Based on the experience of your establishment over the **last two years**, what is the actual delay experienced (from the day you applied to the day you received the service or approval) and was a gift or informal payment asked for or expected to obtain each of the following?

	a. Actual delay / wait (days)			b. Gift / payment expected?		c. If yes, value?
		or		Yes	No	
1. A mainline telephone connection	c240a1	or	-777	c240b1	2	R c240c1
2. An electrical connection	c240a2	or	-777	c240b2	2	R c240c2
3. A water connection	c240a3	or	-777	c240b3	2	R c240c3
4. A construction permit	c240a4	or	-777	c240b4	2	R c240c4
5. An import license	c240a5	or	-777	c240b5	2	R c240c5
6. Operating license	c240a6	or	-777	c240b6	2	R c240c6

44. Recognising the difficulties many enterprises face in fully complying with taxes and regulations, what percentage of total sales would you estimate the typical establishment in your area of activity reports for tax purposes?

c241 %

45. On average, how many days last year were spent in inspections and mandatory meetings with officials of each of the following agencies in the context of regulation of your business? And what were the costs associated with these interactions?

	a. Total days spent in inspections, required meetings with officials	b. % by local authorities	c. Total Cost of Fines or seized goods	d. Was gift or informal payment ever expected / requested?		e. If yes, value? (Rands)
				Yes	No	
1. Tax Inspectorate	c242a1	c242b1	c242c1	c242d1	2	R c242e1
2. Labour and Social Security	c242a2	c242b2	c242c2	c242d2	2	R c242e2
3. Fire and Building Safety	c242a3	c242b3	c242c3	c242d3	2	R c242e3
4. Sanitation / Epidemiology	c242a4	c242b4	c242c4	c242d4	2	R c242e4
5. Municipal Police	c242a5	c242b5	c242c5	c242d5	2	R c242e5
6. Environmental	c242a6	c242b6	c242c6	c242d6	2	R c242e6
7. TOTAL, all agencies	c242a7	c242b7	c242c7	c242d7	2	R c242e7

46. When establishments in your industry do business with the government, how much of the contract value is typically expected in gifts or informal payments to secure the contract?

c243 %

Think about national laws and regulations enacted in the last two years that have a substantial impact on your business:

47. Did your firm seek to lobby government or otherwise influence the content of laws or regulations affecting it? c244a

Yes	1
No	2

48. In many countries, firms are said to give unofficial, private payments or other benefits to public officials to gain advantages in the drafting of laws, decrees, regulations, and other binding government decisions.

To what extent have the following practices had a direct impact on your business?

(0 = No impact 1 = Minor influence 2 = Moderate influence 3 = Major influence 4 = Decisive influence  
NA= Not Applicable, DK=Don't know)

c245a – c245d	Degree of influence					N / A	D / K
	No impact	Minor influence	Moderate influence	Major influence	Decisive influence		
a. Private payments or other benefits to Parliamentarians to affect their votes	0	1	2	3	4	-777	-666
b. Private payments or other benefits to Government officials to affect the content of government decrees	0	1	2	3	4	-777	-666
c. Private payments or other benefits to judges to affect the decisions of court cases	0	1	2	3	4	-777	-666
d. Illegal contributions to political parties and/or election campaigns to affect the decisions of elected officials	0	1	2	3	4	-777	-666

## 7. CONFLICT RESOLUTION / LEGAL ENVIRONMENT

49. "I am confident that the judicial system will enforce my contractual and property rights in business disputes." To what degree do you agree with this statement? Do you...? READ 1-6 c246

1	Fully disagree
2	Disagree in most cases
3	Tend to disagree

4	Tend to agree
5	Agree in most cases
6	Fully agree

50a. What percent of your establishment's sales are pre-paid? **c247a**

%

50b. What percent of your establishment's sales are sold on credit? **c247b**

%

50c. What percent of your sales to private customers involve overdue payments? **c247c**

%

50d. What percent of your sales to government agencies or state-owned enterprises involve overdue payments? **c247d**

