

69747

Improving the Business Environment for Growth and Job Creation in South Africa:

the Second Investment Climate Assessment

October 2011

Financial and Private Sector Development
Africa Region



The World Bank

Contents

Acknowledgement	ix
Executive Summary	x
1. Introduction	x
2. The enterprise survey of South Africa 2008	xi
3. Doing Business in South Africa	xiii
4. Competition and Productivity	xvi
5. Micro, small and medium enterprises	xx
6. Skills development	xxiii
Chapter 1 Macroeconomic Background	1
1.1 Introduction	1
1.2 Economic Growth	5
1.3 Investment	9
1.4 Savings	13
1.5 Interest Rates and Inflation	15
1.6 Exchange Rate	16
1.7 Policy Developments	19
1.7.1 Accelerated and Shared Growth Initiative for South Africa	19
1.7.2 Industrial policy	20
1.7.3 Trade Policy and Competition Policy	20
1.8 Conclusion	21
Chapter 2 Barriers to International Integration	23
2.1 Introduction	23
2.2 Sources and Data	24
2.3 Manufactured Exports and Inward FDI	26
2.3.1 Scope for Growth in Inward FDI	27
2.3.2 Scope for Growth of Manufactured Exports	30
2.4 Trade, Competition, Allocative Efficiency, and Innovation	39
2.4.1 Aggregate Productivity and Allocative Efficiency	39
2.4.2 Allocative Efficiency, Industry Concentration, and Competition Policy	42
2.4.3 Trade, Allocative Efficiency, and Innovation	45
2.5 Factor Proportions and Employment	47
2.6 Conclusion: Factors beyond Competition and Trade Policies	52
Chapter 3 Hidden Sources of Domestic Market Distortions: Key Business Environment Issues	54
3.1 Introduction	54
3.2 Changing Perceptions of South Africa's Business Environment	55

3.3	Business Environment Problems Distort Markets	58
3.4	Crime, Employment, and Productivity	65
3.5	The Power Crisis of 2008	74
3.6	A miscellany of Issues	78
3.7	Conclusion	82
Chapter 4	Formalizing Microenterprises	84
4.1	Introduction	84
4.2	Microenterprises—Formal and Informal	88
4.2.1	Registration and Informality	88
4.2.2	Basic Characteristics of Informality: Organization, Lines of Business, Demographics	90
4.2.3	Drivers of Informality: Regulation, Taxes, and Fees	91
4.2.4	Schooling, Scale, and Informality	93
4.2.5	The High Cost of Informality in South Africa	98
4.2.6	Labor Productivity: Gaps and Overlaps	102
4.2.7	Why Schooling and Productivity Gaps are Larger in South Africa	102
4.3	Barriers to Microenterprise Development	105
4.3.1	The Entrepreneurial Segment of the Informal Sector	105
4.3.2	Main Barriers	105
4.3.3	Small Business Support Schemes and Microenterprises	107
4.4	Conclusion	112
Chapter 5	Investing in Skills	114
5.1	Introduction	114
5.2	The Changing Skills Composition of Labor Demand	115
5.3	Skills Development: Role of Firms, Worker Characteristics, and Public Institutions	119
5.4	Conclusion	128
Chapter 6	Small Business Access to Finance	129
6.1	Introduction	129
6.2	Access to Finance in International Perspective	130
6.3	Effect of Size on Access to Credit	132
6.4	Characteristics of Loan Products	138
6.5	Role of Other Firm Characteristics	144
6.6	Firm Age	148
6.7	Summary and Conclusion	148
References		150

List of Figures

Figure E1 :	Ease of Doing Business rank – 2008	xiii
Figure E2 :	Firms ranking constraints as major or severe (%)—2003 vs. 2008	xiv
Figure E3 :	Crime as a constraint to business expansion % of Firms Identifying Crime, Theft and Disorder as Major Constraint	xv
Figure E4 :	Losses due to crime and security costs - cross-country comparisons	xvi
Figure E5 :	Aggregate Productivity, Enterprise Survey samples	xvii
Figure E6 :	Unit labor costs	xviii
Figure E7 :	Doing Business – Number of days needed to ship standard cargo (2008)	xix
Figure E8 :	Kernel density estimates of log value added per worker, formal vs. informal microenterprises - South Africa Enterprise Survey 2008	xxi
Figure E9 :	Cross Country Comparison of the Difference in Access to Finance between Large firms and SMEs	xxii
Figure 1.1 :	Ease of Doing Business Rank - 2008	2
Figure 1.2 :	Doing Business – Days to Start a Business	3
Figure 1.3 :	Doing Business – Years to Close a Business (2008)	3
Figure 1.4 :	Doing Business – Days to Trade (2008)	4
Figure 1.5 :	GDP Growth Per Annum (%), 1994-2008	6
Figure 1.6 :	GDP Growth Per Capita (%), 1994-2008	6
Figure 1.7 :	Gross Fix Capital Formation as a Percentage of GDP (1994-2008)	10
Figure 1.8 :	CPI and CPIX – Annual Percent Change (1994-2008)	16
Figure 1.9 :	Prime and Real Overdraft Rates, 1994-2008	17
Figure 1.10 :	Nominal and Real Effective Exchange Rates, 1994-2008.	18
Figure 1.11 :	Volatility of the Real ZAR-US\$ Exchange Rate	18
Figure 2.1 :	Foreign Invested Enterprises (% of sample)	27
Figure 2.2 :	Gross Profits Per Unit of Fixed Assets	28
Figure 2.3 :	Value Added Per Unit of Fixed Assets	29
Figure 2.4 :	Exporters (% of sample)	31
Figure 2.5 :	Unit Labor Costs	34
Figure 2.6 :	Kernel estimates of density of log value added per worker	35
Figure 2.7 :	Annual sales per worker and annual wages per worker ('000 USD)	36
Figure 2.8 :	Annual wages per workers in 2005 USD ('000)	37
Figure 2.9 :	Monthly Wage comparisons (in 2005 Rands): Enterprise Surveys (ICS) and Labor Force Surveys (SSA)	38
Figure 2.10 :	Aggregate TFP	40
Figure 2.11 :	Average within firm TFP	41
Figure 2.12 :	Allocative efficiency index – All industry	43
Figure 2.13 :	Book value of fixed assets per employee in '000 (USD)	48
Figure 2.14 :	Unionized employees (%) – Enterprise Survey Sample	51

Figure 3.1 :	Percent of enterprises ranking factor as major or severe obstacle to business expansion	57
Figure 3.2 :	Costs of power outages, security and graft as % of sales	57
Figure 3.3 :	Percent of firms ranking constraints as major or severe—2003 vs. 2008	58
Figure 3.4 :	% of Firms Identifying Crime, Theft and Disorder as Major Constraints	66
Figure 3.5 :	Losses due to Crime and Security Costs: Cross Country Comparisons	66
Figure 3.6 :	Business burglary and vehicle theft incidents ('000)	68
Figure 3.7 :	Incidence of property crime per 100,000 of population (2001/2002)	68
Figure 3.8 :	% of Firms Identifying Electricity as a Major Constraint	75
Figure 3.9 :	Value Lost Due to Power Outages (% of Sales)	76
Figure 3.10 :	Generator Sales Index: 2005Q1=100	77
Figure 3.11 :	Rating of corruption as a business obstacle and bribe payments across countries	80
Figure 3.12 :	Customs and Trade - Export and Import Clearance Times	81
Figure 4.1 :	Distribution of sample of micro enterprises by registration status, South Africa Enterprise Survey Sample, 2008 Total =120	89
Figure 4.2 :	Informal Micro-Enterprises citing as reason for not registering with authorities (%)	91
Figure 4.3 :	Percent citing as a reason for not registering with authorities – Informal micro-enterprises	92
Figure 4.4 :	Proportion of informal enterprises citing reason for not having registered with authorities	93
Figure 4.5 :	Percentage distribution of micro enterprises by level of schooling completed, Enterprise Survey Samples	94
Figure 4.6 :	Kernel density estimates of log value added per worker	96
Figure 4.7 :	Percent distribution of micro enterprises by ethnic group of business, South Africa Enterprise Survey Sample, 2008	97
Figure 4.8 :	Labor productivity gaps between formal and informal micro enterprises	98
Figure 4.9 :	Gap in proportion that have electrical connection: formal – informal	100
Figure 4.10 :	Gap in proportion that have water connection: formal – informal	101
Figure 4.11 :	Gap in proportion that have Bank accounts: formal – informal	101
Figure 4.12 :	Percentage Ranking Tax Rate to be a Major Constraint	108
Figure 4.13 :	Percentage Ranking Tax Administration to be a Major Constraint	109
Figure 4.14 :	Percent Ranking Access to Land to be a Major Constraint	109
Figure 4.15 :	Percent Ranking Access to Finance to be a Major Constraint	110
Figure 4.16 :	Pct of Firms with Checking Account	110
Figure 5.1 :	A large number of firms have undertaken significant changes in production technologies	117
Figure 5.2 :	The composition of skilled workers in the production workforce has increased between 2003 and 2006.	118
Figure 5.3 :	Firms with a large workforce are more likely to provide training	121
Figure 5.4 :	The cost of training is uniform across the employment distribution	123
Figure 5.5 :	A Majority of Training Firms Report Receiving Support from SETAs	124

Figure 5.6 :	Production Technology is the Most Frequently Cited Area of Training Required To Improve Worker Productivity	125
Figure 6.1 :	Bank Credit to Private Sector in South Africa and Comparison Countries.	130
Figure 6.2 :	Bank Nonperforming Loans in South Africa and Comparison Countries	131
Figure 6.3 :	Cross-Country Comparison of Credit Products Use	131
Figure 6.4 :	Cross-Country Comparison of Sources of Funds for working capital and Investment	132
Figure 6.5 :	Comparison of Access Indicators by Firm Size	133
Figure 6.6 :	Cross Country Comparison of the Difference Between Large firms and SME	136
Figure 6.7 :	Sources of Finance for Working Capital and Investment by Firm Size	137
Figure 6.8 :	Cross Country Comparison of Loan Maturity and Collateral to Value Ratios	139
Figure 6.9 :	Access Indicators by registration status and age group	145
Figure 6.10 :	Sources of Finance for Registration Status and Age	147

List of Tables

Table 1 :	South Africa Enterprise Survey 2008 – Distribution of Sample by Industry	xii
Table 1.1:	Country GDP Growth Rates (%): 2000-2006 and 2007	7
Table 1.2:	Annual GDP Growth Rate Projections (%), 2009- 2011.	7
Table 1.3:	Sector Rates of GDP Growth (%), 2004-2009	8
Table 1.4:	Sectoral Composition of GDP (%), 1994-2008	8
Table 1.5:	Gross Fixed Capital Formation by Private Enterprises, 1997 -2007 (Rand Millions and percentage change over previous year); (constant 2000 prices)	10
Table 1.6:	Share of Private Enterprises in Gross Fixed Capital Formation (%) , 1997-2008	11
Table 1.7:	Gross Fixed Capital Formation by General Government, 1997 -2007 (Rand Millions and percentage change over previous year); (constant 2000 prices)	12
Table 1.8:	Gross Fixed Capital Formation by Public Corporations, 1997 -2007 (Rand Millions and percentage change over previous year); (constant 2000 prices)	12
Table 1.9:	Gross Fixed Capital Formation Growth Rates by Sector (% increase over previous year), 2005-2008	14
Table 1.10:	Corporate Savings and Gross Savings, 1994-2008	15
Table 2.1:	South Africa Enterprise Survey 2008 – Distribution of Sample by Industry	26
Table 2.2:	OLS Regression of Average Revenue Productivity of Capital and Labor	32
Table 2.3:	Probit regression of export market participation – marginal effects Enterprise Surveys (2008)	48
Table 3.1:	Enterprises Rating Factor as a Major or Severe Obstacle to Business Expansion	60
Table 3.2:	Enterprises Rating Factor as a Major or Severe Obstacle to Business Expansion 2008, Manufacturing Sector	60
Table 3.3:	Probit estimations of electricity shortage being rated a major or severe obstacle to growth, 2003 and 2008 surveys	61
Table 3.4:	Probit estimates of crime and corruption being rated major or severe obstacles to business expansion	62
Table 3.5:	Probit estimations of taxation and customs regulation being rated major or severe obstacles: 2003 vs. 2008	63
Table 3.6:	Selected business environment indicators by business groups: 2008 survey sample	65
Table 3.7:	Estimation of the Bond-Meghir Dynamic Investment Function	72
Table 3.8:	Perceptions of infrastructure services	76

Table 4.1:	Distribution of Enterprise Survey Samples by sector and registration status – Sub Saharan Africa	90
Table 4.2:	Percent distribution of enterprises by business owners, education and employment size	95
Table 4.3:	Distribution of micro enterprise by business characteristics	95
Table 4.4:	Owner’s schooling, business scale and the decision to formalize	103
Table 4.5:	Owner’s education, business scale and the decision to Formalize	104
Table 4.6:	Percent distribution of enterprises by employment growth state	105
Table 4.7:	Summary of Degree of Severity of Investment Climate Obstacles by Firm Size	106
Table 4.8:	Proportion of Retained Income used to Finance Working Capital by Firm Size	106
Table 4.9:	Loan and Overdraft by Firm Size	107
Table 4.10:	Distribution of enterprises by status of link to small business support programs, Enterprise Survey Sample	111
Table 4.11:	Distribution of sample by reason for not having applied for assistance from a small business support program, Enterprise Survey 2008	112
Table 5.1:	Proportion of Manufacturing Firms Offering Training	120
Table 6.1:	Loan Providers	138
Table 6.2:	Loan Characteristics for Formal Firms	138
Table 6.3:	Reasons for Applications Rejections and Lack of Loan Applications	141
Table 6.4:	Regression Analysis of Access in South Africa	143

Acknowledgement

This report was written by a team comprising Taye Mengistae (task team leader), Reza Daniels, James Habyarimana, Dave Kaplan, Inessa Love, Vijaya Ramachandran, Manju Shah, and Colin Xu. The 2008 Enterprise Survey on which the report is based was carried out by the survey firm EEC Canada. George Clarke, Lawrence Edwards, Alan Gelb, David Jarvis, Sandeep Mahajan, Neil Rankin, Bernard Drum and Alvaro Gonzalez provided written peer reviews of earlier drafts.

The team would like to acknowledge the valuable guidance and support of the Department of Trade and Industry (DTI) of the Republic of South Africa and H.E. Rob Davis, the Minister of the Department. Preliminary findings of the study were presented to the Executive Board of the DTI as well as participants of a consultation conference, several workshops and meetings organized by the DTI, the Presidency, the National Treasury and the Development Bank of South Africa. The team is grateful for the insightful comments and suggestions received in these events. The study has benefited particularly from advice and support from Tshediso Matona, the then Director General of the DTI, Iqbal Sharma, then Deputy Director General (DTI), and Pearl Kgalegi, then the head of Economic Research and Policy Coordination of the DTI. The team would also like to thank Miriam Altman, David Jarvis, Neva Makgetla, Mmantsetsa Marope, Jerry Moloi, Kurt Morais, Henri Raubenheimer, and Janine Thorne for insights provided at early discussions of preliminary findings.

The report was prepared under the overall guidance of Ruth Kagia, the World Bank's Country Director for South Africa, Marilou Jane D. Uy, the Bank's Sector Director for Financial and Private Sector Development, Africa Region, as well as Gerardo Corrochano, then Sector Manager, and Michael Fuchs, Acting Sector Manager, for Financial and Private Sector Development, Africa Region. The team is indebted to many World Bank Group colleagues for advices, comments and support. Among them are Naresha Duraiswamy, Juan Gaviria, Sarwat Hussain, Dirk Reinermann, Marco Scuriatti, and Chunlin Zhang.

Executive Summary

1. INTRODUCTION

Faster economic growth is the fundamental solution to South Africa's unemployment problem, and a conducive business environment is essential to acceleration of growth. Post-apartheid economic development in South Africa has been marked by impressive economic growth. Per capita GDP growth improved from negative rates in the decade preceding 1994, to 0.4 percent during 1994-99, 1.5 percent during 2000-04, and 3.7 percent during 2004-08. While this turned out to be not fast enough to reduce unemployment rate when labor supplied increased sharply, total employment rose by 26 percent from 1995 to 2008. In particular, every one percent GDP growth from 1995-2008 was associated with 0.43 percent growth in employment, an employment elasticity of growth that is significantly higher than Brazil (0.30 percent), Russia (0.10 percent), India (0.20 percent) and China (0.06) in the same period¹. The job creation potential of GDP growth in South Africa is large, and it can be further enhanced if the business environment is improved to allow for a new growth path that enables the entry of more productive enterprises and greater labor intensity.

The World Bank's Second Investment Climate Assessment aims to assess the state of South Africa's overall business environment and policy options to further improve it for greater job creation and faster growth. The assessment analyzes results of a World Bank Enterprise Survey conducted in 2008 along with similar data on a group of comparators, and draws on the broader development policy literature on South Africa. It is a sequel to a 2003 assessment based on a similar survey carried out by the Department of Trade and Industry (DTI) of South Africa and the World Bank. The Second Investment Climate Assessment concludes with three key messages.

The first key message is that South Africa's overall business environment is good relative to its peer group of upper- middle-income economies, and has improved a great deal since 2003 in many respects, but challenges remain. With respect to the Ease of Doing Business indicator, South Africa outscores many emerging market economies, including Argentina, Brazil, Chile, and China, and is not too far behind comparators such as Malaysia and Thailand. However, crime and the power crisis of 2008 were of great concern to business managers, followed by labor regulation, skills shortage and macroeconomic instability. In addition, South Africa exports far fewer manufacturing products and attracts less foreign direct investment (FDI) than many

1 The World Bank, World Development Indicators.

economies in the nation's peer group of developing middle income countries.

A second key message is that South Africa needs to strengthen competition to better allow high productivity enterprises to increase their market share and poor performing enterprises to exit. The typical South African manufacturer is more productive than its cohorts operating in most other middle income economies. However, aggregate manufacturing productivity is nonetheless lower in South Africa because high productivity firms tend to have lower market shares in South Africa than they would typically have in other countries in the peer group. This implies a relative inability to reallocate resources to where they can be put to their most productive use. The lack of threat from competitive entry resulted from high industrial concentration may explain why there are relatively higher market shares for lower productivity firms in South Africa. Strengthening competition will likely be critical in raising the efficiency of resources allocation.

A third key message of the assessment is that actions must be taken to improve the nation's infrastructure, better educate its workforce, allow for better access to finance for small firms, and reduce crime. Problems in each of these areas are working against the growth of exports and FDI by adding to the average cost of doing business in South Africa relative to its peer group. They have also contributed to the unemployment problem by discouraging investment particularly in SMEs and labor intensive industries that would otherwise be at the forefront of job creation.

2. THE ENTERPRISE SURVEY OF SOUTH AFRICA 2008

The Enterprise Survey of 2008 covered 1,056 business establishments² sampled from four locations: Johannesburg (68 percent), Cape Town (14 percent), Port Elizabeth (6 percent), and Durban (12 percent). About two-thirds of the sample was drawn from selected manufacturing industries, as listed in Table E1. The balance was drawn largely from retail services, representing approximately 22 percent of the sample. All but 120 of the 1,056 businesses each employed five or more regular, full-time workers, and were distributed by employment size groups as follows: five to 19 workers (40 percent), 20 to 99 workers (39 percent), and 100 workers or more (21 percent). Enterprises employing fewer than five workers, namely, microenterprises, were sampled from Johannesburg. In addition to data on firms, the survey collected labor market information on a sample of 1,732 workers selected from about one-

² The sample was drawn from a sample frame of 120,545 businesses randomly drawn from a list of 800,000 establishments obtained from the Companies and Intellectual Properties Registration Office (CIPRO) of the Department of Trade and Industry. The frame was stratified by sector and business size groups. The overall sample was allocated between the strata so as to draw one third of the sample from each of the small, medium and large groups while ensuring adequate representation of key industries. The allocation of each stratum was the drawn randomly.

third of the manufacturing establishments in the enterprise survey sample. Approximately 12 percent of enterprises in the sample were foreign-owned.

Of the total sample, 231 businesses were re-interviewed in follow-up from the 2003 Productivity and Investment Climate Survey. This assessment therefore uses repeat observations (panel data) on a range of business environment and business performance variables in a five-year interval for a sizable number of enterprises. The Investment Climate Survey of 2003 covered a sample of 803 businesses, all employing at least five regular, full-time workers and all selected again from Johannesburg (63 percent), Cape Town (23 percent), Port Elizabeth (5 percent), and Durban (9 percent), and predominantly from the manufacturing industries listed in Table E1 (75 percent), retail and wholesale trade (11 percent), and construction (14 percent). The size distribution of the sample of the Investment Climate Survey was more skewed toward larger businesses employing 100 workers or more, which accounted for 45 percent of the sample.

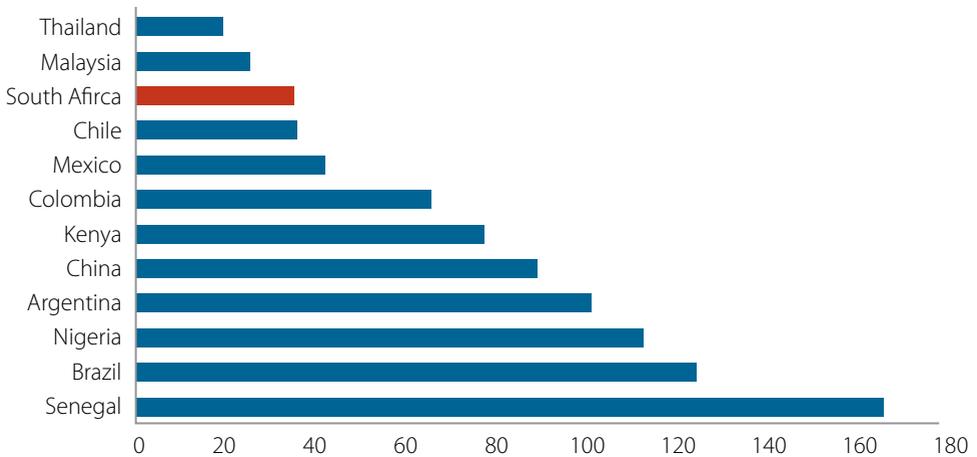
Table 1 : South Africa Enterprise Survey 2008 – Distribution of Sample by Industry

<i>Industry</i>	<i>Number</i>	<i>Percent</i>
Manufacturing (697):		
Food	122	11.55
Textiles	11	1.04
Garments	108	10.23
Chemicals	83	7.86
Plastics and rubber	22	2.08
Non metallic mineral products	8	0.76
Basic metals	2	0.19
Fabricated metal products	109	10.32
Machinery and equipment	34	3.22
Electronics (31 & 32)	22	2.08
Other manufacturing	176	16.67
Construction Services (339):	16	1.52
Wholesale	14	1.33
Retail	229	21.69
Hotels and restaurants	65	6.16
Transport (60-64)	2	0.19
Information Technology	4	0.38
Other Services	25	2.37
Other	4	0.38
Total	1,056	100

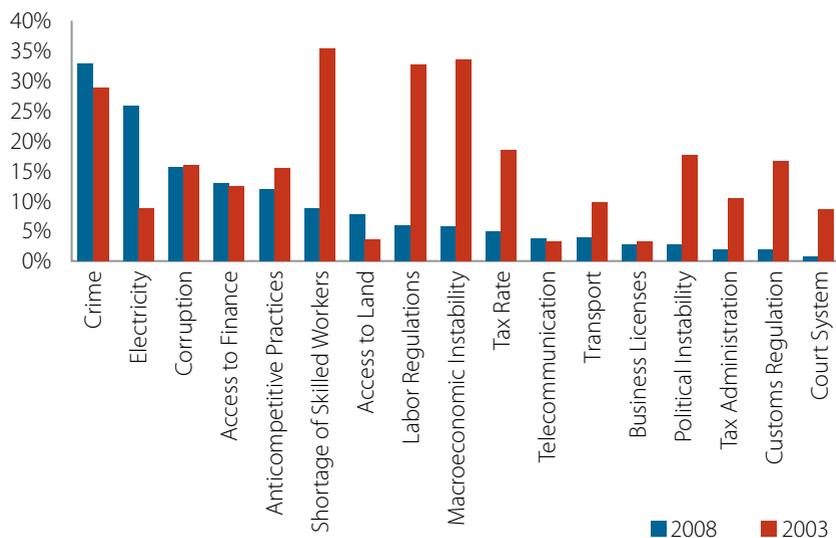
3. DOING BUSINESS IN SOUTH AFRICA

South Africa's business environment is relatively good. With respect to the Ease of Doing Business indicator, South Africa outscores many emerging market economies, including Argentina, Brazil, Chile, and China, and is not too far behind comparators such as Malaysia and Thailand (Figure E1). These countries are South Africa's peers in many ways. All are developing middle-income economies and many are resource-rich. All are also relatively high-performing, and have recently undergone export-driven industrialization.