%

50e. How long does it typically take to resolve an overdue payment? **c247e**

Weeks

50f. Over the last 2 years, what percent of your establishment's disputes over payments were resolved by court action? **c247f**

%

50g. On average, how many weeks did those court cases take to resolve? **c247g**

weeks

## 8. CRIME

51. Please estimate your establishment's costs (as a percent of its total sales) of providing:

<b>a.</b> Security (equipment, personnel, or professional security service)?	<b>c248a</b> %
<b>b.</b> Protection payments (e.g. to organized crime to prevent violence)?	<b>c248b</b> %

52a. Please estimate the losses (as a percentage of total sales) of theft, robbery, vandalism or arson against your establishment in the last year?

**C249a** %

52b. What share of the incidents did you report to the police?

**C249b** %

52c. Of these reported incidents, what share was solved (the perpetrator was caught, etc.)?

**C249c** %

52d. What percentage of the loss was from employee theft? **PERCENTAGE OF THE LOSS**

**q52d** %

## 9. CAPACITY, INNOVATION, LEARNING

53a. What was this establishment's average capacity utilization over the last year? (Capacity utilization is the amount of output actually produced relative to the maximum amount that could be produced with your existing machinery and equipment and regular shifts.)

i). 2002 **c250** %

ii.) 2003 **c250\_03**

53b. For how many weeks was your establishment closed in 2002 and 2003?

i). 2002 **q53b\_02** weeks

ii.) 2003 **q53b\_03** weeks

53c. Over the last year, how many hours per week did your establishment normally operated? (hours/week)

**q53c** Hours per week

53d. How many shifts does your establishment usually operate?

**Q53b** Enumerator fill in: Hrs **q53b\_hrs** x **Q53b\_shft** shifts

54. How much have your sales changed (grown or declined) in each of the last 3 fiscal years?  
(Circle "+" for growth, "-" for decline.)

2000	+	-	<b>c25100</b> %	2001	+	-	<b>c25101</b> %	2002	+	-	<b>c25102</b> %
------	---	---	-----------------	------	---	---	-----------------	------	---	---	-----------------

55. Approximately what share of net profits was re-invested in your establishment last year (that is, not distributed to owners or shareholders)?

**c252** % (-222 = No profit)

56a. How many products does your establishment produce?

**c253a**

56b. How many new products (i.e. those that involve a significant change in the production process) has your establishment introduced in the last three years?

**c253b**

57. Does your establishment use (production) technology licensed from a foreign-owned company? **c254**

Yes	1
No	2

58. Right now, how many months ahead has the management of your enterprise planned its activities with regard to:

a. Product mix and target markets	<b>c255a</b>	months
b. Human resources	<b>c255b</b>	months
c. Investments	<b>c255c</b>	months

59. Thinking of your main product line or main line of services and comparing your production process with that of your closest competitor, which of the following best summarizes your position: **SELECT ONE. c256**

1. My firm's technology is <b>less advanced</b> than that of its main competitor	1
2. My firm's technology is <b>about the same</b> as that of its main competitor	2
3. My firm's technology is <b>more advanced</b> than that of its main competitor	3

60. Has your firm received an ISO management certification? (e.g. 9000/1/2 or 14000) **c257**

Yes	1
No	2

61. Has your company undertaken any of the following initiatives in the last three years?

	Undertaken	
	Yes	No
1. Developed a major new product line	<b>c2581</b>	
2. Upgraded an existing product line	<b>c2582</b>	
3. Introduced new technology that has substantially changed the way that the main product is produced	<b>c2583</b>	
4. Discontinued at least one product (not production) line	<b>c2584</b>	
5. Opened a new plant	<b>c2585</b>	
6. Closed at least one existing plant or outlet	<b>c2586</b>	
7. Agreed a new joint venture with foreign partner	<b>c2587</b>	
8. Obtained a new licensing agreement	<b>c2588</b>	
9. Outsourced a major production activity that was previously conducted in-house	<b>c2589</b>	
10. Brought in-house a major production activity that was previously outsourced	<b>c25810</b>	