Figure E1 : Ease of Doing Business rank – 2008



South Africa's business environment is also improving in terms of the perception of its business community. Analysis of data from the 2008 Enterprise Survey indicated that, disregarding crime and power shortages, fewer than 10 percent of the managers who responded to the survey rated any of the issues presented to them as serious obstacles to growth. In contrast, in 2003, there were several aspects of the business environment that at least one-third of respondents saw as “major” or “severe” impediments to operations (Figure E2).

Figure E2 : Firms ranking constraints as major or severe (%)—2003 vs. 2008

Three of the top four major constraints identified in the 2003 survey were not indicated as major obstacles by a significant percentage of the 2008 survey respondents. In 2003, macroeconomic instability, labor regulation, shortage of skilled workers, and crime, in that order of importance (Figure E2)³ were important obstacles to firm growth and management. However, with the exception of crime, none of these was indicated as a major obstacle by a significant percentage of the 2008 survey respondents. Fewer business managers also viewed high taxes and problems of tax administration, customs and trade regulation, business licensing as major obstacles in 2003 than those who did in 2008. Fewer than 10 percent of firms considered any of these to be a major obstacle to growth in 2008. In contrast, in 2003, almost 20 percent of firms rated high taxes as a major problem, and more than 15 percent rated customs and trade regulations likewise.

However, crime and the power crisis of 2008 were of great concern to business managers, followed by labor regulation, skills shortage and macroeconomic instability (Figure E2). One-third of managers who responded to the 2008 Enterprise Survey rated crime as a “major” or “severe” obstacle to business growth. A similar proportion rated power shortages similarly. These rates represent a dramatic change in respondents’ priorities since the 2003 survey: in 2003, about one-third of respondents rated

3 Some 16 percent of manufacturers and 19 percent of retailers also cited petty corruption as a significant issue.

crime as a major obstacle to business expansion—but more cited labor regulation and skills shortages.

Compared to those in other upper-middle income countries, firms in South Africa are far more likely to rate crime as a major obstacle to growth (Figure E3). Average costs of crime as a percentage of sales are also higher for South African firms than for all other comparators except Argentina (Figure E4). These costs are of two types. First are costs directly incurred to secure business premises and merchandise in transit and to insure property against theft and robbery. Securing premises may include investment costs and running costs of special fences, alarm systems, cameras and other security devices, and of hiring and equipping guards and engaging security firms. The second type of cost is that incurred when a business becomes the victim of theft or robbery. The sum of the two cost types averaged 3.2 percent of sales in the 2008 Enterprise Survey sample.

Figure E3 : Crime as a constraint to business expansion
% of Firms Identifying Crime, Theft and Disorder as Major Constraint

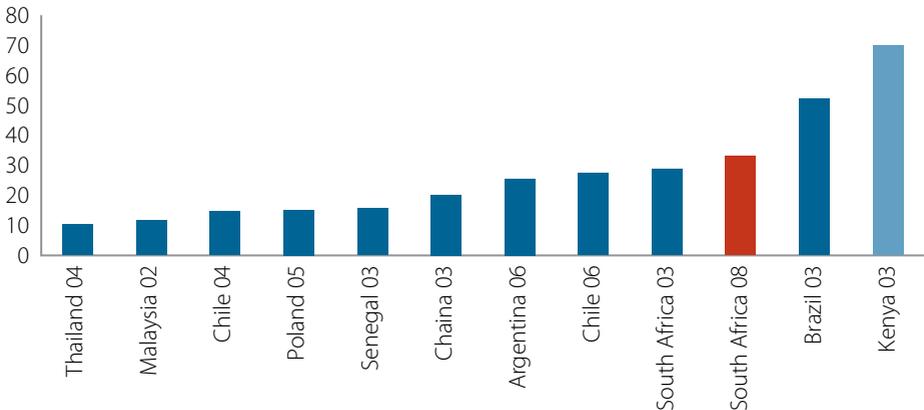


Figure E4 : Losses due to crime and security costs - cross-country comparisons



The rating of power shortages as a business obstacle reflected the fact that the survey took place right in the middle of the 2008 electricity crisis. There is therefore little doubt that not many would rate the issue as they did in 2008 if the survey were to take place right now. Even at the height of the crisis, the issue did not seem to have significantly affected the international standing of South Africa’s business environment. Although a higher percentage of its firms cite electricity as a major problem than in Brazil, Thailand, Malaysia, and Poland, estimated outage-related output losses are relatively low by those countries’ standards.

4. COMPETITION AND PRODUCTIVITY

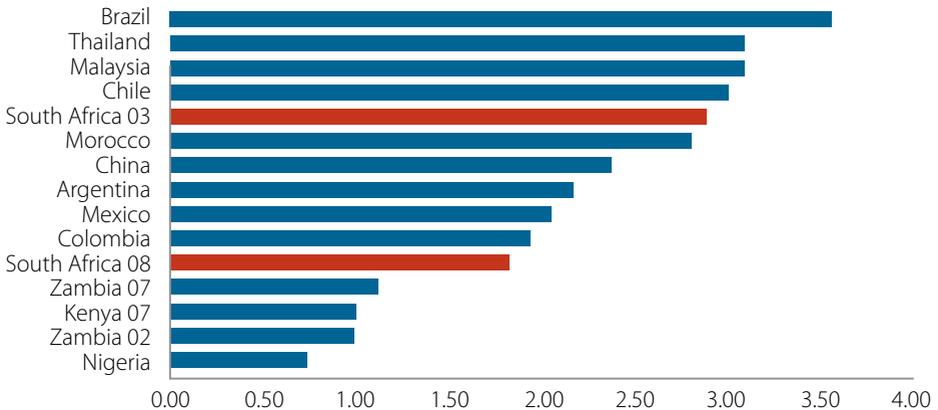
Despite the advantages of its relatively good business environment, South Africa needs to boost its exports and attract more FDI to grow faster and create more jobs. Current domestic savings fall well short of what is needed for faster growth. In addition, FDI and export growth can help boost productivity, as knowledge and technology transfers often accompany foreign investment projects and the competitive pressure provided by export markets encourages innovation.⁴ The expansion of manufacturing exports is also a useful strategy for job creation as manufacturing industries constitute the more labor intensive part of the South African economy at the moment.

To expand manufacturing exports, South African firms must boost productivity. A clear indication of the scope for further productivity growth in South African indus-

⁴ See Fedderke and Romm (2006) for evidence that these spillovers have been a significant source of recent productivity gains in South Africa.

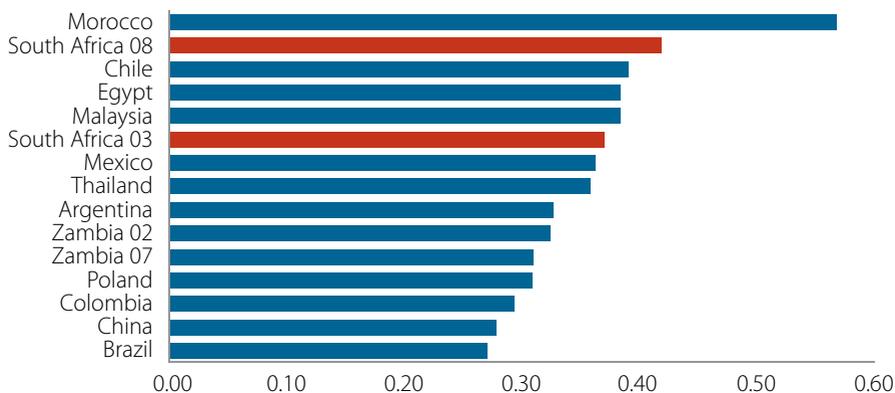
try is given in Figure E5, where aggregate manufacturing productivity is shown to be among the lowest of its peer group. Most importantly, lower aggregate manufacturing productivity in South Africa is likely based on the fact that less productive firms tend to have higher market shares in South Africa than they would have in most other countries in the group.

Figure E5 : Aggregate Productivity, Enterprise Survey samples



The growth of manufactured exports is constrained by South Africa's relatively high unit labor costs.⁵ Unit labor cost is measured as the cost of labor for every dollar of sales, calculated as the benefits and wages paid to employees divided by net sales. South Africa's unit labor costs are high within the peer group, exceeding those for Brazil, Chile, and Argentina (Figure E6). However, South African wages are lower than those in Argentina and Chile, which means that its unit labor costs are higher primarily because manufacturing labor productivity in South Africa is less than it is in those countries. Increasing South Africa's manufactured exports to levels comparable to those two countries will therefore require commensurate growth in its labor productivity.

⁵ Edwards and Golub (2003, 2004) show, the growth of South Africa's manufactured exports in the 1990s was fueled by steady decline in unit labor costs, defined as the ratio of wages (per employee) to labor productivity (or output per employee). This decline occurred as a result of growth in labor productivity. Jonsson and Subramanian (2001), and Aghion et al. (2008) show that the increases in labor productivity were made possible mainly by the trade liberalization measures of the period.

Figure E6 : Unit labor costs

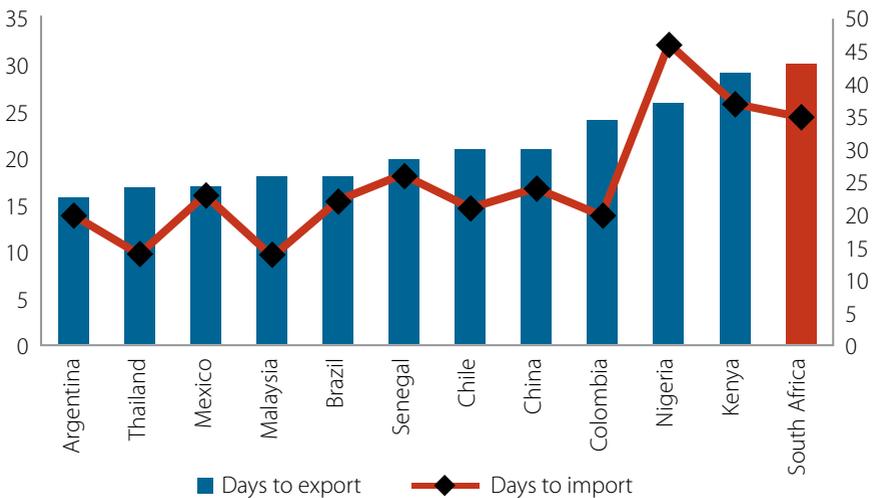
One way in which the required growth in productivity would come about would be to increase the rate of investment in plant and equipment without a proportionate increase in employment. This would raise output per employee, but in part by making production more capital intensive, that is, by reducing the number of jobs created with every additional unit of investment in plant and equipment. However, part of the reason why unemployment is so high today is that recent investment has not created as many jobs as it could. To reverse this trend it is necessary that the growth in labor productivity needed to boost exports does not come solely from growth in capital intensity, but rather involves also greater efficiency in the use of labor as well as capital and all other factors of production. In other words, boosting employment (through export growth) would require growth in what economists call total factor productivity (TFP).

Openness to international trade has helped improve South Africa's productivity in the past and continues to do so in the future. Economic growth has benefited from this kind of productivity growth over the past fifteen years largely as a result of the trade liberalization measures implemented in the 1990s. Combined with subsequent competition policy reforms, the opening up of the economy to foreign trade exposed domestic producers to far greater competition than would have been the case otherwise. In turn, the increase in domestic product market competition generated sustained growth in aggregate TFP by increasing the incentives for innovation by domestic producers and by raising the market shares of high productivity firms in domestic industries (that is, by reducing allocative inefficiency). However, South African industry is far more concentrated than its counterparts in the peer group, which seems to explain the unusually high market shares that

low productivity firms seem to have in the country by international standards.⁶ Greater openness to trade can further introduce competition dynamics in the domestic economy.

Relatively high trade costs are however likely holding the growth of South Africa's manufactured exports back. South Africa does not do well with respect to its peer group on the Doing Business indicators of the Ease of Trading across Borders. For example, it takes twice as long to import or export a standard shipment to and from South Africa as it does in some of the better performing peer group economies (Figure E7). Transport bottlenecks are the larger part of South Africa's relatively high trade costs, but are by no means the only one. The cost and duration of customs clearance procedures is an important factor as well.

Figure E7 : Doing Business – Number of days needed to ship standard cargo (2008)



⁶ To give a sense of the degree of concentration involved, Roberts (2004) estimates that the largest four firms in South Africa account for more than half of industry output in 46 percent of the 57 main product groupings in the country. Fedderke et al. (2006) report higher values for a more inclusive concentration index for South Africa than for the US, and show that the greater concentration of South African manufacturing industries is associated with higher mark ups in South Africa.

5. MICRO, SMALL AND MEDIUM ENTERPRISES

The informal⁷ sector and SMEs are not generating sufficient number of jobs in South Africa. Because of the legacy of the active suppression of entrepreneurship among historically disadvantaged groups during the Apartheid era, the rate at which micro businesses are formed and graduate into SMEs is quite low compared to other middle income economies.⁸

Some business environment problems are currently holding back the growth of wage employment in micro and small enterprises by deterring the formation, growth, and formalization of potentially viable informal enterprises, which is probably the most direct linkage between the informal and SME sectors.

The rate of expansion of the SME sector as arguably the more labor-intensive part of the economy may depend on how effectively business environment problems that weaken this linkage are tackled. An important component of the effort for addressing the main business environment issues should be to support the development of markets in appropriate business development services and financial products. Although there are important examples of these on the ground, far more are needed if there is to be visible impact on jobs creation and the growth of the SME sector.

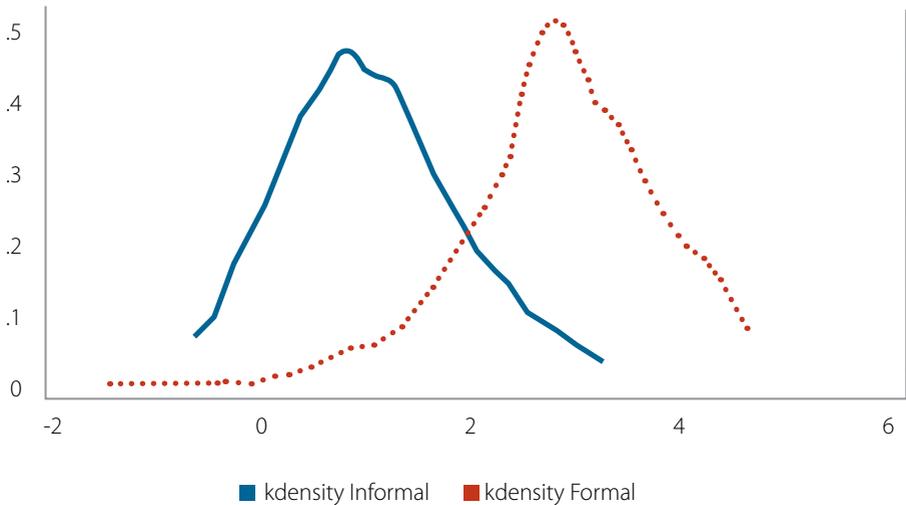
The country's informal entrepreneurs are also less skilled, on average, than their counterparts elsewhere in Africa, and for the same reasons. Nonetheless, the proportion of South Africa's entrepreneurs operating in the informal sector is still large in absolute terms. Identifying the potentially viable among the businesses they run and facilitating their growth and formalization should be an essential component of employment promotion strategies.

The most viable microenterprises are likely to be those run by owners who are in business as a matter of active choice and not because they have no other alternatives of earning a living. Fewer than one in five microenterprises belong to this group. This is not far off the proportion of informal microenterprises in the 2008 Enterprise Survey sample that were at least as productive as formal microenterprises and small enterprises (Figure E8).

7 For the purpose of this assessment, the informal sector comprises microenterprises that are not registered for tax purposes and employ fewer than five workers. For the 2008 Enterprise Survey, 11 percent of the sample (120 businesses) was microenterprises. Of these, 67 were formal and 53 informal. South Africa's strong rule of law, superior enforcement of rules and regulations, and wider range and quality of services available to the formal sector, have all made the cost of informality quite high by African standards. As a result, a smaller proportion of South Africa's entrepreneurs operate informally than in other countries in the region.

8 See Kaplinsky (1995); Valodia et al. (2007); and Altman et al. (2008) on important historical impediments to the development of the SME sector and black entrepreneurship and implication therefore to labor absorption in the South African economy

Figure E8 :Kernel density estimates of log value added per worker, formal vs. informal microenterprises - South Africa Enterprise Survey 2008



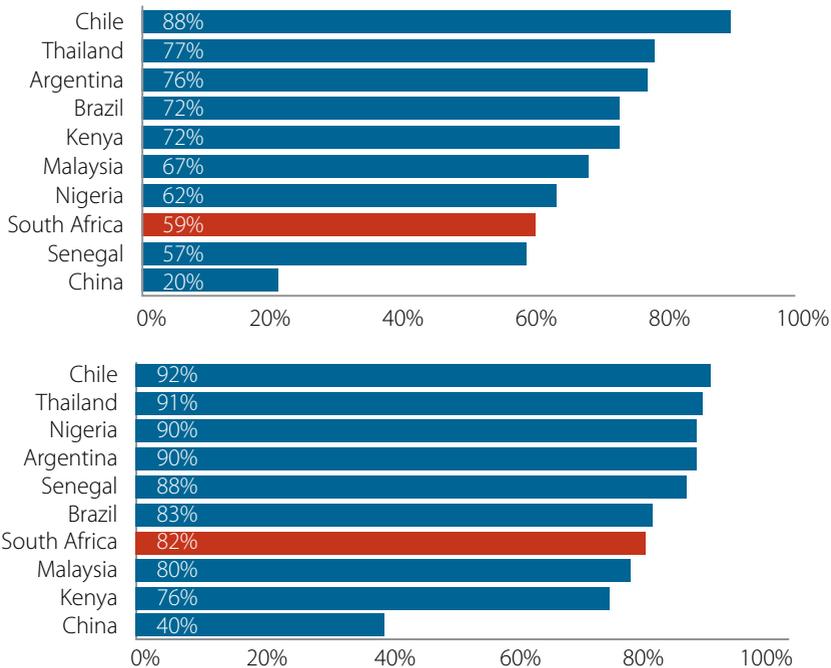
The policy challenge that potentially viable and growth oriented micro businesses pose is different from that of the vast majority of informal microenterprises. The main challenge as far as the latter are concerned is to facilitate the transition to the formal labor market of their owners. This could be accomplished through training and wage subsidy schemes. By contrast, the appropriate support to potentially viable informal enterprises would focus on lowering barriers to their growth and formalization by facilitating the growth of markets in business development services tailored to the needs and capabilities of microenterprises.

Difficulties in accessing finance top the list of constraints that keep informal, microenterprises from growing. Nearly one out of every four informal owner-managers rated access to finance as a severe obstacle to growth. This proportion is low by African standards, but relatively high among South Africa's formal microenterprises. In addition to access to finance, problems with crime, access to land and lack of transport are also significant barriers. Ten (10) percent of formal microenterprises have access to a bank credit line, and even fewer are servicing active loans—quite a low number by the standards of South Africa's SMEs. There also are indications that the lack of legal status of informal microenterprises may impede their access to finance. Uncertainty of legal status is also linked to their more limited access to infrastructure,

as suggested by their higher indication of constraints than formal businesses about access to land, transport, and electricity.

It is more difficult for microenterprises than small enterprises to obtain credit, and more difficult for small enterprises than for large enterprises (Figure E9). Microenterprises are less likely to have a bank account and less likely to have access to any credit products (loans, overdrafts, or lines of credit). Within this group, only 17 percent have any credit products, compared with 49 percent of small, 69 percent of medium, and 82 percent of large firms. Microenterprises are also less likely to apply for loans, probably because they have very high rejection rates—89 percent—compared with 32 percent for small enterprises, 13 percent for medium, and 8 percent for large enterprises. As far as demand for loans is concerned, microenterprises are least likely to state “no need for a loan” as a reason for lack of a loan application. This is the reason stated by 39 percent of microenterprises, 44 percent of small, 53 percent of medium, and 65 percent of large enterprises.

Figure E9 : Cross Country Comparison of the Difference in Access to Finance between Large firms and SMEs



Unregistered microenterprises have significantly less access to credit than those that are registered. None among the unregistered enterprises uses any credit product, while 25 percent of those registered do. This is not because unregistered microenterprises do not apply, but because their applications are more likely to be rejected. The rejection rate is also high among registered microenterprises, at 85 percent. Unregistered microenterprises are also excluded from receiving credit from suppliers.

In addressing the particular difficulties with access to credit, it is not clear that the network of governmental and private sector business support schemes that have evolved in recent years successfully help microenterprises and potentially viable informal enterprises. While survey data suggest that current programs are supporting a significant number of larger small enterprises, they do not show significant coverage of microenterprises, formal or informal. This could be entirely due to the limitations of the Enterprise Survey data, which consist of observations from a small sample of microenterprises drawn exclusively from Johannesburg. On the other hand, it is quite possible that the sample is typical of the situation in large cities of South Africa.

6. SKILLS DEVELOPMENT

Skills shortage was one of the problems that topped managers' lists of obstacles to growth in the 2003 survey. Although it had slipped far behind crime and power shortages by the time of the 2008 survey as a source of managers' concerns, it remains a significant growth bottleneck by all other indications. This assessment examined the extent to which South African firms were addressing the shortage of skills by providing on-the-job training to their employees. It also looked at the extent to which they were making use of government-initiated skills development schemes in that context.

South African firms are less likely to provide formal training to their workers than their peer group counterparts. In the 2008 sample, about 46 percent of firms were providing training, compared to more than 67 percent of firms in Brazil, Chile, Thailand, and China. Moreover, there was no significant change in South Africa in the incidence of training between the 2003 and 2008 surveys. The profile of firms that provide training also remained unchanged between the two surveys. In 2008, as in 2003, larger firms were more likely to provide training than smaller ones, and exporters were more likely to do so than non-exporters. The likelihood of training was also greater where the unionization rate was higher.

Smaller businesses are far less likely to provide formal on-the-job training to their employees than larger ones. For example, in the 2008 survey, more than 65 percent of firms with 200 or more employees are likely to provide formal training to their workers, compared to about 35 percent for firms with 20 to 40 employees. This is not surprising since smaller firms face more and stronger constraints to the provision of training. These are likely to include financial constraints. Smaller firms are also more likely to lack the critical mass of trainees needed for profitable training programs, and may not have the extra workers needed to fill the gap when someone takes a training course. This should have implications for the role of the Sector Education Training Authorities (SETAs) and their targeting policy, or lack thereof, especially as larger firms are currently far more likely to receive SETA support than smaller ones. Since the majority of the newly employed are likely to work in small and young firms, the skills development opportunities for these workers will likely to be limited.

A worker's chances of being formally trained on the job very much depend on the worker's schooling, ethnicity and membership in a trade union. All else being equal, better educated workers are more likely to be trained on the job. Nonwhite employees are also less likely to be trained on the job than white employees. A member of a trade union is also more likely to be trained on the job than an otherwise comparable but non-unionized worker. The reasons for this association are not entirely clear. It could be that workplace bargaining arrangements increase the likelihood that firms will invest in members' skills. It could also be that the concern that turnover prevents firms from recouping the costs of training is considerably less important for union members, who are relatively more attached to their firms according to the Enterprise Survey data.

While perceptions of SETA performance were very poor in the early years, collaboration with and appreciation of SETAs have improved considerably. Across the size distribution, a majority of firms with workplace training programs report working closely with SETAs. Overall, more than one-third of the firms that provide training report receiving some support from SETAs, and more than two of every five firms that provide training report that SETAs are effective. While we have no comparable data for the 2003 sample, other studies suggest considerable improvement in SETAs' effectiveness in supporting skills development in South Africa.

CHAPTER 1

Macroeconomic Background

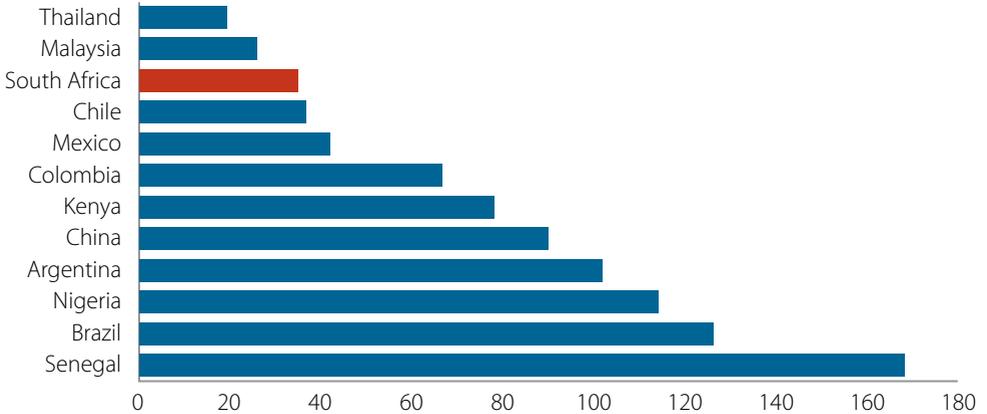
1.1 INTRODUCTION

South Africa's overall business environment ranks very high using upper-middle-income country standards. For example, the World Bank's Ease of Doing Business index puts the country very near the top of a peer group selected for the purpose of this report. The group includes China, Malaysia, and Thailand from East Asia, and Argentina, Brazil, Chile, Colombia, and Mexico from Latin America (figure 1.1). The choice of this particular group of comparators is based on a combination of criteria including that the group consist mainly of relatively high performing upper middle income countries with recent history of export driven industrialization and that comparable data be available on all in the group. Several members of the group are also resource rich like South Africa. By one of the elements of the doing business composite index, setting up a business is easier in South Africa than it is in all but one of these comparators (figure 1.2). It is also easier to close one in South Africa than in most of the peer group by another element (figure 1.3). South Africa is also rated highly on ease of business access to credit and related indicators of the quality of contract enforcement institutions and the strength of property rights.

However, despite the advantages flowing from these characteristics, South Africa continues to face the twin problems of high unemployment and widespread poverty, more than a decade after concerted efforts to tackle both problems began. Partly the product of the labor supply shock that the demise of apartheid unleashed, the unemployment problem is no less a consequence of the failure of economic growth

to absorb additions to the labor force. There are two sides to this failure. One is the slow pace of growth. The other is that the growth that has occurred has not absorbed as much labor as it should have and could have.

Figure 1.1 : Ease of Doing Business Rank - 2008



A set of hypotheses have evolved over the years in the South African development policy literature about the forces behind these trends in growth and employment. In this report we revisit some of those hypotheses in light of new data from the World Bank's South Africa Enterprise Survey of 2008, with the objective of helping identify some of the policy and business environment factors influencing the prospects of realization of South Africa's strategic growth and job creation targets as set out in the government's Accelerated and Shared Growth Initiative for South Africa (ASGISA). The report builds on an earlier investment climate assessment carried out by the World Bank based on a similar survey carried out in 2003 (Clarke et al. 2007). Like the previous survey, the Enterprise Survey of 2008 covered a random sample of a little over a 1,000 manufacturing and service enterprises selected from various industries in and around Johannesburg, Cape Town, Durban, and Port Elizabeth.

Figure 1.2 : Doing Business – Days to Start a Business

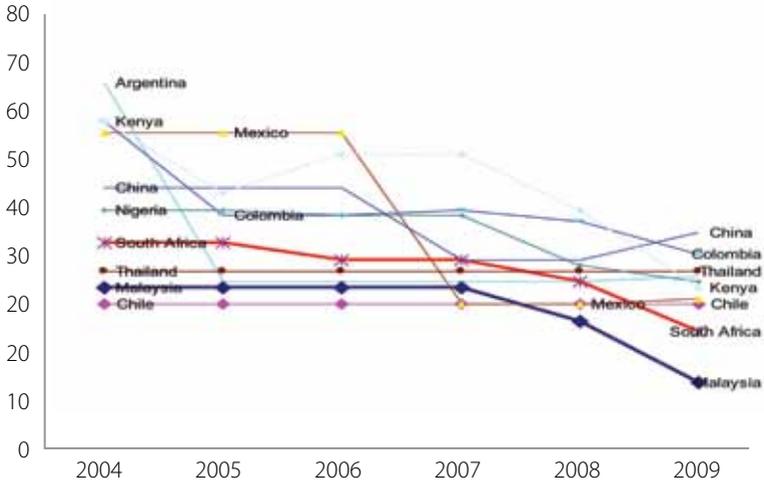
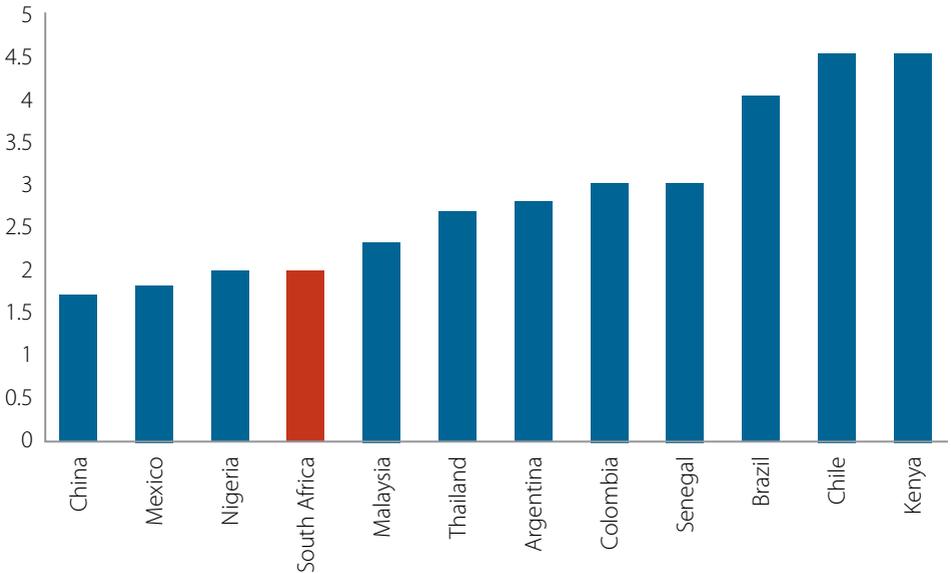


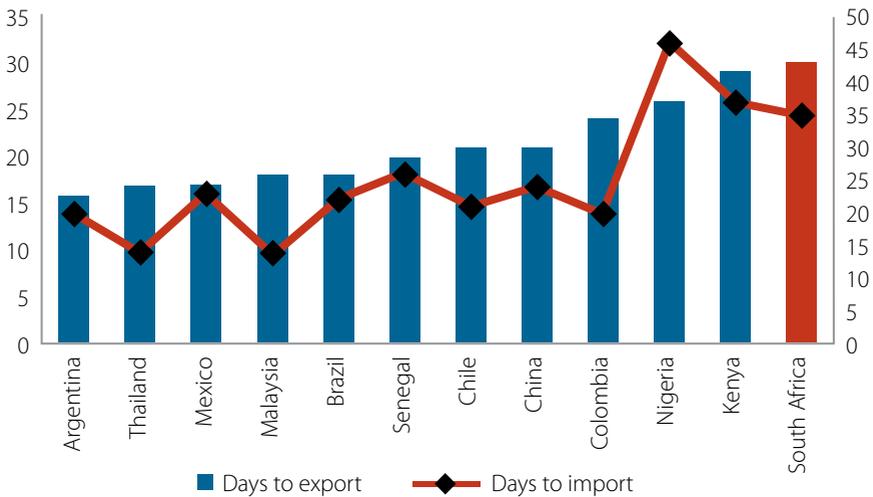
Figure 1.3 : Doing Business – Years to Close a Business (2008)



South Africa’s growth gap--relative to its job creation needs-- reflects shortfalls in domestic savings. A point of broad consensus has therefore been that the country needs

to make up for the shortfalls by integrating into the global economy more, exporting more, and attracting more FDI. Greater openness to trade and FDI is also viewed as a source of productivity gains as it enhances domestic product market competition, facilitates inflow of technical know-how, and provides greater incentives for innovation by domestic producers. Yet South Africa does not do so well within its peer group on the doing business indicator of the ease of trading across borders. For example, the same foreign trade transaction takes two to three times longer to complete in South Africa than it does in the better performing economies in the group (figure 1.4).

Figure 1.4 : Doing Business – Days to Trade (2008)



South African industry is also far more capital intensive and skill intensive than one would expect given the high rate of unemployment of unskilled labor. Many also argue that a contributing factor to the problem of unemployment is that South Africa's SME sector has not been as large and as labor-absorbing as it should have been because of historical and contemporary barriers to the growth and formalization of microenterprises among the black population. These barriers range from non-conducive settlement patterns, to skills shortage, to a lack of access to finance, and the underdevelopment of business networks.

The rest of this chapter will provide an overview of the macroeconomic background of these issues and major development policy developments since the first assessment. The second chapter then discusses results of the Enterprise Survey data re-

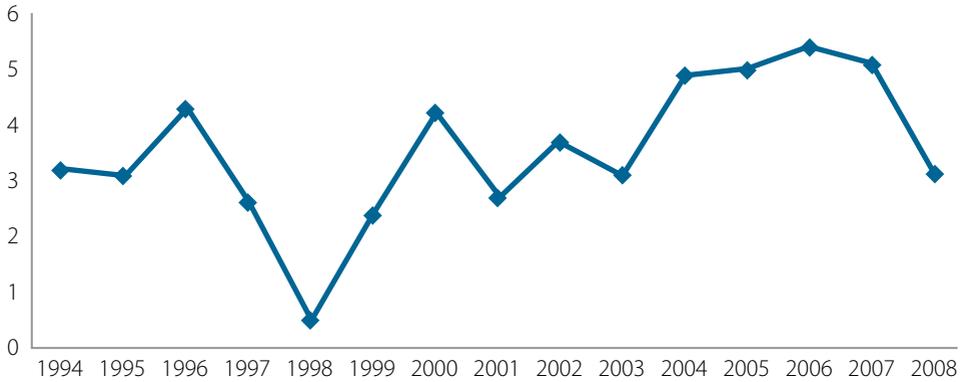
lating to the roles trade policy and the structure of domestic industry might play in facilitating or impeding trade integration and inward FDI. The third chapter examines survey results on the influence of the widespread crime, the recent electricity crisis, and other business environment factors affecting employment and productivity. Chapter 4 highlights the main business environment impediments to the growth and formalization of microenterprises as a source of growth of the SME sector.

Shortage of skills was rated as a major obstacle to business growth by a large proportion of South African business managers during the first assessment. Chapter 5 examines the extent to which firms have responded to the problem since then by providing on-the-job training to their employees within and outside of the government's skills development programs. The report concludes with chapter 6, which provides details of findings of the Enterprise Survey regarding one of the impediments to micro and small enterprise development, namely, limited access to formal external finance.

1.2 ECONOMIC GROWTH

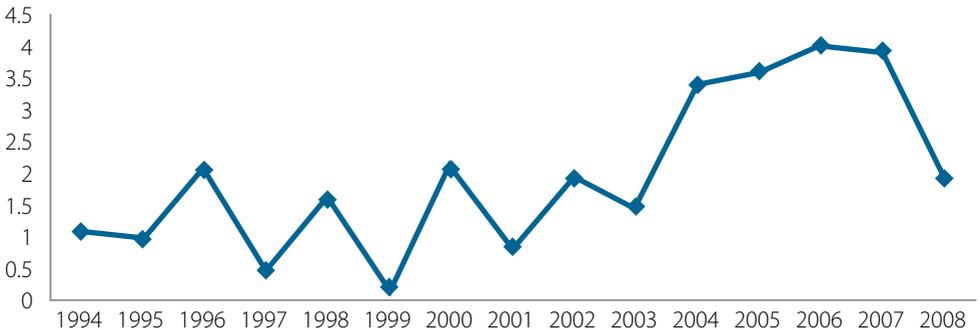
In the first decade after the end of apartheid, 1994-2003, the South African economy grew at a moderate rate of 3 percent per annum (figure 1.5). Apart from the period 1997-99, following the Asian crisis, when growth rates were lower but still positive, GDP growth was consistently in the range of 3 percent to 4 percent per annum. South Africa appeared to be locked into a path of sustained but moderate growth.

However, in the second half of 2004, the growth rate increased markedly. South Africa moved on to a higher growth path. For the four years 2004-2007, the GDP growth rate has been marginally above 5 percent per year. For 2007, the GDP growth rate was 5.1 percent (South African Reserve Bank, June 2008). This dropped to 3.1 percent per annum in 2008 as the economy started to move towards the recession along with the rest of the global economy.

Figure 1.5 : GDP Growth Per Annum (%), 1994-2008

Source: South African Reserve Bank download facility time Series KBP6006C

A growing population meant that GDP-per-capita growth rates were lower, yet, with the exception of 1997-99, still positive, in the range of 1 percent to 2 percent per annum (figure 1.6). For the four years 2004-2007, rising GDP and some slowing of the population increase resulted in GDP per capita increasing at close to 4 per cent per annum. This too dropped precipitously to just below 2 percent in 2008.

Figure 1.6 : GDP Growth Per Capita (%), 1994-2008

Source: South African Reserve Bank download facility time Series KBP6270Y

Since 2000, South Africa's GDP growth rate has been below the global growth rate, as well as those of its comparator countries. While South Africa's growth rate picked up significantly, to slightly above 5 percent in 2007, it still remained somewhat below that of comparator countries, and a number of countries in the region (table 1.1).

Table 1.1: Country GDP Growth Rates (%): 2000-2006 and 2007

<i>COUNTRY</i>	<i>2000-2006</i>	<i>2007</i>
South Africa	4.1	5.1
Brazil	3.0	5.4
Mexico		3.3
Argentina		8.7
Chile	4.3	5.0
Poland		6.5
China	9.8	11.4
Indonesia		6.3
Malaysia		6.3
Kenya		7.0
Botswana		5.4
Mozambique		7.0

After four years of much stronger growth, there was considerable optimism that the growth rate could be sustained or even increased to 6 percent—the government’s target under ASGISA. However, toward the end of 2007, a number of factors (see below) caused economists to sharply revise their short-term growth forecasts downward (table 1.2). The table 1.2 shows projections of the annual GDP growth rate from the government, as contained in the 2008 budget, and from the three largest commercial banks. While there is considerable variation in the forecasts at present, there is consensus that annual growth will fall significantly below in 2008 and likely remain below 5 percent at least until 2010. The table below shows projections on the part of government, as contained in the 2008 budget, and on the part of the three largest commercial banks.

Table 1.2: Annual GDP Growth Rate Projections (%), 2009- 2011.

	<i>2009</i>	<i>2010</i>	<i>2011</i>
Budget	4.2	4.6	-
First National Bank	-1.5	2.5	3.5
Standard Bank	2.7	3.8	4.2
Absa	-2.1	2.3	4.1

In terms of sector growth rates, both agriculture and mining were significantly lower than the average (tables 1.3 and 1.4)). This was somewhat surprising, given the commodities boom, particularly in minerals. In the secondary sector, manufacturing and electricity were lower than the average, but the cyclical construction sector saw outstanding growth. In the tertiary sector, trade and particularly finance saw higher than average growth rates while community, social, and personal services experienced growth lower than the average.

Table 1.3: Sector Rates of GDP Growth (%), 2004-2009

	2004	2005	2006	2007	2008	2009 (first half)
Primary	1.3	3.1	-2.5	-0.4	0.9	-11.8
Agriculture	1.4	5.5	-7.9	0.3	18.8	-2.3
Mining	1.3	2.2	-0.1	-0.6	-6.5	-16.8
Secondary	5.2	5.3	6.2	5.8	2.9	-12.7
Manufacturing	4.7	4.6	5.2	3.9	1.2	-19.4
Electricity	3	1.7	3	3.2	-1.2	-5.0
Construction	11.1	12.4	14.7	18.1	13.9	13.1
Tertiary	5.2	5.2	6.1	5.7	3.5	-0.1
Wholesale	5.9	7.3	7	5	0.5	-2.4
Transport	4.7	5.3	5	5.2	4.0	-0.7
Finance	7.9	5.2	8.6	8.3	5.0	-1.0
Community Services	2.4	3.7	3.5	3.6	4.0	-4.2
All Industries	4.8	5	5.3	5.2	3.2	-4.5

Source: South African Reserve Bank download facility time Series KBP6630D KBP6633D KBP6637D KBP6645D and Annual Report 2008/09

The long-term trends in the sectoral composition of the economy continued in this period. Despite the commodities boom, the long-term decline in the sectoral share of the primary sector continued unabated. In the secondary sector, the slow decline in manufacturing's share continued. Construction saw a significant increase, but this is a cyclical phenomenon. The long-term shift to the tertiary sector continued in the period 2004-2007. The increase was largely accounted for by finance and, to a lesser extent, trade and transport.

Table 1.4: Sectoral Composition of GDP (%), 1994-2008

	1994	2004	2005	2006	2008
Primary	13.1	9.9	9.7	9.0	8.4
Agriculture	3.7	2.9	2.9	2.5	2.9
Mining	9.5	7.0	6.8	6.4	2.5
Secondary	24.4	23.3	23.4	23.6	23.7
Manufacturing	18.8	18.0	17.9	17.9	17.4
Electricity	2.9	2.5	2.4	2.3	2.2
Construction	2.8	2.7	3.1	3.4	4.1
Tertiary	62.5	66.8	66.9	67.4	67.9
Wholesale	13.4	14.9	15.2	15.5	15.1
Transport	7.6	10.7	10.7	10.7	11.0
Finance	17.3	20.9	20.9	21.5	22.0
Community Services	24.5	20.1	20.1	19.7	19.7
All Industries	100	100	100	100	100

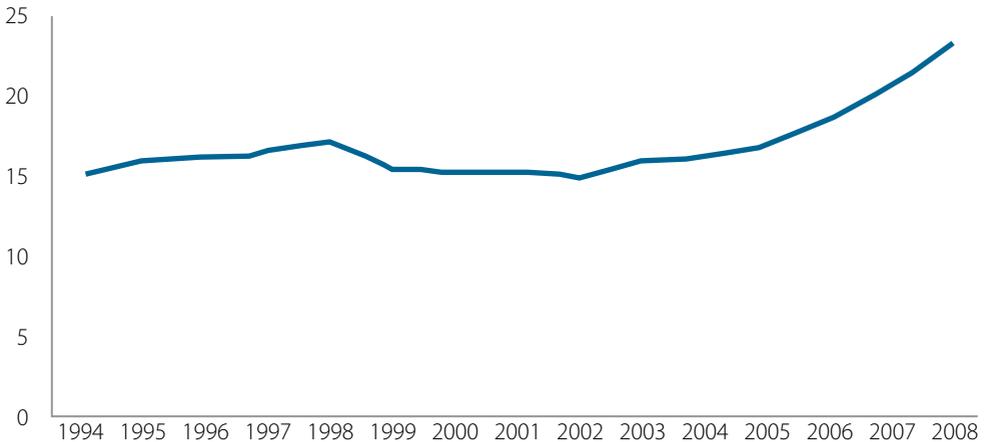
Source: South African Reserve Bank download facility time Series KBP6630D KBP6633D KBP6637D KBP6645D

Thus, two conclusions are evident. In respect of the growth rate, while South Africa sustained a higher growth path in the period 2004-2007 right up to the onset of the recession in 2008, GDP growth slowed down to below 2 percent per annum in 2008 before contracting at the rate of 4.5 percent in the first half of 2009. In terms of the composition of growth, despite the commodities boom, the underlying dynamics affecting the sectoral composition of the economy have remained unaltered.

1.3 INVESTMENT

The outstanding feature of the four years leading up to the 2008 Enterprise Survey was the rise in fixed investment. A significant upsurge in fixed investment commenced in the third quarter of 2004 (figure 1.7 and table 1.4). Fixed investment continued to grow without interruption until the last quarter of 2007, and indeed into 2008. As the National Treasury correctly forecast, capital formation, rather than household consumption, has been the principal driver of economic growth (Clarke et al. 2007; National Treasury 2005). Indeed, the rate of growth in capital formation was approximately double what the Treasury had predicted. In the last quarter of 2007, the annual growth in fixed investment was some four times the growth in household consumption.

At the time of the first Investment Climate Assessment Survey in 2004, gross fixed capital formation (GFCF) was 16 percent of GDP. By the end of 2007, GFCF was a little over 21 percent of GDP, and went to reach above 23 percent in 2008. This was the highest ratio since 1985.

Figure 1.7 : Gross Fix Capital Formation as a Percentage of GDP (1994-2008)

Source: South African Reserve Bank download facility time Series KBP6270Y

Private fixed investment increased at a slow rate in the first decade after the end of apartheid, with declines in 1998 and 1999 (table 1.5). However, since the second quarter of 2003, fixed investment growth on the part of the private sector has been high and accelerating. In 2007, private fixed investment increased at almost 15 per cent per annum.

The share of fixed investment accounted for by private enterprises rose slowly. In 2007, private enterprise was responsible for almost three-quarters of total investment.

Table 1.5: Gross Fixed Capital Formation by Private Enterprises, 1997 -2007 (Rand Millions and percentage change over previous year); (constant 2000 prices)

	<i>Rand (Millions)</i>	<i>%Change over previous year</i>
1997	97463	4.8
1998	95586	-1.9
1999	92559	-3.2
2000	100097	8.1
2001	106482	6.4
2002	109119	2.5
2003	117806	8.0
2004	130618	10.9
2005	146391	12.1
2006	164410	12.3
2007	185078	12.6
2008	197132	6.5

Source: South African Reserve Bank download facility time Series KBP6109C

Fixed capital investment by general government has generally seen slow rates of growth, and almost no growth in 2007 (table 1.6). This slow growth in delivery-linked infrastructure spending may well reflect the inability of municipal governments to manage their investment programs and to spend the monies allocated.

Table 1.6: Share of Private Enterprises in Gross Fixed Capital Formation (%) , 1997-2008

<i>Year</i>	<i>Share (0/o)</i>
1997	70.0
1998	66.7
1999	65.8
2000	68.2
2001	73.0
2002	69.7
2003	68.3
2004	67.5
2005	71.2
2006	68.9
2007	70.5
2008	70.8

Source: South African Reserve Bank download facility time series KBP6009Y KBP6109Y

The most significant increases in fixed investment have been on the part of public corporations (table 1.7). Following a period of significant decline, investment on the part of public corporations grew strongly after 2003. In 2007, there was a 32.6 percent increase. This growth is particularly reflected in construction work, which is occurring in a number of areas—particularly transport and electricity (Table 1.8).

The strong growth in infrastructural spending by public corporations stands in marked contrast to the anemic growth in general government fixed investment related to delivery.

In terms of sectoral composition, the upsurge in fixed investment was led by the construction and the electricity sectors. Construction grew due to major infrastructure projects (Gautrain, stadiums, ports, roads, and power stations) and high levels of residential construction. Electricity was the outstanding performer in 2000, with fixed investment gaining 47 percent in the fourth quarter of 2008 compared to a year earlier – the development of the new Medhupi power station, new peak load stations and the recall of mothballed power stations.