62. Over the last two years, what were the leading ways in which your establishment acquired technological innovations? Please identify which of the following is...? **READ 1 through 12:**

i. the most important? **c2591**      ii. the second most important? **c2592**      iii. the third most important? **c2593**

Embodied in new machinery or equipment	1	Developed in cooperation with client firms	7
By hiring key personnel	2	Developed with equipment or machinery supplier	8
Licensing or turnkey operations from international sources	3	From a business or industry association	9
Licensing or turnkey operations from domestic sources	4	Trade Fairs and/or Study Tours	10
Developed or adapted within the establishment locally	5	Consultants	11
Transferred from parent company	6	From universities, public institutions	12

63. Which of the following is the most important influence on your establishment to reduce the production costs of existing products or services? Pressure from: **READ 1-6 c260**

domestic competitors	1	Shareholders	4
foreign competitors	2	Creditors	5
Customers	3	government or government agencies	6

64. Which of the following is the most important influence on your establishment to develop new products or services and markets? Pressure from: **READ 1-6 c261**

domestic competitors	1	Shareholders	4
foreign competitors	2	Creditors	5
Customers	3	government or government agencies	6

## 10. LABOR RELATIONS

65. The following table refers only to **permanent** workers of your plant:

	Total	b. Management	c. Professionals	d. Skilled Production Workers	e. Unskilled Production Workers	f. Non- production workers
1. Ave. number of workers during fiscal year 2000	<b>c262a00</b>					
2. Ave. number of workers during fiscal year 2001	<b>c262a01</b>	<b>c262b01</b>	<b>c262c01</b>	<b>c262d01</b>	<b>c262e01</b>	<b>c262f01</b>
3. Ave. number of workers during fiscal year 2002	<b>c262a02</b>	<b>c262b02</b>	<b>c262c02</b>	<b>c262d02</b>	<b>c262e02</b>	<b>c262f02</b>
4. of which: % female	<b>c262a1 %</b>	<b>c262b1 %</b>	<b>c262c1 %</b>	<b>c262d1 %</b>	<b>c262e1 %</b>	<b>c262f1 %</b>
5. Ave. wage	R <b>q65a5</b>	<b>q65b5</b>	<b>q65c5</b>	<b>q65d5</b>	<b>q65e5</b>	<b>q65f5</b>
6. Cost of taxes on labour	R <b>q65a6</b>	<b>q65b6</b>	<b>q65c6</b>	<b>q65d6</b>	<b>q65e6</b>	<b>q65f5</b>
7. Total wages	R <b>c262a2</b>	<b>c262b2</b>	<b>c262c2</b>	<b>c262d2</b>	<b>c262e2</b>	<b>c262f2</b>
8. Total compensation*	R <b>c262a3</b>	<b>c262b3</b>	<b>c262c3</b>	<b>c262d3</b>	<b>c262e3</b>	<b>c262f3</b>

\*Wages and all benefits, including food, transport, social security (i.e. pensions, medical insurance, unemployment insurance)

66. The following table refers only to **temporary** workers of your plant:

	FY 2002	FY 2001	FY 2000
Average number of temporary workers employed:	<b>c263a02</b>	<b>c263a01</b>	<b>c263a00</b>
Of which, average number of female workers	<b>c263a02</b>	<b>c263a01</b>	<b>c263a00</b>
Average length of employment for each worker (months)	<b>c263a02</b>	<b>c263a01</b>	<b>c263a00</b>
Average wage of temporary workers	R <b>q66d02</b>	<b>q266d01</b>	<b>q66d00</b>
Total compensation of all temporary workers (wages and	R <b>c263a02</b>	<b>c263a01</b>	<b>c263a00</b>

benefits)			
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67. What percent of your **permanent** management, professional and skilled production workers are **foreign** nationals?

**c264** %

68a. In 2002, how many new employees did your plant hire?