Table 1.7: Gross Fixed Capital Formation by General Government, 1997 -2007 (Rand Millions and percentage change over previous year); (constant 2000 prices)

	<i>Rand (Millions)</i>	<i>%Change over previous year</i>
1997	24177	6.8
1998	24102	-0.3
1999	23039	-4.4
2000	24908	8.1
2001	24077	-3.3
2002	25210	4.7
2003	27160	7.7
2004	27770	2.2
2005	28006	0.8
2006	32653	16.6
2007	39003	19.4
2008	42781	9.7

Source: South African Reserve Bank download facility time Series KBP6100Y

Table 1.8: Gross Fixed Capital Formation by Public Corporations, 1997 -2007 (Rand Millions and percentage change over previous year); (constant 2000 prices)

	<i>Rand (Millions)</i>	<i>%Change over previous year</i>
1997	16698	9.2
1998	25243	51.2
1999	18325	-27.4
2000	14642	-20.1
2001	13989	-4.5
2002	15566	11.3
2003	18586	19.4
2004	19739	6.2
2005	21939	11.1
2006	25204	14.9
2007	34399	36.5
2008	44882	30.5

Source: South African Reserve Bank download facility time Series KBP6106Y

Fixed investment growth was characteristic of all sectors during 2004-07. The one exception was mining, where there were significant declines in 2004 and 2005, followed by large gains. The initial decline in mining investment, particularly in the context of rising mineral commodity prices, and the significant turnaround in 2006, requires explanation.

The chief economist at the Chamber of Mines has explained the delay in South Africa enjoying the commodity boom and the "...disappointment in 2004 and 2005 when investment in South Africa's mining sector declined..." Government, the Chamber

of Mines and organized labor are said to agree that this was a consequence of three factors—infrastructural constraints, regulatory constraints, and currency volatility (Mining Weekly, 2008). Once the issues were addressed, there was a considerable spurt in investment. In 2006 and 2007, mining was a star performer in fixed investment growth.

Investment has been the principal factor underlying the growth rate, and its importance has been increasing. In the last quarter of 2007, the gains in fixed investment were some four times the growth in household consumption. However, there are clear signs that the rate of increase in investment will slow considerably.

Business confidence started to decline significantly toward the end of 2007, as did consumer confidence (see below). The decline in confidence was initially precipitated by the electricity crisis but then started to feed fears of a global recession towards the end of 2008. The electricity crisis will impact all sectors possibly beyond the end of the global recession, but particularly some of those where investment growth has been strongest. In mining, there were clear indications of major cutbacks in investment because of the electricity crisis before the second half of 2008.⁹ In construction, investment will be constrained by the Eskom delays on new electricity connections over the long term. This will particularly impact nonresidential building activity, while higher mortgage rates, combined with rising building costs, will impact negatively on residential construction.

Since household consumption is expected to be curtailed by rising interest rates, rising prices, and growing indebtedness, growth will still be very largely driven by fixed investment as the economy comes out recession. The fixed investment to GDP ratio will accordingly continue to rise. One estimate is that the ratio will be 23 percent by 2010 (Bruggemans, 2008). This is close to the ASGISA target for the investment to GDP ratio of 25 percent. However, this is likely to be achieved at a GDP growth rate that is considerably lower than the ASGISA target.

1.4 SAVINGS

Gross savings have been increasing slowly since 2003, at a rate below the increase in GDP. As a result, the ratio of total gross savings to GDP has declined since 2003, from a peak of 16.9 percent in 2003 to 14.1 percent in 2007, and 13.5 percent in the last quarter of 2007. This is significantly below gross fixed capital formation (table 1.9).

⁹ To take but one example, according to the CEO of Implats, South Africa's second-largest platinum producer, "The main impact of electricity shortages would be future growth projects..." Mineweb 2008.

Gross savings on the part of the corporate sector peaked in 2003, but has similarly declined very significantly since that time. With aggregate gross savings increasing, albeit slowly, the corporate share of gross savings, which peaked in 2003 at 27.2 per cent, was only 5 percent in 2007.

Corporate investment has been increasingly funded through credit. The increase in total loans and advances by the banking sector increased steadily from 10 percent per annum in mid-2004 to 27 percent to 28 percent in mid-2006. The increase moderated to 18 percent in the last quarter of 2007, and 22.7 percent in the first quarter of 2008 (South African Reserve Bank, 2008). This moderation reflected rising costs of borrowing as interest rates rose (see below), as well as more prudent credit approval policies following the passage of the National Credit Act, which came into effect in June 2007.

**Table 1.9: Gross Fixed Capital Formation Growth Rates by Sector
(% increase over previous year), 2005-2008**

	2005	2006	2007	2008
Primary	-11.2	39	25.4	8.8
Agriculture	-7.7	13.5	5.7	31.3
Mining	-12.4	48.2	30.8	3.8
Secondary	9.6	9.0	17.0	18.1
Manufacturing	10.2	8.4	12.4	9.9
Electricity	10.5	13.1	35.3	42.6
Construction	0.8	3.7	14.1	23.1
Tertiary	14.2	11.6	14.5	7.0
Wholesale	12.2	13.1	19.2	17.1
Transport	15.4	11.5	22.1	17.4
Finance	22.7	8.0	6.6	-3.2
Community Services	0.9	17.6	18.7	7.9
Total	6.2	16.1	10.0	6.0

Source: South African Reserve Bank download facility time Series KBP6080Y KBP6081 Y KBP6082Y KBP6081Y KBP6082Y KBP6085Y KBP6086Y KBP6087Y KBP6088Y KBP6091Y KBP6094Y

Table 1.10: Corporate Savings and Gross Savings, 1994-2008

	<i>Corporate Savings (Rmillions)</i>	<i>Gross Savings (Rmillions)</i>	<i>Corporate Savings/ Gross Savings %</i>	<i>Ratio of Gross Saving to GDP%</i>
1994	36,750	81,394	45.2	16.9
1995	35,731	90,568	39.5	16.5
1996	45,035	99,758	45.1	16.1
1997	40,367	103,865	38.9	15.1
1998	32,015	113,127	28.3	15.2
1999	31,675	129,132	24.5	15.9
2000	39,919	145,551	27.4	15.8
2001	30,832	158,849	19.4	15.6
2002	52,372	197,323	26.5	16.9
2003	54,298	199,313	27.2	15.8
2004	53,215	201,768	26.4	14.5
2005	40,265	220,049	18.3	14.3
2006	29,322	249,693	11.7	14.3
2007	14,914	292,270	5.1	14.6
2008	50,603	351,155	14.4	15.4

Source: South African Reserve Bank download facility time Series KBP6201J KBP6203J KBP6286J

From 1994 to 2003, a lack of savings did not appear to constrain business investment, with domestic savings being sufficient to finance capital formation in all but two years (Clarke et al. 2007). But as the previous ICA report noted, this would change were there to be a rapid rise in corporate fixed investment. Since 2004, there has indeed been a very significant rise in corporate fixed investment. Moreover, this has occurred in a context where household expenditures have also been increasing, thus limiting savings on the part of households. Government saving has been positive and budget surpluses are anticipated over the next three years. However, the overall level of savings is very low (table 1.10). As a consequence; South Africa has had to rely increasingly on foreign inflows to finance a rapidly increasing fixed capital investment program on the part of both business and government.

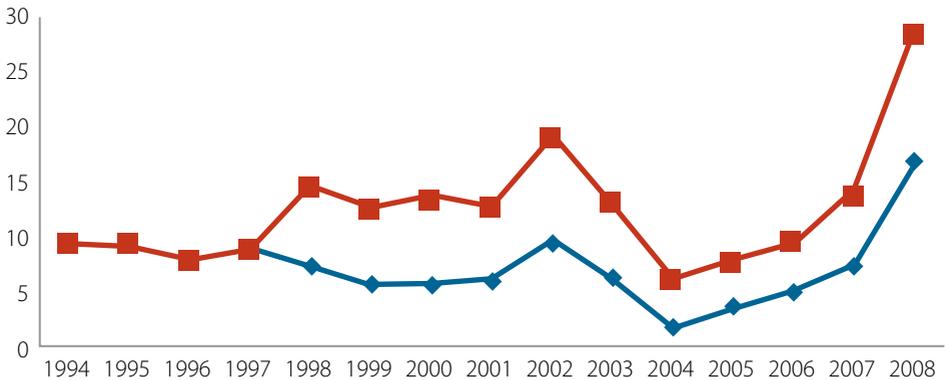
The degree of reliance on inflows of foreign capital is historically unprecedented. In the last quarter of 2007, foreign capital inflows financed 37 percent of gross capital formation (South Africa Reserve Bank 2007) and this increased to 39.5 percent in the first quarter of 2008 (South Africa Reserve Bank 2008).

1.5 INTEREST RATES AND INFLATION

From 2004, inflation was within the 3 percent to 6 percent target band. However, annual CPIX inflation breached the target band in April 2007 (figure 1.8). This was a result of rising food and fuel prices, as well as general demand pressures. Inflation

has accelerated significantly since then, and by the end of 2008, the CPIX increase stood at 11.3 percent.

Figure 1.8 : CPI and CPIX – Annual Percent Change (1994-2008)



The prime overdraft rate was at its lowest point after April 2005 (figure 1.9). But rising prices led to the Reserve Bank regularly raising rates—with nine rate increases, all of 50 basis points. In 2007, there were three rate increases—in June, August, and October. Following, the latest rate hike, on April 11, 2008, the prime overdraft rate stood at 15 percent.

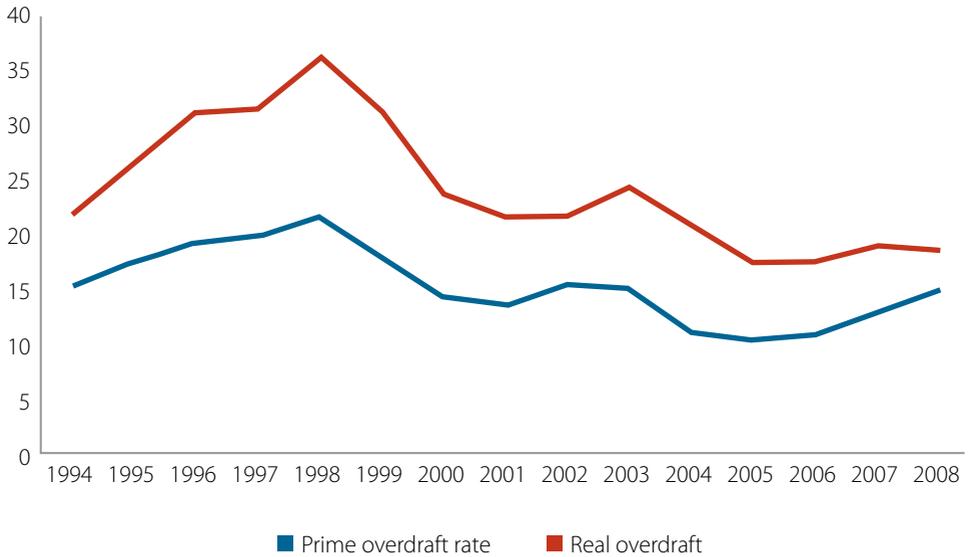
In the period of and immediately prior to the 2008 Enterprise Survey, interest rates were rising at the same time that firms were becoming ever more reliant on bank credit to finance their investment programs. At the time of the survey, in the second half of 2007 and the first quarter of 2008, rising interest rates, combined with the banks becoming more circumspect in their lending policies following the passing of the National Credit Act, were beginning to restrict demand for credit.

1.6 EXCHANGE RATE

In the years before the Investment Climate Survey of 2003, there was a major depreciation of the currency (2000-02), followed by a significant appreciation (2002-04). Since 2004, there has been a decline in the value of the currency, followed by a mild appreciation (figure 1.10). The real effective exchange rate increased every year to the end of 2007, by 2.6 percent and the real exchange rate for 2007 was 3.4 percent higher, on average, compared to 2006 (South African Reserve Bank, 2008). The nomi-

nal exchange rate experienced a mild depreciation of 0.4 percent in the last quarter of 2007.

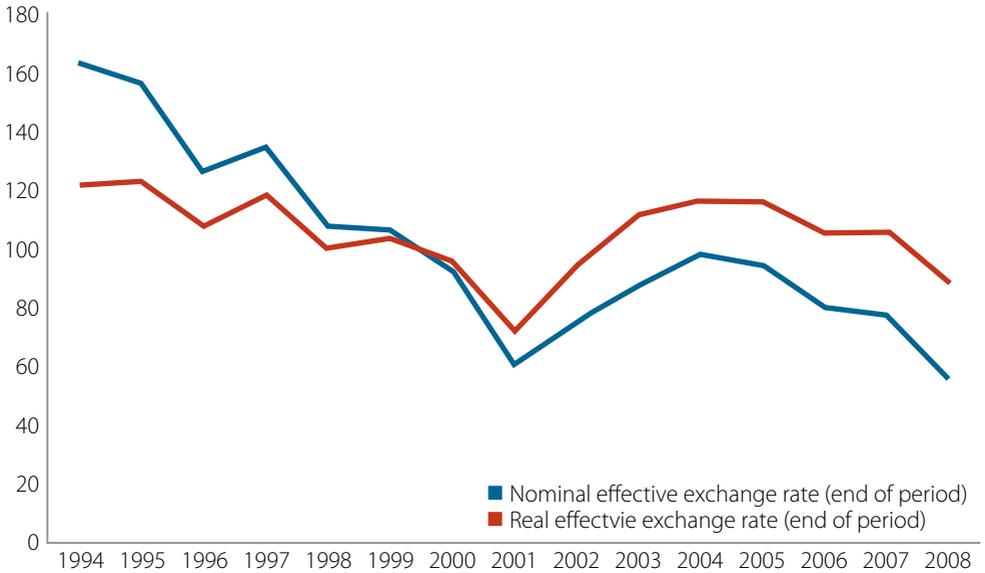
Figure 1.9 : Prime and Real Overdraft Rates, 1994-2008



The period before the 2003 survey was therefore marked by considerable volatility (figure 1.11). This was reflected by survey respondents rating the exchange rate as the second most serious constraint to enterprise operations and growth. Volatility has been much less pronounced since that time. However, the real exchange rate is still quite volatile and remains subject to rapidly shifting market sentiment reflecting both economic and political factors.

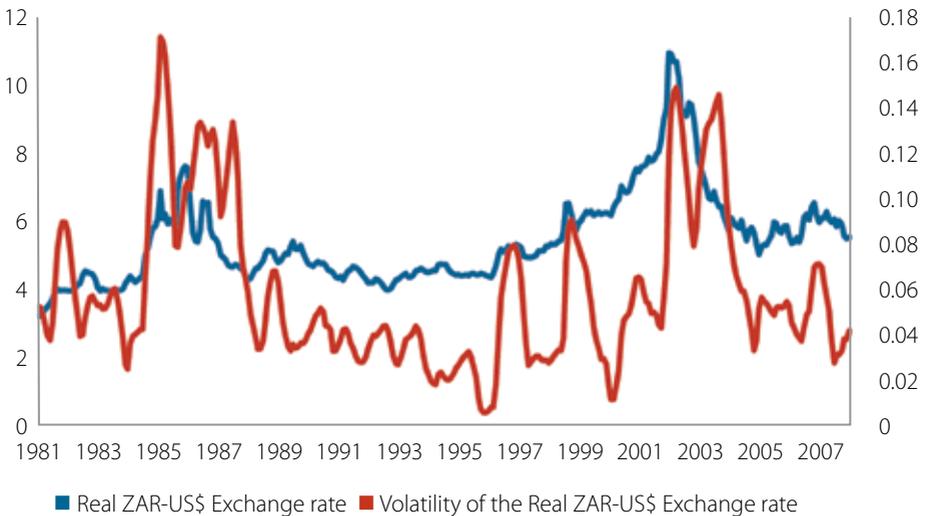
South Africa has run a persistent and increasing current account deficit. In the first decade after 1994, deficits persisted, but were always below 2 percent of GDP. In 2004, the deficit rose to 3.2 percent of GDP, and has increased steadily since then. In 2007, the deficit was 7.3 percent of GDP.

Figure 1.10 : Nominal and Real Effective Exchange Rates, 1994-2008.



Sources: <http://www.resbank.co.za/economics/histdownload/histdownload.htm>

Figure 1.11 : Volatility of the Real ZAR-US\$ Exchange Rate



The deficit is funded by portfolio inflows. However, the large inflow required to finance the current account deficit renders the country vulnerable to the risk of its sudden reversal. The Rand is particularly vulnerable to an emerging market crisis or a downturn in commodity prices, which would have an immediate impact on the value of the currency. However, this may be mitigated by more positive factors, such as the low levels of debt¹⁰.

1.7 POLICY DEVELOPMENTS

In this section we briefly describe developments in government economic policy in the period since the first investment climate assessment. The focus is on economic policy changes that have a direct impact on the investment climate. A key development was the formulation of the government's overall approach to growth in what is known as the Accelerated and Shared Growth Initiative for South Africa (ASGISA). There were also some developments in particular areas of economic policy.

1.7.1 Accelerated and Shared Growth Initiative for South Africa

Launched in February 2006, the ASGISA became the primary reference point for government policy and statements on the economy. Rather than a new program, ASGISA has been formulated as an initiative – a coming together of existent program combined with aspirations for improved delivery so as to achieve both higher and more equitable growth. Launched at a time when the growth rate was accelerating and sentiment was favorable, ASGISA set a two-phase growth target: in the first phase between 2005 and 2009 of 4.5% or higher and in the second phase between 2010 and 2014 of a minimum of 6%. ASGISA also aimed for more balanced growth. This has two dimensions. First, reduction in the rising trade deficit through an expansion of exports and second, noting that one third of South Africans have not yet benefited from growth, “[bringing] this sector of the population into the mainstream economy...”.

The framework singles out six areas as targets of government action to facilitate growth: (1) currency appreciation and volatility ; (2) skills shortage; (3) the capacity and efficiency of the national logistics system; (4) barriers to entry and limits to competition in industry; (5) the regulatory environment and the burden it imposes on small and medium businesses; and (6) deficiencies in state organization, capacity and leadership. The set of interventions that the framework lists include: (a) expanding

¹⁰ The recent assessment by the IMF directors noted, “...that the widening current account deficit and high reliance on portfolio inflows have raised vulnerability to external shocks. However, they believed that the country's strong fundamentals should limit the adverse impact of these shocks on the economy.” (IMF 2007)

government investment on infrastructure; (b) promoting acceleration of growth in selected sectors; (c) promoting education and skills development; (d) enhancing youth development and BEE and improving the regulatory environment for small businesses; (e) implement strategies to reduce the volatility and overvaluation of the currency; (f) and improve in the quality of governance in terms of efficiency and delivery.

1.7.2 Industrial policy

A related major development was the reformulation of industrial policy. A National Industrial Policy Framework (NIPF) with an accompanying “plan of action,” Implementation of Government’s National Industrial Policy Framework: Industrial Policy Action Plan (IPAP) was approved by Cabinet in August 2007. The NIPF prioritized five broad sectoral groupings: natural-resource base sectors; medium technology sectors (including downstream beneficiation); advanced manufacturing sectors; labor intensive sectors; and tradable services.

The IPAP identified what it termed “...four lead sectors that currently form the central focus for the implementation of NIPF” (IPAP: 4): capital/transport equipment and Metals; automotive assembly and components, chemicals, plastic fabrication and pharmaceuticals; and forestry, pulp and paper, and furniture. In addition to the four lead sectors, the IPAP also identifies the three sectors that were selected by ASGISA “for immediate and special attention.” In respect of these three sectors, the momentum of the implementation under ASGISA will be maintained: Business Process Outsourcing and Offshoring (BPO&O); Tourism, and Biofuels. For each of these lead sectors, there exist programmes for action – projects, desired outcomes, processes, engagement of other departments and specified timelines (IPAP, 2007: 7-8; 10; 12; 14). In addition, a number of other sectors were identified that would receive support: Clothing and textiles; Diamond beneficiation and Jewellery, Agro-processing; Film and Television, and Crafts. Finally, the IPAP proposed the future development of more comprehensive sector strategies for: Mining and mineral beneficiation, Agriculture/ Agro-processing, ICT (services and products), and Creative industries.

1.7.3 Trade Policy and Competition Policy

There has been very little in the way of tariff reform since first assessment. However, there has been a steady expansion in the bilateral trade programme. Of most importance, in this regard, was the ratification of the Trade, Development and Cooperation Agreement with the European Union ratified in May 2004. Under this agreement, tariffs are to be reduced to zero on most manufacturing and agricultural goods by

2012. In July 2004, the African Growth and Opportunity Act (AGOA) which granted preferential access to the US market until 2008, was extended to 2015. A preferential trade agreement was signed between the South African Customs Union (SACU) and Mercosur in April 2005 and further discussions ensued. Formal trade negotiations were commenced with China and India in 2005. A free trade agreement between SACU and the European Free Trade Association (EFTA) was agreed in 2006. From January 1, 2007 clothing and textile imports from China were subjected to quotas.

There were no changes to the legislation in respect of competitions policy. However, the reach and effectiveness of the competition authorities advanced significantly. All mergers and acquisitions are registered at the Competitions Tribunal and this constitutes a large part of the work of the tribunal. There were a number of major cases in regard to monopoly pricing. In addition, there has been a notable increase in the number of restrictive practices referred to the Tribunal. This follows a growing reputation of the tribunal for effectively pursuing anti-competitive practices combined with a corporate leniency programme allowing for plea bargaining.

The Competitions Commission has also become far more effective. As it has become better resourced and increased in confidence, as opposed to solely acting on referrals, the Commission is now taking a much more proactive stance. The Commission has turned its attention to certain practices such as bid-rigging which adversely affect growth and development. It has also prioritized investigations into certain sectors that are considered important for growth, employment and poverty alleviation. These sectors are in line with AsgisSA and the National Industrial Policy Framework. There have been particular successes in food, intermediates and pharmaceuticals as well as other products.

The scope and effectiveness of anti-competitive strategies expanded steadily during this period with consequent impact on investment. This may be particularly significant in respect of foreign investment.

1.8 CONCLUSION

This chapter has reviewed trends in key macroeconomic indicators over the past decade with a focus on what happened since the first assessment. It has also described briefly major developments in government economic policy, with a focus on changes that have a direct bearing on the investment climate, namely, the launching of ASGISA, the reformulation of industrial policy, and developments in trade and competition policies.

In terms of trends in macroeconomic indicators there has been a significant increase in output growth since the first assessment. Fixed investment has risen strongly and has been the principal factor accounting for growth. The underlying sectoral patterns of growth and investment have not altered, with a continuing trend toward non-tradables (services, construction, and electricity). At the end of 2007, when the 2008 Enterprise Survey was about to start, investor sentiment had declined significantly. This was notably on the back of political developments and the electricity shortfalls. Growth then slowdown in 2008 before the economy contracted under the weight of the global recession in the first half 2009. As the economy starts to recover, the rate of increase in investment will also moderate, but will remain relatively high, supported by increased state investment, principally on infrastructure. Following declines in consumer expenditures, fixed investment as a share of GDP may rise to further—albeit at a more moderate rate.

The increases in investment resulted in corporate South Africa drawing on its savings. Corporate savings fell to very low levels leading to substantially increases in borrowings from the banking sector. While there was some increase in government savings, overall savings declined and was significantly below fixed investment. Domestic investment has increasingly relied on foreign inflows to finance fixed capital investment.

Inflationary pressures breached the target band in April 2007 and have been accelerating since. The South African Reserve Bank had initially responded by successive increases in the interest rate. Higher costs of borrowing, together with more circumspect lending policies on the part of the banks, led to the demand for credit moderating, beginning in the second half of 2007.

After 2004, the currency experienced a mild depreciation, followed by a mild appreciation. As compared with the exceptional period prior to the last survey, currency volatility was much less pronounced, but remained quite volatile. In the light of the increasing current account deficit and domestic and regional political uncertainties, it remains vulnerable to market sentiment.

Overall, the economic scenario that appeared increasingly promising has significantly receded. This Enterprise Survey of 2008 was undertaken at a time when expectations for growth and investment declined.

CHAPTER 2

Barriers to International Integration

2.1 INTRODUCTION

There is significant scope for the growth of manufactured exports and inward FDI in South Africa, which is badly needed for South Africa to achieve its strategic job creation and poverty reduction targets. One of themes of the chapter is that the trade liberalization measures of the early to mid-1990s provided impetus to the expansion of manufactured exports. While the effects (on exports) of the competition policy reforms of 1998 have not been assessed empirically, it is also likely that the new competition laws reinforced the impact of the trade policy reforms of the 1990s in as far as they are likely to have reduced entry barriers to domestic industry.

Part of the reason that openness to trade and lower entry barriers to domestic industry help promote export growth is that they reduce intermediate input costs. They also generate productivity growth by improving domestic allocative efficiency and by providing greater incentives for innovation by domestic firms. Indeed, South Africa's recent experience is a classic case of the linkage from greater openness to trade, to greater domestic product market competition, to higher aggregate productivity and more exports. This linkage could be strengthened by a more activist competition policy of the kind advocated by the international panel of experts on ASGISA (Hausman 2007).

There are also signs that the linkage is potentially drawing strength from the South African labor market getting more flexible in recent years. This is important because

South African industry is far more capital intensive and skill intensive than the rate of unemployment of unskilled labor in the country would seem to suggest.

Other factors in the current business environment in South Africa—that have contributed to this apparent distortion in the factor content of production and exports include the prevalence of crime, inadequate transport and power infrastructure, limited small business access to finance, and skills shortages. These will be discussed separately in chapters 3 through to 6.

2.2 SOURCES AND DATA

This chapter, just like all the others to follow, is based on a systematic review of empirical evidence in the South African development policy literature, but draws as much on first-hand analysis of data from the World Bank's South Africa Enterprise Survey of 2008 the South Africa Productivity and Investment Climate Survey of 2003. In the analysis the datasets from these surveys have been pooled with those from a peer group of countries from the broader World Bank Enterprise Survey (WBES) cross-country database. This database is maintained by the Enterprise Survey Unit of the World Bank and consists of returns to standardized surveys of more than 100 countries.

The World Bank Enterprise Survey of South Africa (2008)

The Enterprise Survey of 2008 was conducted by the survey firm EEC Canada on behalf the World Bank for the purpose of informing this assessment, and covered a sample of 1,056 business establishments sampled from four locations: Johannesburg (68 percent), Cape Town (14 percent), Port Elizabeth (6 percent), and Durban (12 percent). About two-thirds of the sample was drawn from selected manufacturing industries, as listed in table 2.1. The balance was drawn overwhelmingly from retail services, which represented about 22 percent of the total sample. All but 120 of the 1,056 businesses each employed five or more regular, full-time workers, and are distributed by employment size groups as follows: five to 19 workers (40 percent), 20 to 99 workers (39 percent), and 100 workers or more (21 percent). These were all selected using a stratified random sampling scheme, with strata defined by employment size group, the four locations and the industries listed in table 2.1.

All of the 120 microenterprises, employing less than five workers, were selected from Johannesburg. In addition to data on firms, the survey also collected labor market information on a sample of 1,732 workers selected from about one-third of the

manufacturing establishments in the enterprise survey sample. About 12 percent of enterprises in the sample were foreign invested.

The World Bank-DTI Productivity and Investment Climate Survey of South Africa (2003)

Of the total sample of the Enterprise Survey, 231 businesses were revisits of part of the sample of the Productivity and Investment Climate Survey of 2003. We thus have repeat observations on a range of business environment and business performance variables in a five-year interval over a sizable number of enterprises. The Investment Climate Survey of 2003 was carried out by the survey firm Citizen Surveys of South Africa on behalf of the Department of Trade and Industry of the Republic of South Africa and the World Bank. It covered a sample of 803 businesses, all employing at least five regular, full-time workers and all selected again from Johannesburg (63 percent), Cape Town (23 percent), Port Elizabeth (5 percent), and Durban (9 percent), and predominantly from the manufacturing industries listed in table 2.1 (75 percent), retail and wholesale trade (11 percent), and construction (14 percent). The size distribution of the sample of the Investment Climate Survey was slightly more skewed toward larger businesses employing 100 workers or more, which accounted for 45 percent of the sample.

Survey Instruments

The survey instrument for both the 2003 and 2008 surveys was a written questionnaire that was administered to enterprise managers through-face-to-face interviews. The instruments varied considerably, based on the type of business surveyed. Each variant of the instrument generated information on four broad areas: managers' ratings, on a common scale, of different aspects of their business environment; objective indicators of the various dimensions of the business environment; financial, production, employment, assets, sales, and technological information needed for the measurement of business productivity and growth; and key business characteristics such as business age, form of business organization, and other entrepreneurial characteristics.

Table 2.1: South Africa Enterprise Survey 2008 – Distribution of Sample by Industry

<i>Industry</i>	<i>Number</i>	<i>Percent</i>
Manufacturing (697):		
Food	122	11.55
Textiles	11	1.04
Garments	108	10.23
Chemicals	83	7.86
Plastics and rubber	22	2.08
Non metallic mineral products	8	0.76
Basic metals	2	0.19
Fabricated metal products	109	10.32
Machinery and equipment	34	3.22
Electronics (31 & 32)	22	2.08
Other manufacturing	176	16.67
Construction Services (339):	16	1.52
Wholesale	14	1.33
Retail	229	21.69
Hotels and restaurants	65	6.16
Transport (60-64)	2	0.19
Information Technology	4	0.38
Other Services	25	2.37
Other	4	0.38
Total	1,056	100

2.3 MANUFACTURED EXPORTS AND INWARD FDI

South Africa Needs to Export More, Attract more FDI

With exports and imports adding up to nearly a third of its GDP, South Africa is quite open to trade. South African conglomerates are listed on international stock exchanges, and have invested heavily worldwide. These, along with the fact that a number of multi-nationals have made major investments within South Africa, should make the South African economy “one of the most international in the world”.¹¹ Yet South African industry is not as well integrated to the global economy as those of many comparable economies in East Asia and Latin America. Relative to the size of its economy, South Africa’s exports and inward FDI both fall short of those for other middle-income countries. South Africa also needs to boost its export of manufactures and attract more FDI in order to have a realistic chance of attaining its strategic job creation and poverty reduction goals.

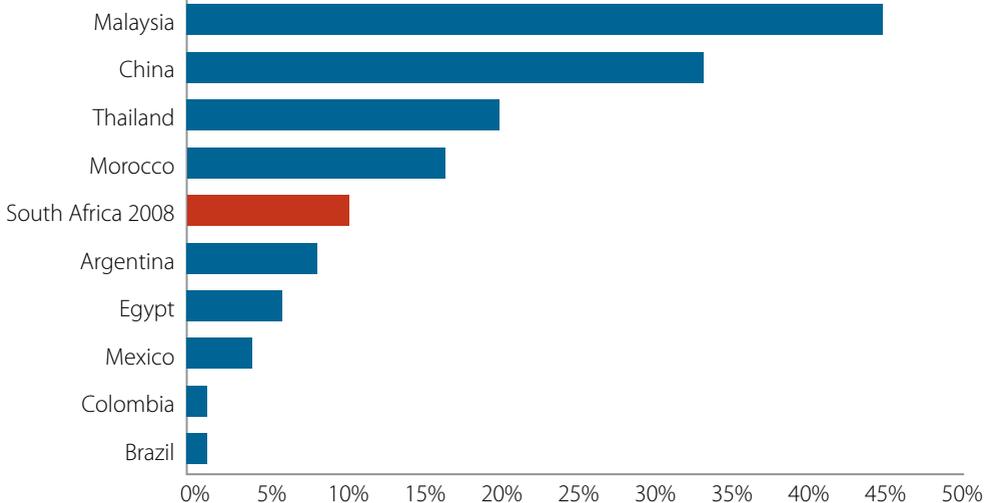
¹¹ This characterization is by Chabane et al. (2003), who point out the series of acquisitions that South African conglomerates made abroad following their primary listing on the stock exchanges in the United Kingdom soon after the African National Congress came to power in 1994. They also observe that inward investment in the form of mergers and acquisitions, though modest by comparison, has also been substantial, including acquisitions of major auto firms by Toyota and acquisitions by U.S. and German firms in the chemicals and textiles industries, respectively.

More inward FDI is needed because of shortfalls in domestic savings due to a secular decline in government savings (Lewis 2002). Boosting FDI is probably the most attractive means of making up for the shortfalls if one welcomes the fall in government savings on grounds of fiscal prudence or possible efficiency gains from a smaller public sector. In addition, FDI is an important vehicle for the international transfer of new technology and know-how, which often has industry-wide and economy-wide productivity spillovers. Fedderke and Romm (2006) provide evidence that these spillovers have been a significant source of recent productivity gains in South Africa.¹²

2.3.1 Scope for Growth in Inward FDI

Yet FDI inflows to South Africa have compared rather poorly with those of many other middle-income economies for the larger part of the past 15 years. Lewis (2002) notes that FDI averaged less than 1 percent of GDP in South Africa throughout the second half of the 1990s, as compared to 2.5 percent for Argentina, Brazil, and Mexico, 4 percent to 5 percent for Hungary and the Czech Republic, and 3 percent to 5 percent for Malaysia, the Philippines, and Thailand. Things have improved since then, with the OECD reporting an average inward FDI of 1.7 percent of GDP for South Africa for 2000-06. However, this still does not compare favorably with the 3 percent to 6 percent FDI rates reported for countries like Chile, Thailand, China, and Malaysia (OECD 2008).

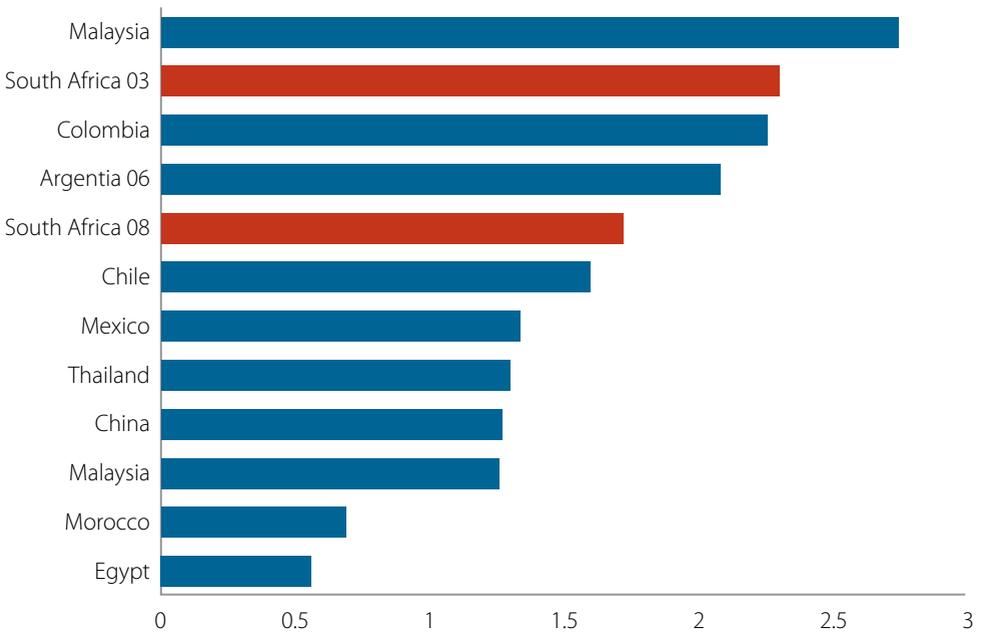
Figure 2.1 : Foreign Invested Enterprises (% of sample)



¹² Fedderke and Romm (2006) also address the potential issue of competition between FDI and domestic investment, showing that, far from “crowding it out,” the FDI that has occurred so far in South Africa has been complementary to domestic investment.

While the World Bank's Enterprise Surveys do not collect data on FDI, they gather information on the equity holdings of foreign investors. These holdings should reflect the cumulative outcome of the record of a given country's industries in attracting FDI over the years leading up to the survey. If South Africa has not attracted as much FDI as another country, this is likely to show up in the percentage of foreign invested enterprises being lower in the South African sample than in samples from the comparator. Based on this interpretation, South African industry has attracted more FDI than its counterparts in most Latin American countries, but less than those in East Asia, as shown in figure 2.1. As OECD (2008) notes, South Africa's current FDI stocks are more concentrated in mining and finance than in manufacturing and the service sectors covered by the Enterprise Survey. One should therefore allow for the possibility that South Africa's ranking as a destination for FDI is understated in figure 2.1, compared to what one would see based on a sample representative of financial and mining firms as well. This is unlikely to be the case, however, since mining and finance are areas of concentration of foreign holdings in most of the comparators as well.

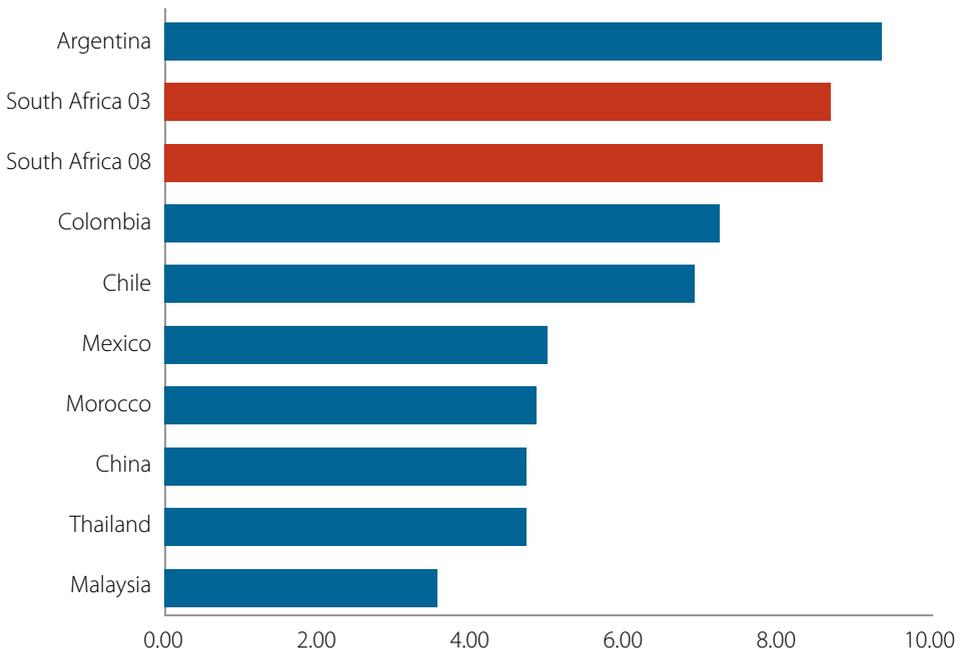
Figure 2.2 : Gross Profits Per Unit of Fixed Assets



Granted then that South Africa has not attracted as much FDI as many in its peer group, are there good reasons to suppose that it could do better in that regard with

some adjustment to its policies or business environment? The Enterprise Survey data suggest that there is at least one such reason, namely, that the expected rate of return to investment is higher in South Africa than that in most of the comparators we have used here. Thus figure 2.2 shows that the average gross rate of profit on fixed capital is higher in South Africa than in most of the comparators, including all of those from East Asia. Figure 2.3 likewise suggests that the marginal revenue productivity of capital is higher in South African enterprises. Neither of these patterns seems to be short term, as it holds in both the 2003 and 2008 surveys. Nor is it new. For example, Fedderke et al. (2006) report that South Africa's price-cost margins are twice those of comparable industries in the United States, while Aghion et al. (2007, 2008) show that price cost margins in South African industries are higher than those in their counterparts in countries that have attracted more FDI than South Africa.

Figure 2.3 : Value Added Per Unit of Fixed Assets



Impediments to inward FDI

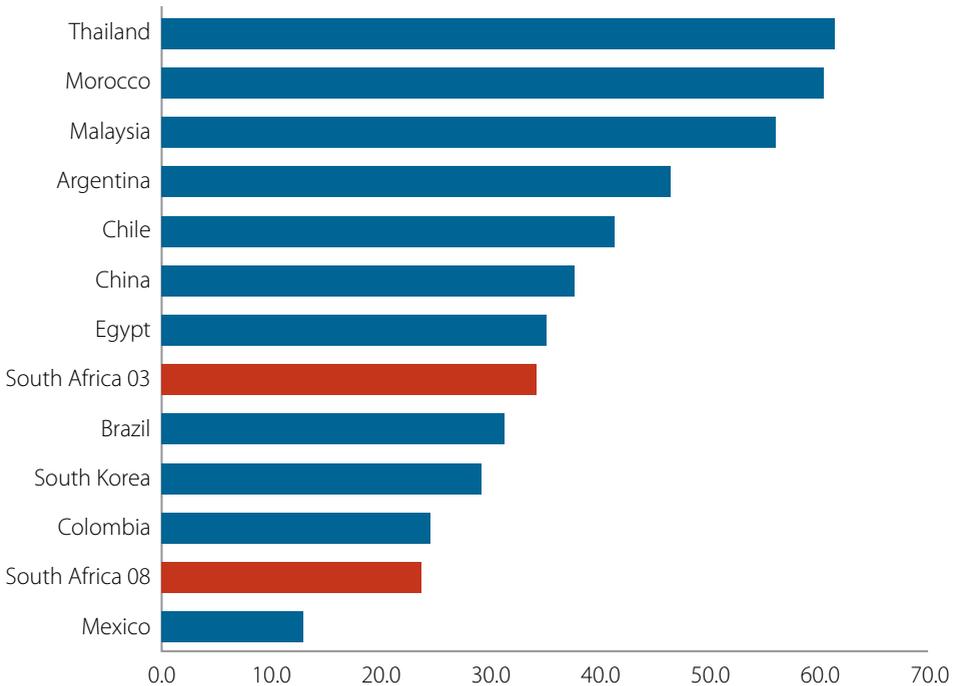
What is it that prevents potential foreign investors from taking advantage of the higher rates of return of South African industry, especially in light of the country's

comparatively high scores on a wide range of World Bank Doing Business indicators and other business environment indices such as the OECD Product Market Regulation (PMR) indicator for foreign ownership (OECD 2008)? Part of the answer, supported by evidence in Fedderke and Romm(2006), is that South Africa is a riskier destination for foreign investment than many of the comparators. While confirming that FDI does respond to changes in the net rate of return, the paper by Fedderke and Romm also highlights that investors discount profits for all kinds of risks, particularly political risks, for which figures 2.2 and 2.3 do not allow. The paper also shows that taxes, wages, the availability of skills, and trade policy have all had some influence on inward FDI in South Africa. We will discuss the mechanisms that bring about these influences, as well as those of other factors such as crime, later in this chapter and in the next one.

2.3.2 Scope for Growth of Manufactured Exports

Before doing so, however, we need to provide an overview of South Africa's performance in terms of the second, and arguably more important, dimension of international integration, namely, trade. South Africa's exports and imports are quite high relative to its GDP, and have become increasingly more so as a result of the significant growth of manufactured exports following the trade liberalization of the mid-1990s. However, as Edwards and Alvers (2006) note, the ratio of trade to GDP has not reached the levels of East Asia or of the more open economies in Latin America, where manufacturing industries are far more export oriented than they are in South Africa, and where manufactured exports are far stronger drivers of growth. In the Enterprise Survey data, the lower export orientation of South African manufacturing industries shows up as a smaller export market participation rate for the South African sample than samples from its East Asian and Latin American comparators. Indeed the proportion of firms that export in South Africa is smaller than that in all the comparators shown in figure 2.4, save one¹³.

13 The contrast between the proportions of exporters in the 2008 and the 2003 samples underscores the need for caution in comparing means or measures of dispersion between the two samples. Compared with the 2008 sample, large firms were oversampled in the 2003 survey. For example, 45% of the 2003 sample employed more than 100 workers, while the proportion of enterprises in the 2008 sample which did likewise was only 16%. There were also major differences in the distributions of the two samples across activity sectors. We therefore refrain from comparing unconditional means between the two samples, limiting any comparisons to those conditioned on business size as well as line of activity. Indeed, we make all cross country comparisons (of unconditional means) relating to South Africa based on the 2008 sample, but at the same time confine ourselves to cases where our conclusions would still hold if we had used the 2003 South African sample values in the comparison. In this particular case of the proportion of the exporters, the 2008 sample value of 24% is closer to the aggregate export orientation of manufacturing production of 28% for the survey year, than was the 2003 sample value of 34% to the aggregate manufacturing export orientation of 22% for 2003. Moreover, the higher proportion of exporters in 2003 sample compared to the 2008 sample reflects the fact that, all else given, large firms are more likely to export in South Africa as is the case in other countries.

Figure 2.4 : Exporters (% of sample)

Again, the important question here is whether South Africa could have exported more manufactures than it actually does if its policies and its business environment were a little different. The Enterprise Survey data suggest that it could have as shown in columns one and five of table 2.2. In both columns, the marginal revenue productivity of capital and the marginal revenue productivity of labor are both significantly higher among exporters than they are for non-exporters in the same sample. Coupled with what we read in columns 4 and 8 of the same table, this suggests that there is some scope for increasing fixed investment and employment in production for exports. While part of the productivity premium of exporters seems to be temporary, much of it has persisted between the two Enterprise Surveys, and therefore suggests that there are some impediments to the flow of resources into exporting activities.

Table 2.2: OLS Regression of Average Revenue Productivity of Capital and Labor

	Dependent =Log(value added/fixed assets)			Dependent =Log(value added per worker)		
	(1)	(2)	(3)	(4)	(5)	(6)
Exporter	0.259 (1.87)	0.095 (2.24)*	0.076 (1.64)	0.716 (8.55)**	0.717 (8.54)**	0.310 (3.61)**
Log (fixed assets/wage bill)		-0.918 (77.54)**	-0.917 (77.18)**		-0.006 (0.26)	-0.026 (1.27)
Log (employees)			0.017 (1 .09)			0.276 (12 .00)**
Constant	0.736 (9.77)**	0.856 (36.75)**	0.799 (13.95)**	2.739 (70.32)**	2.735 (65.75)**	1.951 (25.65)**
Observations	633	633	633	1052	1052	1052
R-squared	0.01	0.91	0.91	0.07	0.07	0.18

Absolute value of t-statistics in parentheses – * Significant at 5% level; ** Significant at 1% level

Barriers to Growth of Manufactured Exports

What could these impediments be? Edwards and Alves (2006) and Edwards and Lawrence (2006) make a list of barriers to the growth of manufactured exports which includes high import tariffs, transport bottlenecks, skill shortages, and currency volatility. With the possible exception of currency volatility¹⁴, there is broad consensus on the importance of these factors. In particular, there is robust evidence that recent growth in South Africa's manufactured exports has been driven very much by falls in input costs and gains in productivity that the trade liberalization measures of the first half the 1990s made possible (Fedderke and Vaze 2001; Edwards and van de Winkel 2005; Edward and Lawrence 2006).¹⁵ This suggests that there could be significant productivity gains from greater competition.¹⁶

Labor Cost and Productivity

The scale of export growth that could come out of such reforms will depend on the size of the productivity gains from the reforms and on wage developments. As Edwards and Golub (2003, 2004) show, the growth of South Africa's manufactured exports in the 1990s was fueled by steady decline in unit labor costs, defined as the ratio of wages (per employee) to labor productivity (or output per employee). This decline occurred as a result of growth in labor productivity. Jonsson and Subramanian (2001), and Aghion et al. (2008) show that the increases in labor productivity were

14 Raddatz (2007) has shown that the Rand's volatility could not have been a major influence on South African exports generally in recent years.