**c265a** (number)

68b. In 2002, how many employees from your plant:

1. were dismissed or laid off?	<b>c265b1</b>	(number)
2. left due to sickness or died?	<b>c265b2</b>	(number)
3. left for other reasons?	<b>c265b3</b>	(number)

69a. Within the last two years, how much time did it take to fill your most recent vacancy through external recruitment for a:

1. skilled worker?	<b>c2661</b> weeks	N / A
2. unskilled or service worker?	<b>c2662</b> weeks	N / A

69b. On average, how long does it take to obtain permission from the government to hire an expatriate?

**q69b** Days

69c. On average, how much does it cost to obtain an expatriate work permit or visa?

R **q69c**

69d. Does your firm conduct this procedure itself or do you hire an agent to obtain expatriate permits? **q69d**

Hire an agent	1
Does it itself	2

70a. Do you offer formal (beyond "on the job") training to your permanent employees? **c267a**

Yes	1	→ ASK Q70b to Q70c.
No	2	→ ASK Q70d.

70b. **IF YES:** What percentage of your total permanent employees received formal training in 2002?

**Skilled** | **Unskilled**

c267b1 %	c267b2 %
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70c. **IF YES:** What was the average number of weeks of training for each employee (in weeks)?

<b>Skilled</b>	<b>Unskilled</b>
c267c1	c267c2

70d. **IF NO:** If no formal training was undertaken, what were the constraints to formal training?

	Yes	No
a. Cannot define/prioritise training needs <b>q70da</b>	1	2
b. Lack of training institutions for external needs <b>q70db</b>	1	2
c. Lack of training by chambers of industry, business associations for external training <b>q70dc</b>	1	2
d. Cannot identify competent trainers for internal training <b>q70dd</b>	1	2
e. Cannot afford formal internal or external training <b>q70de</b>	1	2
f. Lack of government incentives for training <b>q70df</b>	1	2
g. Staff are uninterested in learning new skills <b>q70dg</b>	1	2
h. Too risky – trained staff may leave <b>q70dh</b>	1	2
i. Too risky – unsure of continuing demand for new skills <b>q70di</b>	1	2
j. No need – staff can train on the job <b>q70dj</b>	1	2
k. No need – can hire staff from other firms <b>q70dk</b>	1	2

71. What percent of your workforce is unionised?

c268 %

72. How many days of production last year did you lose due to:

a. strikes or other labour disputes?	c269a	days
b. civil unrest?	c269b	days
c. employee absenteeism due to illness, death, funerals?	c269c	days

73a. What percent of the workforce at your establishment have the following education levels?

a. Less than 6 years (“some elementary”)	c270a %
b. 6-9 years	c270b %
c. 10-12 years	c270c %
d. More than 12 years (some university or higher)	c270d %

100 %

73b. Of those who did not complete primary school, what percent is female?

c270a1 % Percent female

74. What is the highest level of education of the top manager? c271

1	Did not complete secondary school	4	Some university training
2	Secondary School	5	Graduate degree (BA, BSc etc.)
3	Vocational Training	6	Post graduate degree (Ph D, Masters)

75. What percent of the senior management is male?

c272 %

76a. How many years of experience working in this sector did the top manager have before running this establishment?

c273 Years

76b. Of these, how many years were with a domestic firm?

c273a Years

76c. Of these, how many years were with a foreign firm?

c273b Years

76d. Did any of these prior firms export? c273c

Yes	1
No	2

**11. SECTION II: PRODUCTIVITY**

77. Please provide the following information on your establishment's production, sales and expenses.

	Value in thousands of Rands		
	2002	2001	2000
a. Total Sales	c274a02	c274a01	c274a00
b. Direct raw material costs (excluding fuel)	c274b02	c274b01	c274b00
c. Total Market Value of Production*	c274c02	c274c01	c274c00
d. Total Purchases of raw materials (excluding fuel)	c274d02	c274d01	c274d00
Consumption of energy :	c274e02	c274e01	c274e00
e. Electricity	c274f02	c274f01	c274f00
f. Fuels	c274g02	c274g01	c274g00
g. Other	c274h02	c274h01	c274h00
h. % of energy costs to run generator	c274i02	c274i01	c274i00
Manpower costs:	c274j02	c274j01	c274j00
i. Wages and salaries	c274k02	c274k01	c274k00
j. Allowances, bonuses and other benefits	c274l02	c274l01	c274l00
k. Interest charges and financial fees	c274m02	c274m01	c274m00
l. Other costs (i.e.: overhead expenses, selling and general administration expenses, design dept., etc.)	c274n02	c274n01	c274n00