15 For example, Edwards and van de Winkel (2005) estimate that import tariffs on manufactures fell from an average of 20 percent in 1990 to 10 percent in 2002. This was associated with an increase in the percentage share of imports in domestic expenditures on manufactures from 17 percent in 1990 to 28 percent in 2000, and with an increase in the share of exports in manufacturing output from 12 percent to 23 percent during the same period.

16 Edwards (2005) is the latest assessment of the extent to which South Africa has liberalized its trade policy since 1990, and revisits earlier evaluations of tariff reforms by Fedderke and Vaze (2001), and Rangasamy and Harmse (2003).

made possible mainly by the trade liberalization measures of the period. However, large as these increases were, they were not sufficient to eliminate the advantage that many of the countries represented in figure 2.4 continue to have over South Africa in unit labor costs. In figure 2.5, we compare average unit labor costs for the Enterprise Survey samples of those countries with those for the South African samples. Not surprisingly, the ranking of South African firms relative to any of the comparators by unit labor costs that we see in figure 2.5 is almost an inverse mirror image of the ranking by the export market participation rates shown in figure 2.4.¹⁷

That labor productivity is high for its peer group can be seen in figures 2.6 and 2.7. In figure 2.6, we compare kernel estimates of the density of labor productivity in the South African sample with those samples from three other countries, showing that South African average labor productivity is higher than that of Mexico and Malaysia, and comparable to Chile. In figure 2.7, we present the full lineup of the peer group, which shows that South Africa's labor productivity is one of the highest in the group even topping that of countries like China, Brazil, and Poland. But the effect of South Africa's labor productivity advantage on its unit labor costs is offset by South Africa's wages also as shown in figures 2.7 and 2.8).¹⁸

17 Average unit labor costs as shown in figure 2.5 are 5% higher for the 2008 sample than for the 2003 sample. This is without taking into account the fact that the 2003 survey oversampled large firms relative to the 2008 sample as described in footnote 5. When we control for differences in size and sector distribution, average unit labor costs in 2008 are nearly 9% larger than average unit labor costs for the 2003 sample, which is consistent with the proportion of exporters being smaller in the 2008 sample.

18 It is important to note that there is no statistically significant difference in average labor productivity between the 2003 and 2008 South African samples (used in figure 2.7) when we control for differences in the size and sector distribution of the samples. On the other hand, the average wage rate is in fact higher for the 2008 sample (figure 2.8) controlling for size and sector. Together, these results are consistent with average unit labor costs being higher in the 2008 sample when we control for size and sector.

Figure 2.5 : Unit Labor Costs

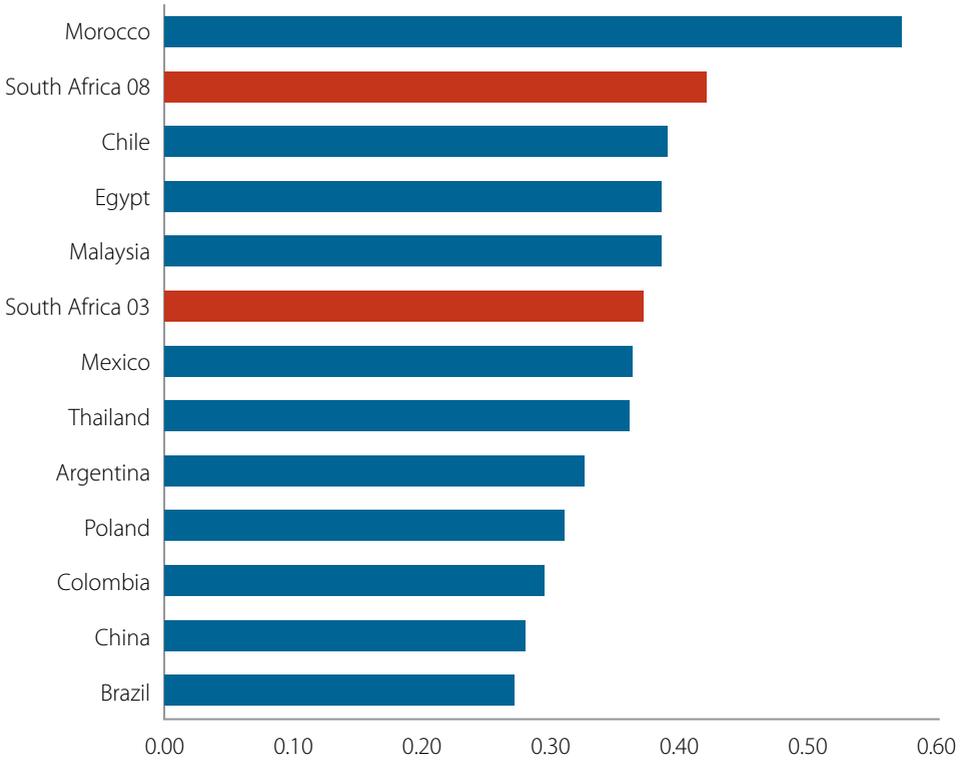


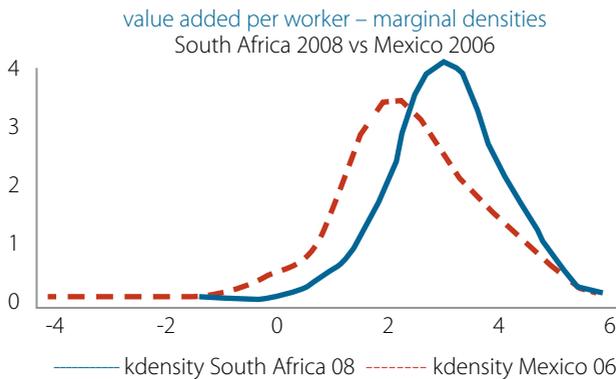
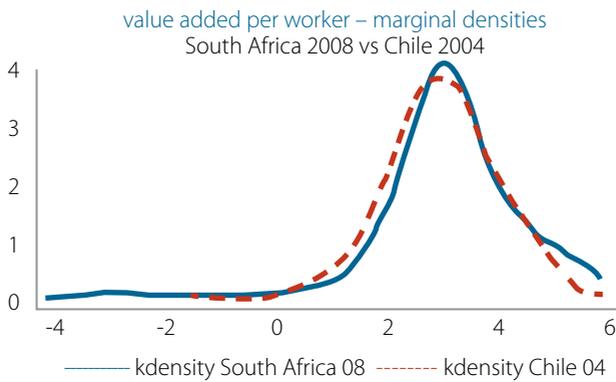
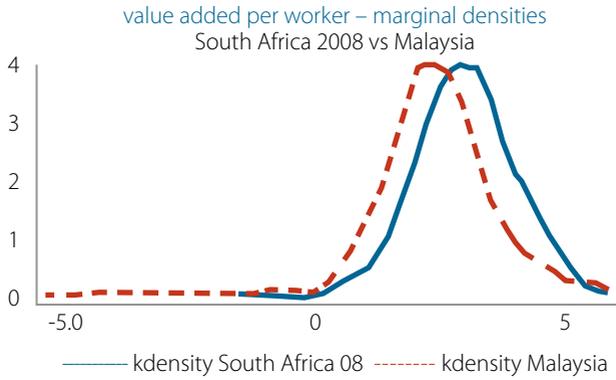
Figure 2.6 : Kernel estimates of density of log value added per worker

Figure 2.7 : Annual sales per worker and annual wages per worker ('000 USD)

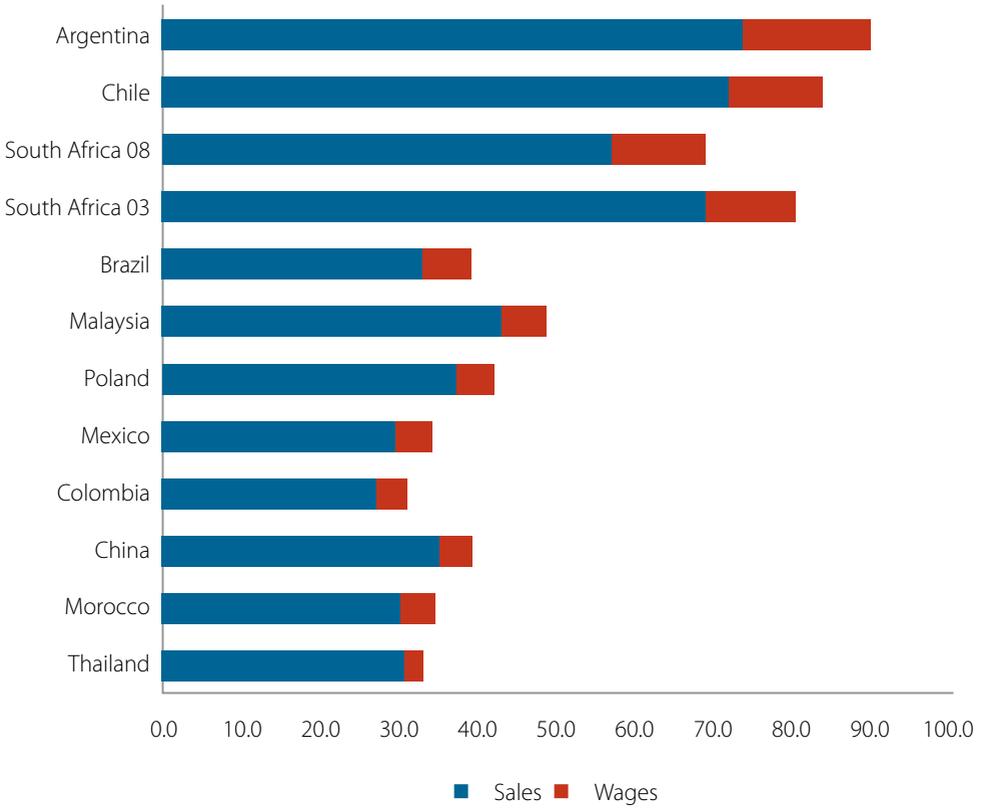
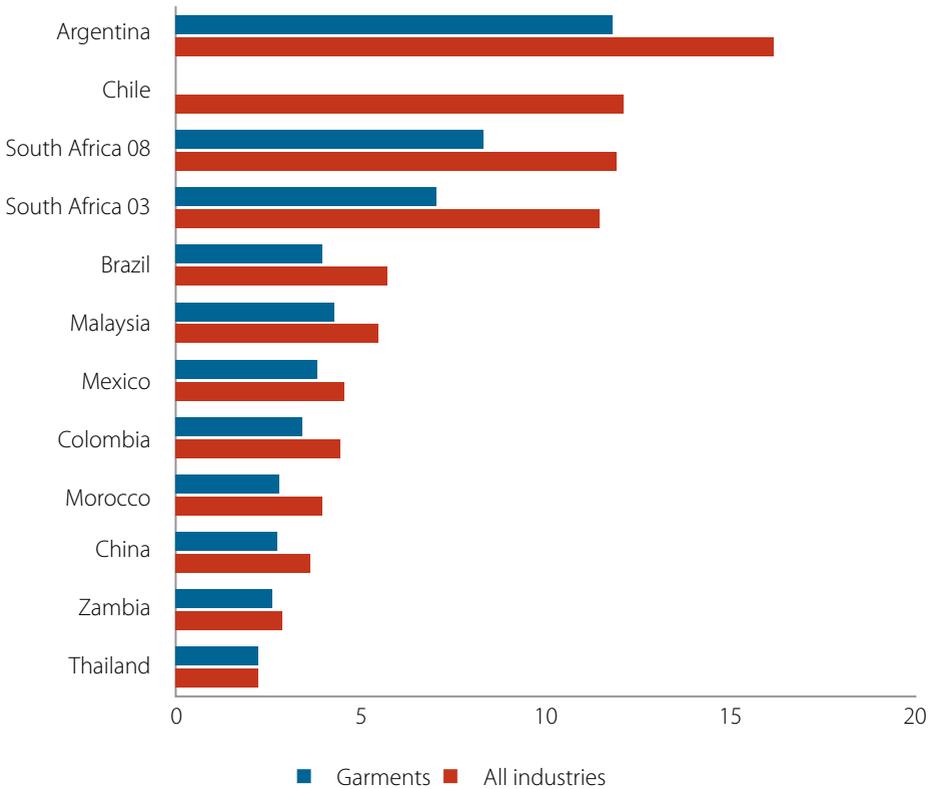
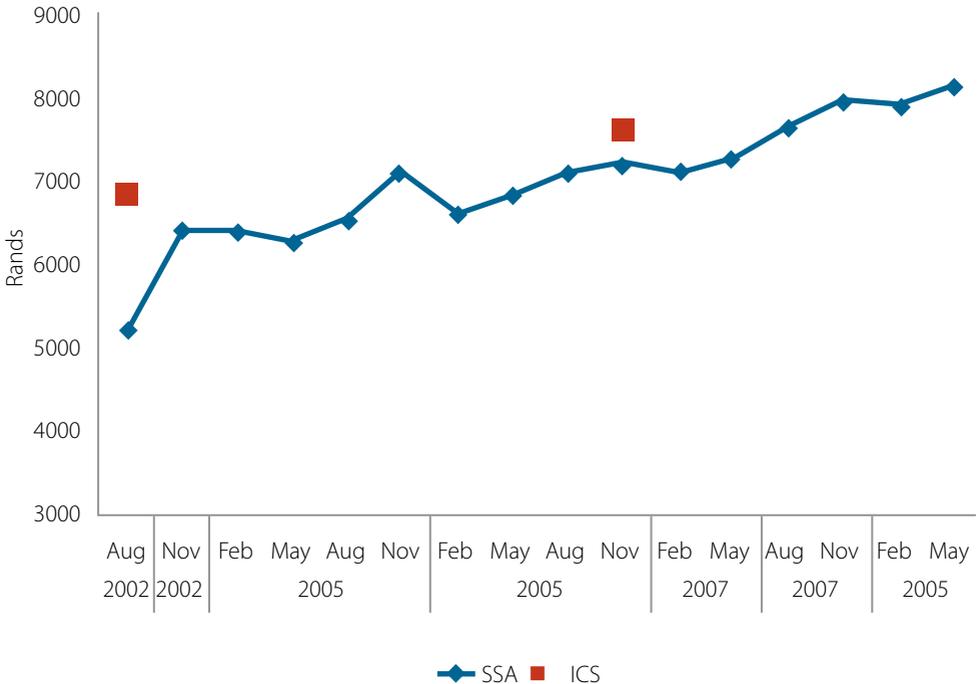


Figure 2.8 : Annual wages per workers in 2005 USD ('000)

We should underscore that figure 2.8 compares average wages sampled primarily from the manufacturing sector in each country, to the exclusion of minerals, agricultural products and most of the service sector. No claim is therefore being made here on how the average economy wide wage rate in South Africa compares with those of others in its peer group. We nonetheless believe that confining the comparison to manufacturing wages is justified since our concern here is with unit labor

costs as proximate determinants of manufactured exports. We should also note that, within manufacturing, the sample frames of the enterprise surveys are censored so as to exclude businesses employing less than five workers in all countries. The wage data used in figures 2.7 and 2.8 are therefore essentially limited to the formal labor market and are likely to overstate the average manufacturing wage rate, which is contrasted with the Enterprise Survey sample for South Africa in figure 2.9, which compares monthly earnings as computed from labor force data from Statistics South Africa with monthly wages as computed from the Enterprise Surveys (ICS).

Figure 2.9 : Monthly Wage comparisons (in 2005 Rands): Enterprise Surveys (ICS) and Labor Force Surveys (SSA)



Source: Labor Force Survey Wages retrieved from Statistics South Africa (SSA).

Third, it is important to note that the average wage rate reported in figure 2.8 lumps together workers across skills grades. It does not therefore necessarily tell us whether South Africa’ average wage rate differs from that of another country because a worker

of a given skills set would earn at different rates in the two countries for the same kind of work and the same amount effort, or because the average South African worker is more skilled than the average worker in the other country. If we need to distinguish between these scenarios in any given pair wise comparison South African wage rates based on figure 2.8, we need to make some assumption about cross country skills differences. It is quite possible that average skills levels of South African manufacturing workers are higher than those in countries represented in figure 2.8 where the average wage rate is lower than South Africa's. But a reasonable assumption seems to be that not all of the South African wage premiums shown in the chart can be attributed skills gaps. This assumption is supported by the fact that the wage line up shown in figure 2.8 for manufacturing firms as a whole holds up in the least skills intensive industries such as garments as well as in more skills intensive ones such as the chemicals industry.

To the extent that this assumption is true, part of the wage gap between South Africa and comparators with lower wage rates as shown in figure 2.8, is the additional payment that South Africa firms would make for the same kind of work and effort over and above what their counterparts in the comparators would. Banerjee et al. (2006) and many other experts suggest that a large part of the explanation for this additional is the effect that South Africa's lack of high density urban centers and the settlement patterns inherited from the apartheid era has had on reservation wages by making transport and commuter cost of employers higher than in most comparators.

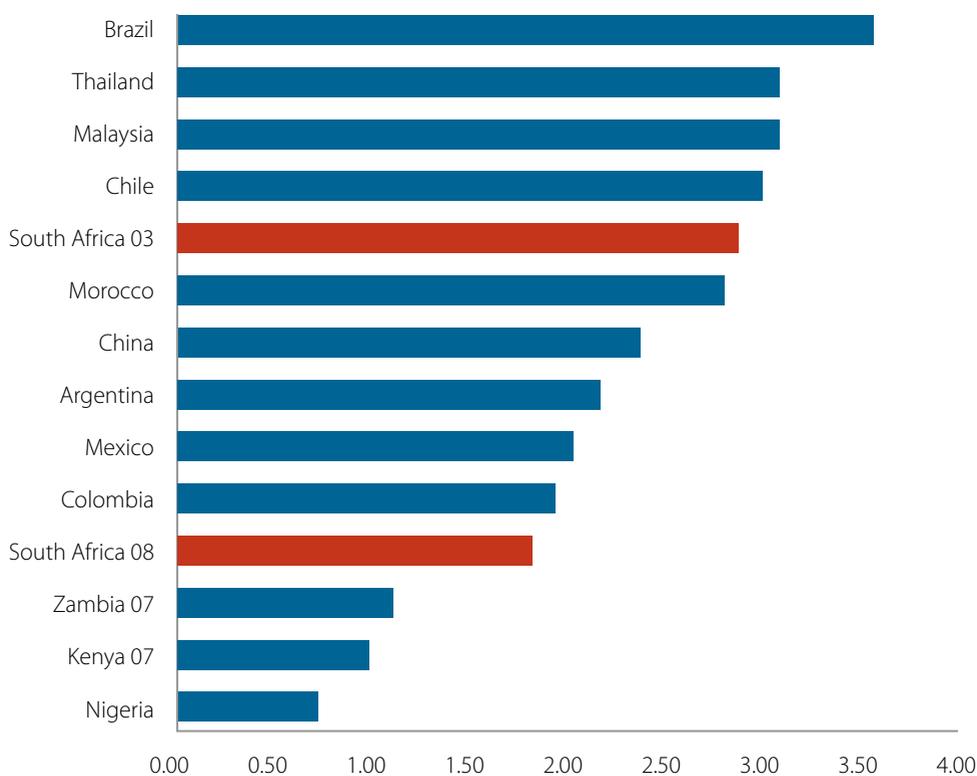
2.4 TRADE, COMPETITION, ALLOCATIVE EFFICIENCY, AND INNOVATION

2.4.1 Aggregate Productivity and Allocative Efficiency

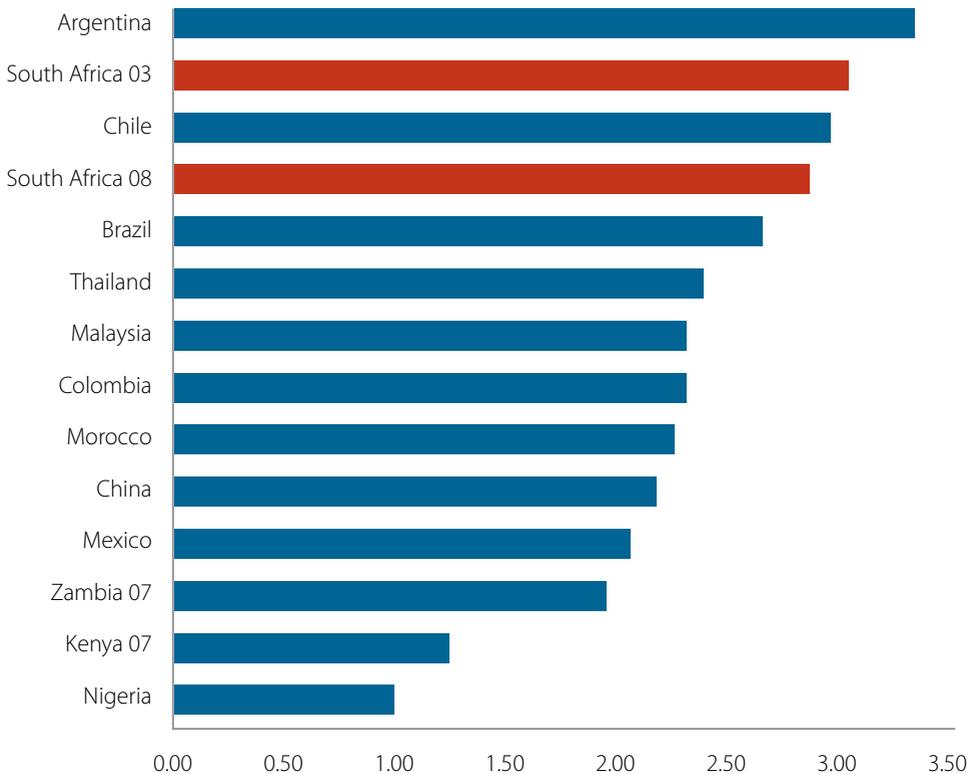
A problem with recent labor productivity growth in South Africa is that it has been driven largely by the growing capital intensity of production. As a result, although labor productivity is high in South African industry by the standards of the peer group included in figure 2.7, it is also one of the lowest for the group when we allow for the fact that production is more capital intensive in South Africa than in most other members of the group. This can be seen in figure 2.10, where the (output-weighted) average total factor productivity of the South African sample is shown to be lower than that for other members of the group. South Africa's position in the lineup shown in figure 2.10 is consistent with the finding in Edwards and Golub (2003) that the growth of TFP in South African industry has generally lagged behind that in comparable economies since the 1970s. In this section we highlight some of the reasons for relatively low TFP.

The aggregate TFP we show in figure 2.10 is a market-share-weighted mean of the TFP of individual enterprises. This means that any factor that influences aggregate TFP in an industry operates either through its effect on the allocative efficiency of the industry, or by influencing the TFP of each producer within the industry—often known in this context as “within-firm” TFP. By the allocative efficiency of the industry, we mean here the covariance between market shares and “within-firm” TFP.¹⁹ Aggregate TFP is higher when the allocative efficiency of an industry is higher, that is, when the correlation between enterprise productivity and enterprise market share is higher within the industry. Also, for a given level of allocative efficiency, aggregate TFP is higher the higher the (unweighted) average within-firm TFP in the industry.

Figure 2.10 : Aggregate TFP



¹⁹ The term allocative efficiency is used here rather unconventionally to refer to the covariance between market share and within firm productivity in the Olley-Pakes decomposition of industry-level productivity as used in Olley and Pakes (1996). The link between this and the conventional sense of the word as in chapter 3 is that, empirically, the covariance term of the Olley-Pakes decomposition tends to be lower where the misallocation of resources due to market distortions is higher. More fundamentally, the removal of the distortions increases aggregate output and, often, aggregate productivity by essentially reallocating market shares and resources from low-productivity firms or uses to high-productivity ones.

Figure 2.11 : Average within firm TFP

In figure 2.11, we compare the within-firm average TFP of the South African Enterprise Survey sample with those of samples from the comparators shown in figure 2.10.

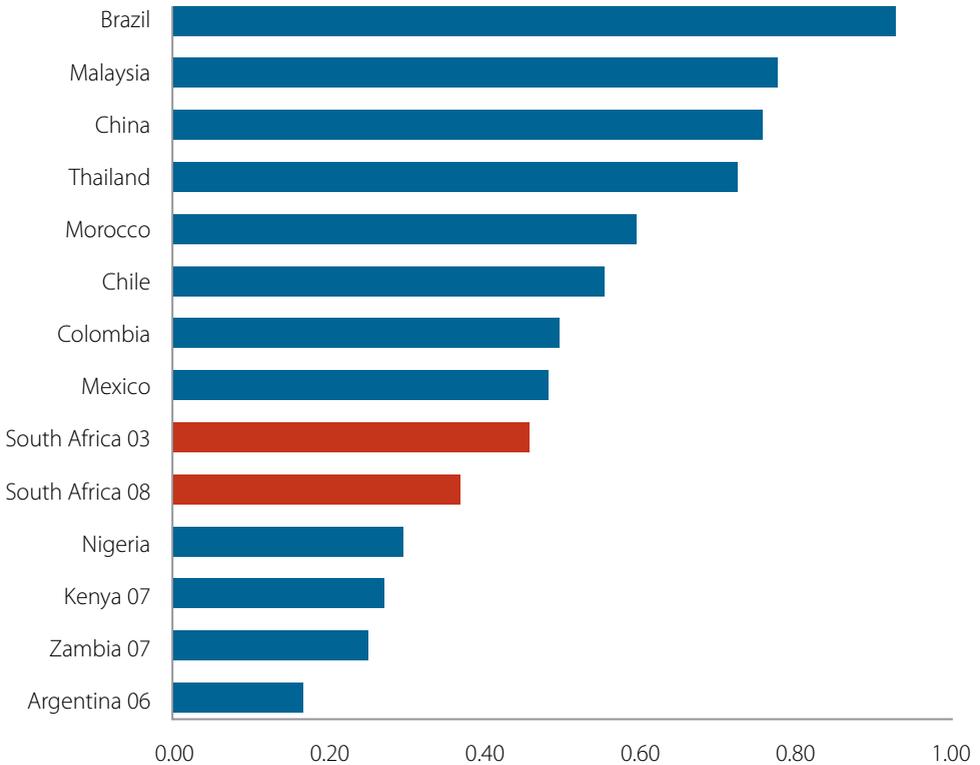
The contrast between figure 2.10 and figure 2.11 in terms of South Africa's relative position can hardly be sharper. Figure 2.11 shows that the within-firm TFP of South African firms is one of the highest for the group. That aggregate TFP is lower in South African industries than it is in those in its peer group as shown in figure 2.10 cannot therefore mean that South African enterprises are inherently less productive than their counterparts in the peer groups. On the contrary, figure 2.11 indicates that South African enterprises are more productive than enterprises in most countries in its peer group in the sense that a randomly selection from the South African sample is more likely to operate "on the world technology frontier"--- in the sense of Aghion et al. (2008)--than a similar selection from the combined sample the rest of the peer

group. The reason that aggregate TFP is lower in South African industry than in those of most in its peer group regardless is that the correlation between enterprise productivity and enterprise market share is weaker in South Africa—that is, the allocative efficiency of South African industry is lower (figure 2.12).²⁰

2.4.2 Allocative Efficiency, Industry Concentration, and Competition Policy

As the index of allocative efficiency used in figure 2.12, the covariance term of the Olley-Pakes decomposition of aggregate TFP tends to be lower in industries where incumbent market shares are protected by barriers to entry or by protection from imports. Because industries tend to be more concentrated where entry barriers and trade protection are stronger, the index tends to be lower in more concentrated industries and in less open economies. The comparative picture drawn in figure 2.12 of South African industry in terms of allocative efficiency is therefore consistent with findings that South African industry exhibits far greater concentration of market share than more advanced economies. To give a sense of the degree of concentration we are talking about, Roberts (2004) estimates that the largest four firms in South Africa account for more than half of industry output in 46 percent of the 57 main product groupings in the country. Fedderke et al. (2006) report a higher values for a more inclusive concentration index for South Africa than for the US, and show that the greater concentration of South African manufacturing industries is associated with higher mark ups in South Africa.

²⁰ It is important to note that the large gap in aggregate TFP that we observe between the 2003 and 2008 South African samples (figure 2.10) does not reflect similar differences in within-firm TFP (figure 2.11). While average within-firm TFP is also larger for the 2003 sample, that is only by the relatively small magnitude of 19%, and even this disappears once we control for differences in size and sector distributions between the samples. What this means is that the aggregate TFP gap between the samples seen in figure 2.10 is mainly differences in their allocative efficiency indices as shown in figure 2.12. The question is then whether the smaller covariance term for the 2003 sample means that allocative efficiency (in the sense of the covariance term of the Olley-Pakes decomposition) has deteriorated in South African industry since 2003. The short answer is that it is impossible to tell in the absence of evidence from longer time series data of the kind used in other studies that we have consistently cited in this report to back up any conclusions that we have drawn from the Enterprise Survey on productivity gaps. What we can certainly say based on figure 2.12 is that the allocative efficiency index of either South African sample is smaller than the indices for most countries South Africa's peer group.

Figure 2.12 : Allocative efficiency index – All industry

A positive development is that South African industry has become significantly less concentrated than it was in the early 1990s and earlier (Fedderke and Naumann 2005). Moreover, the decline in concentration has generated significant productivity gains. Based on manufacturing data spanning the period 1970 to 2004, Aghion et al.(2007) show that the increase in competition due to lower concentration has led to significant TFP growth. At least a part of this growth reflects allocative efficiency gains. The origin of these gains is that high industry concentration and high markups normally mean that market shares of incumbents are protected by a combination of barriers to domestic entry and protection from imports. Because the pool of potential entrants often includes operators that are potentially more productive than at least some of the incumbents, entry barriers and trade protection generally weaken the correlation between enterprise market share and enterprise productivity. The other side of this is of course that reduction in either increases the correlation thereby pushing up aggregate productivity.

This association between entry barriers, the distribution of market shares among incumbents, and average within-firm productivity levels is also part of the reason why the promotion of productivity growth has been one of the concerns behind South Africa's competition policy reforms. The basic document of the current competition policy is the Competition Act of 1998, which is a radical departure from the earlier -1979- law. The reforms that the 1998 enactment introduced have been the subject of several reviews, including those in OECD(2003), Roberts (2004) and Hartzenberg (2008), and are believed to have succeeded in established an effective, transparent, and pro-competition mergers- and- acquisition review process (OECD, 2003). The process is driven by an enforcement mechanism consisting of three complementary institutions, namely, the Competition Commission, the Competition Tribunal and the Competition Appeal Court. A recent amendment has expanded the jurisdiction of these institutions to complaints against anti-competitive behavior more generally.

The new competition policy is intended to promote productivity growth as one of the public interest concerns that enforcement agencies are expected to entertain in handling mergers and acquisitions cases and allegations of anti-competitive behavior (Hartzenberg 2008). However, there are also other areas of public concern that could compete against the criteria of competition and productivity gains that competition law authorities are expected to take into account in their decisions and rulings. These include black economic empowerment, employment generation, export promotion, and industrial development policy. An indication of the weight of these public interest considerations in the current competition policy is that the Department of Trade and Industry sees the policy as an instrument of the Government's industrial policy (Republic of South Africa, DTI 2007a).

Setting aside these potential limitations to the effectiveness of competition policy reform as a source of productivity growth, it is possible that there is room for further productivity gains from more reforms in the area. An example is the pursuit of a more activist competition policy of the kind advocated in the recommendations of the international panel of experts on ASGISA (Hausman, 2007), which could help generate significant allocative efficiency gains by lowering entry barriers even more than the current "complaints driven" competition policy regime might have succeeded to. However, it is also important that the relative importance of competition policy as a tool for directly promoting competition and productivity growth is not overstated at the expense of other instruments complementary to it. After all, competition policy in practice is mainly about influencing the behavior of larger players in a given industry or the economy as a whole. Although such behavior is of critical importance in entry and exit rates and of the distribution of market shares among in-

cumbents, the response of potential entrants-big and small- to existing opportunities is as important a determinant of business turnover rates in domestic industry. There are also important influences other than competition policy on the behavior of potential entrants just as there are on the market power and behavior of incumbents.²¹

2.4.3 Trade, Allocative Efficiency, and Innovation

Chief among factors influencing the behavior of incumbent larger players that are not directly related to competition policy is trade. Indeed, it is through trade policy reforms that the South African government has probably influenced the most the competitive pressure under which domestic firms and industries operate. At least three studies show that the trade liberalization measures of the early to mid-1990s have increased the level of competition in domestic manufacturing industries significantly. Edwards and van Winkel (2005) estimate that, during the 1995-2005 period, price cost margins in manufacturing industries fell by 2 percentage points for every 1 percent cut in import tariffs. Fedderke et al. (2006) also find that markup ratios are lower where import penetration is greater and export orientation higher.

This is very much in line with findings in the literature on the global economy. For example, Chen et al. (2009) analyze data for the years 1989-99 on 10 industry groups and seven European economies (Belgium, Germany, France, Denmark, Spain, Italy and the Netherlands), to show that greater openness to trade lowers domestic prices and lower mark-up rates of in domestic industry through the effect it has on the number of suppliers to the domestic market. Similarly, using cross country regression on time series drawn from some 80 countries, Lee and Hoekman (2009) present evidence suggesting that, in the long run, openness to trade is a stronger influence on domestic competition than competition law.²²

Findings such as those reported in Fedderke et al. (2006) should be interpreted in conjunction with results of studies of the relationship between trade liberalization and productivity growth. Here also there is solid evidence that trade liberalization led to large productivity gains in South Africa. Notably, Jonsson and Subramarian (2001) estimate that trade led to manufacturing TFP growth at a rate of 1.6 percent a year from 1990 to 1997, noting that this is 90 percent of the entire productivity growth observed over the period. Hardin and Rattso (2005) likewise establish strong association between trade openness and productivity during the period 1970

21 As Roberts (2004) notes in this context, many countries in the peer group that we are using here have competition policies in theory only, and some do not have any, yet have successfully influenced the behavior of large firms in pro-competition directions. These include Argentina, Brazil, Mexico, and Malaysia, all of which are shown to have higher indices of allocative efficiency than South Africa in figure 2.12.

22 Lee and Hoekman(2009) write: iwhile industries that have higher import exposure or larger numbers of domestic firms tend to be competitive [in the sense of lower mark ups] the direct effect of competition law on competition is in significant.i

to 2003, for which they estimate the elasticity of TFP with respect to average import tariffs to be -0.8.

Not all of the correlation observed between trade liberalization and TFP growth in South African industry since 1990s should be attributed to the effect of liberalization on competition. As Aghion et al. (2008) point out, some of the association probably is the scale effect of trade on within-firm TFP and on learning by doing. But Aghion et al. (2008) also show that part of the association between trade liberalization and TFP growth is a competition effect of one of two kinds. The first kind stem from the tendency of greater openness to trade to generate what they call the “escape competition effect,” or the effect of forcing the most productive firms in domestic industry to innovate more in order to beat the new competition from imports. This effect would raise within-firm TFP above what it would be with less openness to trade. The second effect consists in competition from imports driving the less-productive domestic firms out of business, which increases allocative efficiency in as far as it raises the market shares of more productive firms.

The historical association observed between competition, trade and productivity growth in South Africa and the role of allocative efficiency gains in that association, is very much in line with a similar pattern documented for many of the countries we have used as South Africa’s comparators in this report. Notable examples are what Pavcnic (2002) shows for Chile, Ferreira and Rossi (2003) show for Brazil, and Eslava et al. (2004) describe for Colombia.²³ Pavcnic (2002) shows that there were large productivity gains in Chilean manufacturing from the radical trade liberalization program that country carried out in the late 1970s and early 1980s. Very much along the lines of what Aghion et al. (2008) have reported for South Africa, she shows that Chile’s trade liberalization measures led to growth in aggregate manufacturing TFP at a rate of 2.8 percent a year over the period 1979-86. The bulk of this growth— or 2 percent per year—was an allocative efficiency gain, meaning it occurred through the reallocation of market share from less-productive plants to more productive ones, which was induced by greater competition from imports. The balance of 0.8 percent per year of growth in aggregate manufacturing TFP came about through growth in within-enterprise TFP, which would be roughly equivalent to what Aghion et al. (2008) would call an “escape competition effect” on productivity. Ferreira and Rossi (2003) analyzed industry-level manufacturing data to evaluate the effect of Brazil’s trade liberalization program of 1988-90. They found that, following the program, aggregate manufacturing TFP grew at an average of 2.7 percent a year from 1991-97. The authors show that the bulk of this productivity gain could only have come from the trade policy reform program.

23 These items are among the latest in an extensive literature of the same message going back to the early 1980s reviewed in, for example, Baldwin and Caves (1997).

Eslava et al. (2004) analyzed plant-level manufacturing data for Colombia in order to assess the effects of trade policy reforms that country undertook in 1991. They show that, following the reforms, there were large gains in productivity during the period 1991-97, driven largely by allocative efficiency gains.

2.5 FACTOR PROPORTIONS AND EMPLOYMENT

South African manufactured exports are more capital and skill intensive than those of its peer group, and compared to what South Africa's factor endowment seems to suggest. This is reflected in the Enterprise Survey data in the form of what is reported in table 2.3, where we estimate a probit model of enterprise participation in export markets. The table shows that, in South Africa, a manufacturer producing capital-intensive products is up to 30 percent more likely to export than one producing a labor-intensive product (column 6). What we see today in this respect is the cumulative outcome of a process that started back in the 1980s and in the course of which South Africa's exports became increasingly capital intensive and skill intensive (Alleyne and Subramanian 2001; Lewis 2002; Edwards and Golub 2004, Rodrik 2006).

The economy-wide capital-to-labor ratio also rose as steadily over the same period, but the rise in capital intensity was far more steeply in manufacturing industries and in the tradable sector more generally than in the non-tradable sector (Rodrik 2006). As a result, South Africa's manufacturing and service industries are today among the most capital intensive within its peer group, which is also reflected in the Enterprise Survey data. This can be seen in figure 2.13, where the mean capital intensity of South African enterprises, while comparable to that of Malaysian enterprises and significantly lower than those for the samples from Argentina and Chile, is higher than those of the samples from most countries in the group, including Brazil and Mexico.²⁴ Moreover, South Africa's current relative position has not changed much in this regard from what it was back in the 1980s, as the following estimates by Kaplinsky (1995) of economy-wide capital-labor ratios (in real U.S. dollars) show: Brazil (10.6), Mexico (18.4), Korea (11.8), Malaysia (12.1), and South Africa (27.1). The corresponding incremental capital output ratios for 1983-89 were: South Africa (71.0), Mexico (38.0), Brazil (24.2), Malaysia (10.2), and Korea (8.4).

24 Although the average capital to labor ratio was lower in the 2008 South African sample than the 2003 sample (figure 2.13), mirroring the comparison made earlier in terms of labor productivity, there the difference in capital labor ratios between the two samples is not statistically significant when we control for firms size and for sector of industry.

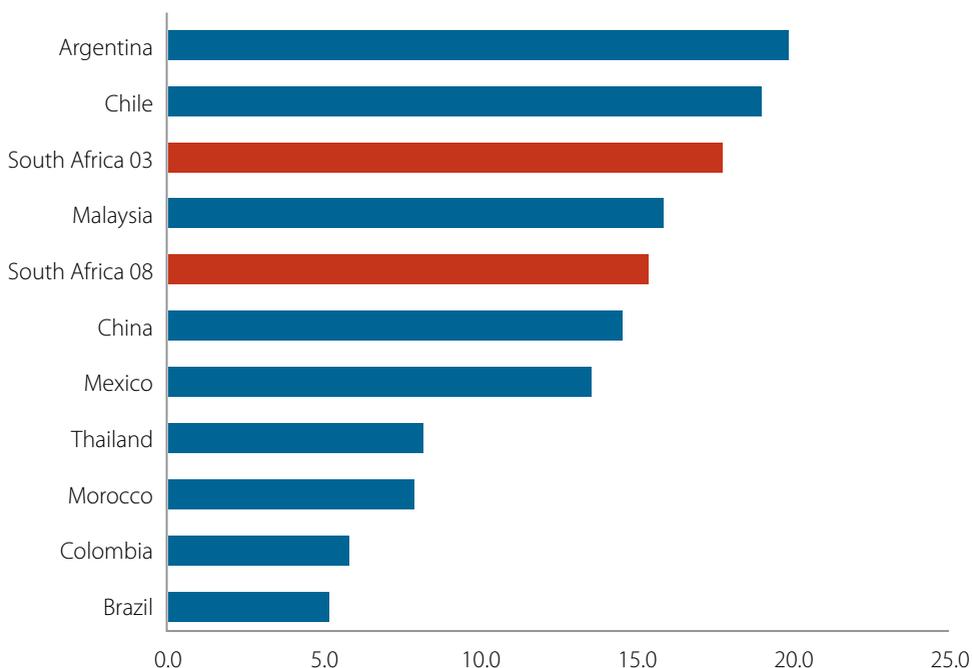
Table 2.3: Probit regression of export market participation – marginal effects Enterprise Surveys (2008)

Dependent variable: dummy=1 for exporters

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Log (Fixed assets/wage bill)	0.019 (2.51)*		0.011 (1.57)		0.000 (0.01)		0.001 (0.08)	
Capital intensive industries#		0.176 (6.43)**		0.118 (4.49)**		0.295 (3.34)**		0.262 (3.01)**
Log (number of workers)			0.105 (12.58)**	0.100 (11.97)**	0.091 (10.36)**	0.089 (10.24)**	0.078 (8.55)**	0.077 (8.55)**
Log (value added per worker)							0.051 (4.38)**	0.047 (4.03)**
Industry dummies?	No	No	No	No	Yes	Yes	Yes	Yes
Observations	1050	1050	1050	1050	1050	1050	1050	1050
Log likelihood	-547.1	-528.2	-460.7	-451.1	-447.7	-440.4	-438.2	-432.4
observed P	0.217	0.217	0.217	0.217	0.218	0.217	0.217	0.217
Predicted P(at x-bar)	0.215	0.208	0.177	0.172	0.168	0.160	0.16	0.154

Absolute value of z-statistics in parentheses | *significant at 5% level; **significant at 1% level

#Industries with an average book value of fixed assets per worker of more than 9,000 US dollars at year 2000 prices. The group includes the chemicals, machinery, metals and electronics industries

Figure 2.13 : Book value of fixed assets per employee in '000 (USD)

South African production and exports have also grown more and more skill intensive since the 1980s. Lewis (2002) calculates that, between 1992 and 1999, the relative share of skill-intensive products in South Africa's manufactured exports rose from 49.5 percent to 58 percent. In comparison, the share of skill-intensive goods in manufactured exports was 26.5 percent in Korea in 1995, and 19.3 percent in China.²⁵ The rising trend in capital intensity has mirrored a similar trend in the average wage rate, and at least throughout the 1990s, the growth in the share of skilled labor in employment was accompanied by a steady rise in the average wage rate of unskilled labor relative to skilled labor, while the absolute growth of average skilled wage rates was modest (Lewis 2001; Fedderke, Shin, and Vaze 2003; Abdi and Edwards 2003).

The implication for employment of the increasing capital intensity and skill intensity of production and exports has obviously been adverse, and is probably as much of a source of concern to policy makers today as it was in the mid-1990s. An immediate consequence of the trends factor intensity has been the contraction in manufacturing employment despite significant growth in manufacturing production as well as exports. For example, Jenkins (2006) estimates that as many as 300,000 manufacturing jobs were lost during the 1990s, while Rodrik (2006) estimates that 400,000 formal sector manufacturing jobs were lost between 1990 and 2004, of which 300,000 were unskilled or semi-skilled jobs. Because this has occurred at the same time as the supply of unskilled labor continued to expand, and has not been compensated for in employment growth elsewhere, the decline in manufacturing employment must have contributed to the rising unemployment rate. According to one estimate, the unemployment rate rose from 29.4 percent in 1995 to 42.9 percent in 2003 (Thurlow 2006) if the unemployed included discouraged workers who had stopped looking for work.²⁶ Although the rate has dropped since then, it still stood at 39 percent using the same definition at the time of the 2008 Enterprise Survey (Bhorat 2008).

Exogenous wage developments

While the secular growth in the capital intensity and skill intensity of production is widely seen to be a proximate cause of South Africa's current unemployment problem, there is not much consensus on what ultimately lies behind what looks like the increasing misalignment of the factor content of production and the country's

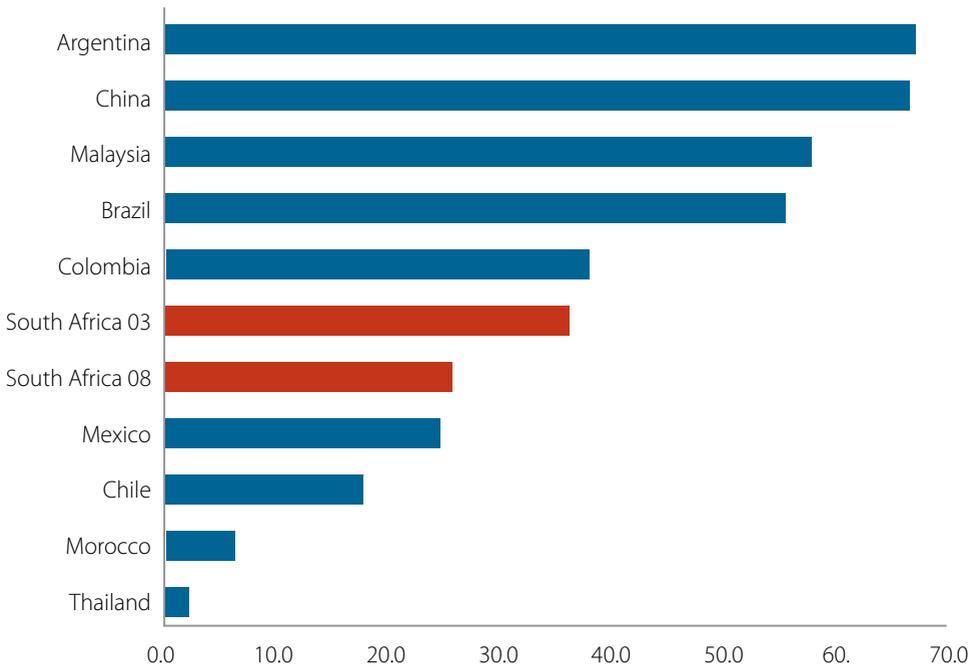
25 Analyzing the 2003 Enterprise Survey, Rankin and Schoer (2008) find that the skill intensity of South Africa's exports might vary by their geographical destination. Specifically, they report that South Africa's exporters to the Southern Africa Development Community (SADC) tend to pay lower wages and employ less-skilled and younger workers than exporters to other regions, and that this might have implications for South Africa's job creation strategy for those who are young and unskilled. If this is indeed the case, it might signal the beginning of a break in the trend in the rising skill intensity of exports. It also underscores the potential value of the promotion of regional trade as a key component of South Africa's shared growth strategy.

26 Banerjee et al. (2006) estimate that the rate rose from 13 percent in 1994 to 30 percent in 2000, using a definition of unemployment that excludes those who are no longer looking for work. It currently stands at 26.7 percent using the same definition (Bhorat, 2008).

resource endowment. Why are South Africa's production and exports getting more and more capital intensive and skill intensive as the supply of unskilled labor seems to expand as relentlessly relative to the stock of capital and skills?

One potential source of wage developments exogenous to trade policy and trade flows is the expansion in the supply of unskilled labor that was unleashed by the end of apartheid. In and of itself this should have lowered the unskilled wage rate to the market clearing level. That it has not is testimony to the power of countervailing factors. One such factor stressed in Banerjee et al. (2006) is the effect that "the lack of high density urban centers and the settlement patterns inherited from the apartheid era" had on reservation wages by pushing up search costs and commuting and transport costs for employees. Many experts also include among these factors changes in industrial and labor relations that occurred in the 1980s and the early to mid-1990s. Some argue that these changes increased the influence of nonmarket forces in wage determination, and through that on factor intensities (e.g. Fallon and Lucas 1998; Lewis 2002; Fedderke and Mariotti 2002; and Pauw and Edwards 2006).