\* Market value of production = (total number of units produced) x (unit sales price)

78. What was your establishment's sales revenue in thousands of Rands five years ago:

R c275

79. How much did your establishment spend on additional machinery, equipment, vehicles, land, buildings?

	2002		2001		2000	
	amount ('000 Rand)	of which % imported	amount ('000 Rand)	of which % imported	amount ('000 Rand)	of which % imported
a. New machinery and equipment .....	R c276a02	c276e02 %	R c276a01	c276e01 %	R c276a00	c276e00 %
b. Second hand machinery & equipment	R c276b02	c276f02 %	R c276b01	c276f01 %	R c276b00	c276f00 %
c. Land, buildings, improvement in leasehold	R c276c02		R c276c01		R c276c00	
d. Vehicles	R c276d02		R c276d01		R c276d00	

80a. Of this, was any of it spent on creating a new establishment? c277a

Yes	1	→ ASK Q80b.
No	2	→ GO TO Q81.

80b. **If yes:** How much in fiscal year 2002?

R c277b

81. Please give the value (in thousands of Rands) of any equipment or property your establishment sold.

	2002	2001	2000
a. Machinery and equipment	R c278a02	R c278a01	R c278a00
b. Land and buildings or leasehold	R c278b02	R c278b01	R c278b00
c. Vehicles	R c278c02	R c278c01	R c278c00

82. How much did the following cost **your establishment** in thousands of Rands during the fiscal year of ...?

	2002	2001	2000
a. Rent for machinery and equipment (if owned, please enter value of depreciation)	c278a02	c278a01	c278a00
b. Rent for land or buildings (if owned, please enter value of depreciation)	c278b02	c278b01	c278b00
c. Rent (lease) of vehicles	c278c02	c278c01	c278c00
d. Royalty or license fees	c278d02	c278d01	c278d00

83. How much did your establishment spend on design or R&D in 2002? [*Spending includes wages and salaries of R&D personnel, such as scientists and engineers; materials, education costs, and subcontracting costs.*]

R c280

(thousand Rands)

84. Please provide information on the following balance sheet items for your establishment:

	Value in thousand Rands as of end of the fiscal year of		
	2002	2001	2000
a. Total Assets	c281a02	c281a01	c281a00
b. Property, Plant and Equipment:	c281b02	c281b01	c281b00
Gross Value (Acquisition cost)	c281c02	c281c01	c281c00
c. Machinery and equipment (including transport)	c281d02	c281d01	c281d00
d. Land, buildings and leasehold improvement	c281e02	c281e01	c281e00
Net book value	c281f02	c281f01	c281f00
e. Machinery and equipment (including transport)	c281g02	c281g01	c281g00
f. Land, buildings and leasehold improvement	c281h02	c281h01	c281h00
Current Assets:	c281i02	c281i01	c281i00
Inventories and stocks	c281j02	c281j01	c281j00
g. Finished goods	c281k02	c281k01	c281k00
h. Work-in-progress	c281l02	c281l01	c281l00
i. Raw materials excluding fuel	c281m02	c281m01	c281m00
j. Fuel	c281n02	c281n01	c281n00
k. Accounts receivable	c281o02	c281o01	c281o00
l. Cash on hand and in bank	c281p02	c281p01	c281p00
m. Other	c281q02	c281q01	c281q00

85. Please provide information on the structure of your establishment's liabilities:

	Value in thousands of Rands as of end of the fiscal year of		
	2002	2001	2000
a. Total Liabilities	c282a02	c282a01	c282a00
b. Long-term liabilities (i.e. more than 1 year )	c282b02	c282b01	c282b00
c. Short-term liabilities (i.e. one year or less)	c282c02	c282c01	c282c00
d. Of which: payables	c282d01	c282d00	c282d02
e. Equity – Share Capital	c282e02	c282e01	c282e00
f. Retained Earnings (Reserves and Surplus)	c282f02	c282f01	c282f00

**(Note: Total Assets must equal Total Liabilities)**

## 12. HIV / AIDS

86a. Has the HIV/AIDS epidemic adversely impacted on your firm's fixed investment decisions? **q86a**

Yes	1	→ ASK Q86b.
No	2	→ GO TO Q87.
Positive impact	3	→ GO TO Q87.

86b. **IF YES:** Indicate the seriousness of the adverse impact of the HIV/AIDS epidemic on your firm's fixed investment decisions. **CIRCLE APPROPRIATE CODE. q86b**

No impact	Very little impact	Moderate impact	Strong impact	Prohibitive impact
0	1	2	3	4

87. Indicate how serious the HIV/AIDS epidemic has affected labour productivity in your firm.

**CIRCLE APPROPRIATE CODE. q87**

No effect	0-2% decline	2-5% decline	5-10% decline	More than 10% decline
0	1	2	3	4

88. Indicate what share of your firm's profits has been lost due to the impact of the HIV/AIDS epidemic.

**CIRCLE APPROPRIATE CODE. q88**

None	0-5% decline	5-10% decline	10-20% decline	20-50% decline	More than 50%
0	1	2	3	4	5

89a. Indicate what percentage of your firm's workforce has been affected with the HIV virus.

1. Highly skilled workers	<b>q89a1</b> %
2. Skilled workers	<b>q89a2</b> %
3. Semi- & unskilled workers	<b>q89a3</b> %

89b. Indicate what percentage of your firm's workforce is suffering from full-blown AIDS.

1. Highly skilled workers	<b>q89b1</b> %
2. Skilled workers	<b>q89b2</b> %
3. Semi- & unskilled workers	<b>q89b3</b> %

90a. Has the HIV/AIDS epidemic adversely impacted on your firm? **q90a**

Yes	1	→ ASK Q90b.
No	2	→ GO TO Q91.

90b. Indicate how the HIV/AIDS epidemic has adversely impacted on your firm? Express impact as a percentage.  
**CIRCLE APPROPRIATE CODES.**

	0%	0-2%	2-5%	5-10%	10-20%	More than 20%
a. Lower productivity <b>q90ba</b>	0	1	2	3	4	5
b. Increased labour turnover <b>q90bb</b>	0	1	2	3	4	5
c. Increased absenteeism <b>q90bc</b>	0	1	2	3	4	5
d. Increased medical costs <b>q90bd</b>	0	1	2	3	4	5
e. Other (specify): <b>q90be</b> _____ <b>q90bex</b>	0	1	2	3	4	5

91. Express the monetary costs that your firm has suffered due to the impact of the HIV/AIDS epidemic as a percentage of your firm's annual wage & salary bill.  
**CIRCLE APPROPRIATE CODES.**

	0%	0-2%	2-5%	5-10%	10-20%	More than 20%
a. Direct costs (e.g. pension, medical & disability employee benefits costs, etc.) <b>q91a</b>	0	1	2	3	4	5
b. Indirect costs (e.g. costs related to <b>q91b</b> absenteeism, recruitment & training, HIV/AIDS prevention programmes, etc.)	0	1	2	3	4	5

92a. Has your firm taken active steps to manage the impact of the HIV/AIDS epidemic on your firm? **q92a**

Yes	1	→ ASK Q91b.
No	2	→ CLOSE INTERVIEW

92b. **IF YES:** Indicate the degree of success with your company's HIV/AIDS programme.  
**CIRCLE APPROPRIATE CODE.** **q92b**

No success	Very little success	Moderate success	Good results	Excellent results
0	1	2	3	4

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THANK YOU FOR YOUR TIME.

INTERVIEWER  
RECORD:

Time interview ended	HH : MM
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## APPENDIX 2: ECONOMETRIC MODEL FOR CRIME SECTION

This appendix presents the results of Logit and OLS models used to explain the variance in firms' perceptions, their likelihood of being targets of crime, and the cost levels which they face. Table 2 contains the results of this exercise.

The first model is a maximum-likelihood Logit estimation of the odds that a firm cites crime and security as a major or severe problem.<sup>76</sup> A typical "baseline" firm – micro-sized, with domestic African ownership, outside of the major metropolitan areas of Cape Town, Johannesburg and Durban, experiencing no costs of crime or security – is unlikely (odds of 1:10) to claim crime and security as a major or severe problem. The strongest predictors of a firm's perceptions are the firm's experience with crime: the odds of reporting rise dramatically if a firm incurs any losses from crime, then continues to rise with the magnitude of costs and losses. Location (particularly in Durban) also is a strong positive predictor of perceptions of the burden of crime, as is foreign ownership. The joint magnitude of these effects is substantial: a foreign firm in Durban experiencing losses equivalent to 5% of sales has a 3:1 probability of citing crime as a major or severe problem. Interestingly, sector and firm size are not statistically significant predictors of firms' perceptions, and when controlling for other characteristics, white-owned domestic firms are no more concerned about crime than black-owned firms.

The second model is a Logit estimation of the probability that a firm has experienced a criminal incident which caused it a financial loss. A similar "baseline" firm (micro, domestic, African, manufacturing sector, outside of major metro areas) has around two-to-one odds of escaping losses from crime. Holding other things constant, larger firms are substantially more likely to incur losses from crime, as are firms in Cape Town and in the wholesale-retail sector. To a lesser degree, white ownership and location in Durban are also risk factors. The joint effect of these factors is quite large: the odds that a large white-owned wholesale-retail firm in Cape Town incurs losses from crime are about 4:1.

The third model is an OLS estimation of a semi-logarithmic transformation<sup>77</sup> of the total costs of crime and security at the firm level. The average "baseline" firm is estimated to incur costs of 0.6% of sales. This number rises by 34% (to 0.85% of sales) in Durban, and surprisingly falls by 13% in Johannesburg. It rises by 15% in the construction sector and 23% in the wholesale-retail sector, and by 11% for large firms. Other effects – e.g. foreign or Asian ownership, Cape Town location – are of reasonable magnitude but are not statistically significant.

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<sup>76</sup> The logit coefficient measures the change in the log of the odds ratio generated by a one-point change in the explanatory variable. Obviously, the change in probability from a change in an explanatory variable is dependent on all the other explanatory variables.

<sup>77</sup> e.g.  $\ln(1+\text{variable})$ . This function approximates a logarithmic function at higher levels of the independent variable but allows the inclusion of observations where the independent variable equals zero.

**Table 35: Logit and OLS models: explaining the varying burden of crime and security**

Independent variables down, dependent variables across	Crime a major or severe obstacle? (0,1) logit		Experienced any loss to crime? (0,1) logit		Total costs of security and crime (semi-log <sup>7</sup> )* OLS	
	Coeff.	T-stat	Coeff	T-stat	Coeff	T-stat
Experienced any loss to crime	.57	.22				
Costs of security (semi-log)*	.41	.15				
SME	.12	.19	.19	.17	0.02	0.36
Large firm	.12	.23	.61	.21	0.14	1.96
Asian-descent owner	.23	.33	-.29	.30	-0.12	-1.10
European-descent owner	-.31	.17	-.11	.15	.01	0.25
African owner	-.25	.45	-.27	.39	0.10	0.79
Foreign owner	.37	.22	.07	.20	0.10	1.32
Cape Town	.24	.23	.44	.21	0.09	1.2
Johannesburg	.35	.20	.19	.17	-0.16	-2.58
Durban	.98	.37	.28	.35	0.36	2.90
Construction sector	-.10	.25	.12	.21	0.19	2.44
Wholesale-retail sector	-.19	.27	.56	.24	0.26	3.14
Base (constant)			-.30	.21	0.72	10
Model R <sup>2</sup>	0.05		0.06		0.05	

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