A particularly relevant development in industrial relations in this context relates to the role that bargaining (or industrial) councils play in wage determination. In South Africa, the councils typically are organizations of unions and employer organizations in specific industries, and are mandated by the government to reach pay pacts that everyone in the industry covered by a council is bound by, regardless of whether they were party to the negotiations. Moll (1996) notes that, although the councils have always played this role in South Africa among white workers since as early as the 1920s, it was only in the 1980s when the union movement of African workers took over the industrial councils that the council's coverage and influence started to grow to the point where it stands today. Bhorat (2008) reports that between 1995 and 2005, the coverage of bargaining councils doubled, and encompassed about a third of all formal workers by 2005. Union coverage currently stands at about the same proportion of formal sector workers (Butcher and Rouse 2001; OECD 2008). This is not high by international standards, and coverage is probably less than a third in manufacturing industries and retail trade. Indeed, in the Enterprise Survey sample, South Africa's unionization rate is about average in its peer group, being comparable to Mexico's, significantly lower than those for Argentina, China, Brazil, Malaysia, and Colombia, and higher than those for Chile, Morocco, and Thailand (figure 2.14). Moreover, union density has persistently declined over the past decade (Banerjee et al. 2006) as indeed the Enterprise Survey also suggests. Still unions in South Africa have far greater influence in wage determination than union coverage figures might suggest. This is because wage settlements reached by the bargaining councils through which the unions exercise their influence are binding on nonparticipants in negotiations.

Figure 2.14 : Unionized employees (%) – Enterprise Survey Sample

By all accounts, the influence of unions and bargaining councils on real wages has been substantial. Bhorat (2008) estimates that union members earn 17 percent more than nonunion workers, while workers covered by bargaining councils earn 16 percent more. These should be compared with the 10 percent union wage premium Moll (1996) estimates for the 1980s.²⁷ To the extent that union and bargaining council coverage expanded over time, the wage premiums of the two institutions show up as growth in the average real wage rates, not only of large employers that may be represented in the bargaining councils, but also small firms that are unlikely to participate in wage bargaining but would typically be bound by the pay settlements reached by the councils.

While the role of bargaining councils in wage determination and the effect they have had on creating large wage premiums to workers they cover is not in dispute, there is no consensus on the effect they have on employment and factor intensities. Many

²⁷ See also the recommendations of the international panel on ASGISA (Hausman 2007), in which the panel points out that union wage premiums have increased for unskilled and semi-skilled African workers between 1995 and 2004 and that the increase is likely to have reduced job creation and especially in the manufacturing sector where unionization rates are particularly high (at 40% against a national average of about 30%).

have argued that the premiums have ultimately pushed up wages and nonwage labor costs overall, and may therefore have helped raise the capital and skill intensity of production autonomously of trade flows (e.g. Fallon and Lucas 1998; Lewis 2002; Fedderke and Mariotti 2002; and Pauw and Edwards 2006).²⁸ However, this view would be disputed by Rodrik (2006) and Banerjee et al. (2006), the former arguing that the growth in capital and skill intensities is the outcome of greater openness to trade rather than of wage developments.

Other Business Environment Factors in Labor Absorption

Kaplinsky (1995) argues that the political barriers that the apartheid state erected against investment in labor-intensive industries, and particularly those that stifled the development of informal manufacturing, were an important part of the forces that made South African production increasingly capital intensive in the 1970s and 1980s. While those barriers had largely come down by the early 1990s, they seem to have been quickly supplanted by a new, probably far less powerful, but still significant obstacle to investment in the labor-intensive sector, namely, widespread property crime. We will discuss its effect on employment and investment decisions in the next chapter. Suffice it to say here that the prevalence of crime, just like the political repression of black entrepreneurship under apartheid, should at least have a component exogenous to trade flows and trade policy in as far as it has influenced the evolution factor proportions.

2.6 CONCLUSION: FACTORS BEYOND COMPETITION AND TRADE POLICIES

Recent growth in South Africa's exports has been driven primarily by growth in labor productivity. For a variety of reasons the pace of growth in labor productivity will continue to determine the trajectory of exports in the coming years as well. However, so far the growth in labor productivity has relied heavily on the rising capital intensity of production, which means that the number of jobs created per unit of fixed investment is declining. What is needed is therefore growth in labor productivity that does not necessarily rely on growing capital intensity of production. What is needed, in other words, is growth in total factor productivity.

South Africa's growth has benefitted from significant productivity growth of this kind over the past decade and half, thanks mainly to the trade liberalization measures of the early to mid-1990s. Combined with subsequent competition policy reforms, the open-

²⁸ Moll (1996) also notes that the principle of "compulsory centralization" of pay agreements under which the bargaining councils operate in effect converts the wages that collective agreements produce into minimum wages that could deter entry by smaller firms to industries covered by the agreements.

ing up of the economy to foreign trade exposed domestic producers to far greater competition than would have been possible otherwise. The increase in domestic product market competition in turn generated sustained TFP growth by increasing the allocative efficiency of domestic industry as well as by providing domestic producers with more incentives for innovation. South Africa can enhance and sustain this process of productivity growth through the institution of a more activist competition policy. At the same time, the scale of trade and competition policy reforms that have already taken place is such that that the scope for further changes on this front may not be sufficient to help bring forth all of the investment, productivity gains, and exports that would be needed for the government's growth and employment targets to be achieved.

Realizing those targets will require action on other policy fronts as well. One such front is dealing with problems in the current business environment of South Africa that are working against the growth of labor intensive industries and exports, and also are stifling productivity growth across the board by reducing domestic allocative efficiency. These include the prevalence of property crime, the recent power crisis and other problems of infrastructure, lack of small business access to finance, and skill shortages, which we will discuss in the next chapters.

CHAPTER 3

Hidden Sources of Domestic Market Distortions: Key Business Environment Issues

3.1 INTRODUCTION

Chapter 2 discussed the potential for increasing the pace of growth and job creation in South Africa through further reforms in trade and competition policies that could boost exports and attract more inward FDI. It also argued that the efficacy of these measures could depend on wage developments, noting that sustained wage growth probably reduced the effects of the trade liberalization measures of the 1990s on exports, and may have been one of the forces behind the growing capital intensity of exports and production in general to the detriment of badly need job growth. This chapter describes the role that the prevalence of property crime seems to have played in distorting the factor content of production and exports at the expense of the government's employment promotion objective by deterring investment in general and investment in labor-intensive industries in particular. Although South Africa's overall business environment compares very favorably with other upper middle income economies by a variety of measures, and has improved a great deal since the 2003 World Bank survey, persistent and widespread property crime may have worked against exports and growth more generally. This is has done, not only by reducing the rate of investment overall, but also by reducing aggregate productivity through the misallocation of resources it has generated at various levels, including that between labor intensive industries and other sectors.

3.2 CHANGING PERCEPTIONS OF SOUTH AFRICA'S BUSINESS ENVIRONMENT

The Enterprise Surveys 2003 and 2008 both contain a great deal of information about the business environment, as reported by business managers. Two types of information were collected: (i) perception-based measures that help us observe what managers see as major obstacles, and (ii) objective (or hard) indicators such as the percentage of sales spent on security, losses due to theft and vandalism, production lost due to power outages, whether the firm has a loan or overdraft facility, and the amount of time managers spend dealing with government regulations. Data on perceptions provide a first look at the constraints facing firms, and can be used by policy makers to frame priorities for reforms and investments, especially when complemented by the hard indicators and data from other sources, including the World Bank's Doing Business indicators (based on expert surveys). Indeed, regression analysis reported in this chapter shows that manager's ratings of business environment constraints are strongly correlated with the hard indicators related to experience. Thus enterprises that report greater sales losses due to power outages are much more likely to rank electricity to be a major or severe obstacle to business growth. Similarly, ratings of crime as a business obstacle are strongly correlated with a business' experience of crime in the past years and on spending on protection from crime.

Similar questions were asked to enterprise managers about business environment issues during the surveys in 2003 and 2008 in South Africa and also in other countries, which enables comparisons to be made across time and cross-country. The 2003 survey identified three major constraints faced by South African firms—a shortage of skilled workers, labor regulations, and macroeconomic instability, with crime not far behind (figures 3.1 and 3.3). The 2008 Survey set out to investigate how far this evaluation of the business community changed since 2003.

Some 30 percent of managers who responded to the 2008 Enterprise Survey regarded crime as a major or severe obstacle to business operations and expansion (figure 3.1). About 35 percent rated power shortages likewise. Access to finance is not viewed as much of a problem by larger firms but is a major problem for 28 percent of firms in the microenterprise sector. Petty corruption was seen as a major obstacle by 15 to 20 percent of respondents depending on line of business. These complaint rates are much higher than those against any of the 12 other potential business environment problems listed in tables 3.1 and 3.2, where ratings of obstacles are shown by sector and size groups. A point of contrast with 2003 is that relatively few surveyed firms surveyed rank these other constraints to be major or severe, those ranking any of the 12 being 10 percent or less of the sample.

Both in the 2003 survey and in 2008, about a third of respondents rated crime as a major or severe obstacle to business expansion, but in 2003 managers attached even greater weight to the problems posed by labor regulation and skill shortages.

Thus not only did managers' rankings of business environment problems change between the two surveys, but, overall, firms in South Africa complained of such problems far less in 2008 than they did in the 2003 survey. The probits we estimate in tables 3.3, 3.4 and 3.5 show that both the shift in the relative importance individual business environment problems and the sharp decline in the overall rate of complaint hold up even when we account for changes in the composition of the sample between the two surveys.²⁹ It is also clear from figure 3.2 that the shift is backed up by changes in 'hard indicators' of the gravity of the problems of crime and power shortages between the two surveys. Specifically, losses to electricity outages, spending on security, and losses due to crime, have all increased as shares of enterprise revenue from sales. On the other hand, what we have used in our analysis as a proxy for the degree of labor regulation, namely, the share of the enterprise employees who are union members, has declined substantially (figure 2.14).

29 For example, table 3.4 examines the changes in rankings of corruption and crime as business obstacles between the two surveys, after controlling for sample characteristics that have changed over time. The residual time effect is measured by examining changes in the intercept term between the two years (2003 and 2008). We see that while the rankings on corruption have risen between the two periods, this difference is not significant. The ranking on crime, however, had risen in 2008, compared to 2003 (the intercept shifts from -0.46 to 0.60) and this difference is significant. Even after controlling for all firm-level characteristics, enterprises now rank crime to be a bigger problem than they did in 2003.

Figure 3.1 : Percent of enterprises ranking factor as major or severe obstacle to business expansion

Ranking of constraints 2002 vs 2008

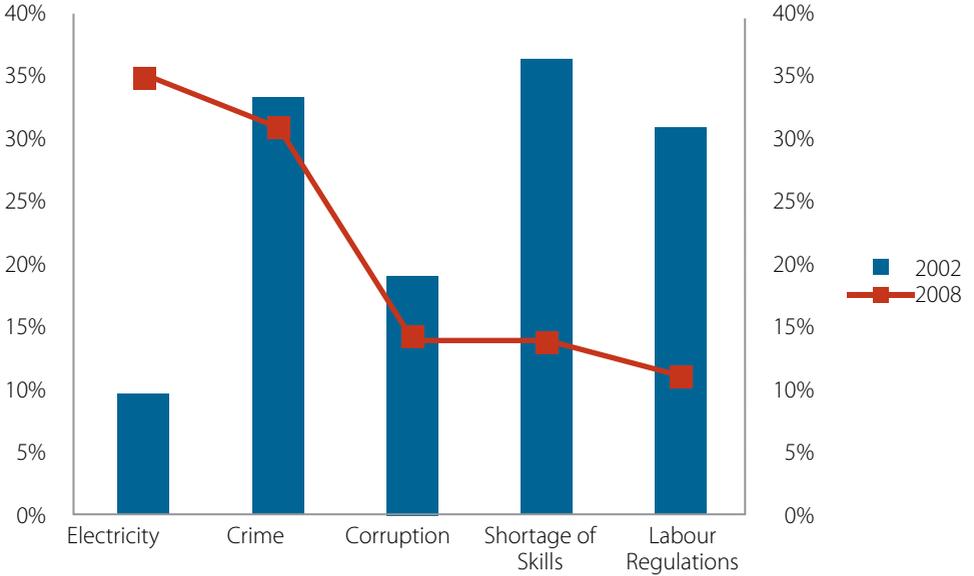


Figure 3.2 : Costs of power outages, security and graft as % of sales

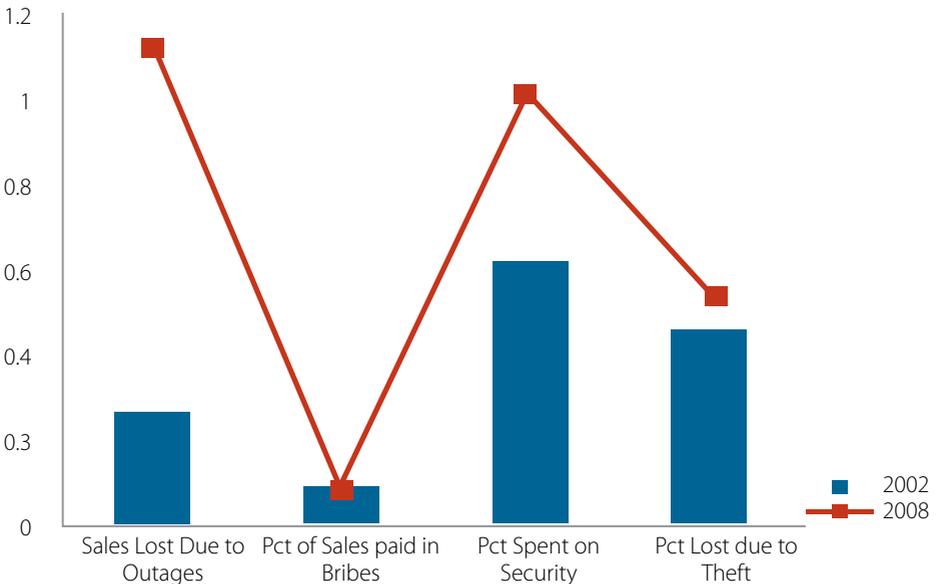
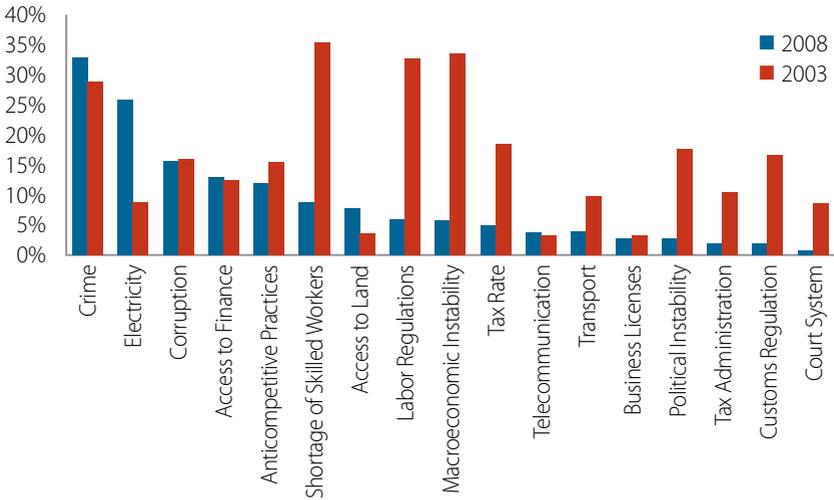


Figure 3.3 : Percent of firms ranking constraints as major or severe—2003 vs. 2008

3.3 BUSINESS ENVIRONMENT PROBLEMS DISTORT MARKETS

Data from the Enterprise Surveys suggest that the prevalence of crime and, to far lesser extent power shortages and labor regulation have adversely affected employment and productivity. In particular, they indicate that crime has reduced the job creation rate both by reducing the rate of fixed investment and by discouraging investment in labor-intensive sectors in particular. Crime has also been a significant drag on aggregate productivity, partly because it has helped reduce the allocative efficiency of domestic industry.

Though the evidence is not as strong as that on the influence of crime, the recent power crisis appears to have reduced within-enterprise productivity of incumbent firms, as well as the allocative efficiency of industries overall. The crisis also appears to have made smaller firms in particular more capital intensive, at least in the short term. Finally, the data also suggest that labor regulation might have reduced employment by reducing investment rates and raising the capital intensity of production, in as far as unionization is a reasonable proxy for the degree of labor regulation.³⁰

Business Environment Problems as Discriminatory Taxes

Business environment problems like crime, power shortages, and corruption, influence employment and productivity in more or less the same way as discriminatory

30 There is no robust association in the data between corruption and employment or productivity.

taxes or subsidies do, by creating market distortion.³¹ By market distortion, we mean the failure of the marginal productivity of one or more factors of production—labor, capital, skills, and land—to equalize across alternative uses in the economy. The failure occurs when resources cannot flow from low rate of return activities, sectors, or producers, to those with a high rate of return because of institutional impediments to factor mobility, or when agents operate under a system of discriminatory taxes or subsidies—explicit or implicit. Deficiencies in the business environment, such as crime and corruption, typically function like a system of discriminatory implicit taxes and subsidies because they effectively tax different firms at different rates, even when these operate on the same scale, in the same line of business, and in the same location. One of the consequences of the deficiencies is that marginal factor productivities fail to equalize across or within sectors or locations. This reduces aggregate output from what it could have been in the absence of the distortions, since it would be possible to increase output by moving resources from enterprises and activities with low rates of return to those with high rates of return. It also normally weakens the correlation between the market share of an enterprise and the enterprise’s productivity. In other words, it reduces allocative efficiency at the level of the industry. It thereby reduces aggregate productivity, which is, after all, a market share (or scale) weighted average of enterprise productivity.³²

The key to the power of business environment problems generating market distortions is that they affect different firms to different degrees, the output and the allocative efficiency losses they cause being larger the more heterogeneous they are across firms in incidence or in intensity. Tables 3.1 and 3.2 illustrate the heterogeneity at issue in terms of differences in how crime, power shortages and other business environment problems are rated as obstacles to business growth and operations between sectors of activity and business size groups. In particular we see that crime is rated as a major or severe business obstacle by a disproportionate higher fraction of smaller domestic enterprises, while electricity shortage is rated likewise more by larger firms, exporters, and foreign-owned enterprises, than others. Figure 3.1 shows similar disparities between sectors of industry in what business view as the biggest obstacle to the growth of their businesses. We see that crime is the most serious reported obstacle, with more than 60 percent of firms in retail and 32 percent in manufacturing reporting it to be the most serious constraint. In manufacturing, electricity is ranked as the biggest obstacle by 20 percent of firms, while 9 percent of firms rank inadequate skills to be their biggest obstacle.

31 This is discussed in some detail in an annex that provides the conceptual framework and methods used in obtaining the report’s estimates of the effects of business environment problems on employment and productivity.

32 This means that improvements in the business environment, such as those that reduce the cost of crime or improve power supplies, would produce growth and enhance aggregate productivity by inducing the reallocation of market share from low-productivity firms to high-productivity firms.

Table 3.1: Enterprises Rating Factor as a Major or Severe Obstacle to Business Expansion

	<i>Manufacturing</i>	<i>Retail trade</i>	<i>Other industries</i>	<i>Microenterprises</i>
Crime	33%	52%	39%	25%
Electricity	26%	13%	17%	14%
Corruption	16%	19%	15%	11%
Access to Finance	13%	7%	17%	28%
Shortage of Skilled Workers	9%	6%	9%	3%
Access to Land	8%	6%	11%	16%
Macroeconomic Instability	6%	6%	9%	12%
Labor Regulations	6%	5%	9%	3%
Tax Rate	5%	3%	3%	5%
Transport	4%	3%	5%	17%
Telecommunication	4%	4%	4%	3%
Political Instability	3%	2%	3%	1%
Business Licenses	3%	1%	4%	15%
Tax Administration	2%	2%	1%	6%
Customs and Trade Regulations	2%	3%	2%	4%

Table 3.2: Enterprises Rating Factor as a Major or Severe Obstacle to Business Expansion 2008, Manufacturing Sector

<i>Obstacle</i>	<i>Small</i>	<i>Large</i>	<i>No foreign ownership</i>	<i>Foreign owned</i>	<i>Exporter</i>	<i>Non-Exp</i>
Crime	34%	33%	35%	24%	25%	35%
Electricity	24%	30%	24%	38%	29%	25%
Access to Finance	19%	3%	14%	11%	5%	16%
Corruption	18%	13%	17%	15%	12%	18%
Access to Land	10%	5%	8%	7%	7%	8%
Macro Instability	7%	4%	6%	6%	4%	7%
Tax Rate	6%	2%	5%	3%	3%	5%
Labor Regulation	6%	2%	6%	7%	5%	6%
Shortage of Skills	6%	14%	9%	11%	13%	9%
Transport	5%	2%	4%	5%	4%	5%
Business Licenses	4%	1%	3%	2%	3%	3%
Political Instability	4%	2%	3%	1%	3%	3%
Telecom	3%	5%	4%	5%	6%	3%
Tax Administration	2%	2%	2%	2%	4%	2%
Customs	1%	4%	2%	2%	3%	2%

Table 3.3: Probit estimations of electricity shortage being rated a major or severe obstacle to growth, 2003 and 2008 surveys

	<i>Intercept Shifts Only</i>	<i>2003</i>	<i>2008</i>
Intercept	-0.83*** (0.227)	-0.99*** (0.362)	0.05 (0.294)
Large	-0.13*** (0.049)	-0.11 (0.080)	-0.15*** (0.064)
Small	-0.31*** (0.117)	-0.25 (0.214)	-0.30** (0.148)
Medium	-0.21* (0.128)	-0.24 (0.198)	-0.12 (0.176)
Exporter	0.09 (0.104)	0.20 (0.169)	0.02 (0.138)
Foreign Owned	0.35*** (0.116)	0.30 (0.181)	0.39*** (0.154)
Johannesburg	0.01 (0.138)	-0.30 (0.241)	0.14 (0.171)
Cape Town	0.01 (0.162)	-0.61** (0.294)	0.26 (0.201)
Port Elizabeth	-0.54*** (0.232)	-0.26 (0.361)	-0.77*** (0.315)
Sole Proprietorship	0.08 (0.140)	-- --	
2008	0.79*** (0.098)		
Food	-0.02 (0.139)	0.44 (0.274)	0.12 (0.146)
Wood & Furniture	-0.07 (0.139)	0.44* (0.238)	-0.21 (0.167)
Textile and Garments	-0.28* (0.150)	0.21 (0.305)	-0.34* (0.181)
Metal	-0.27** (0.138)	0.05 (0.249)	-0.54*** (0.178)
Chemical	-0.13 (0.144)	0.47** (0.233)	-0.46*** (0.171)
Observations	1271	593	-0.50***
Log likelihood	-548.978	-167.65642	(0.192)

Table 3.4: Probit estimates of crime and corruption being rated major or severe obstacles to business expansion

	<i>Corruption</i>			<i>Crime</i>		
	<i>Intercept only</i>	<i>2003</i>	<i>2008</i>	<i>Intercept only</i>	<i>2003</i>	<i>2008</i>
Intercept	-0.81*** (0.224)	-1.43*** (0.331)	-0.39 (0.318)	0.05 (0.198)	-0.46 (0.284)	0.64*** (0.281)
Large	0.01 (0.049)	0.11 (0.071)	-0.10 (0.070)	0.004 (0.043)	0.07 (0.061)	-0.09 (0.062)
Small	0.08 (0.116)	-0.003 (0.174)	0.13 (0.167)	-0.07 (0.101)	-0.07 (0.152)	-0.10 (0.141)
Medium	0.08 (0.123)	0.06 (0.160)	0.13 (0.201)	-0.06 (0.108)	-0.08 (0.142)	-0.04 (0.169)
Exporter	-0.05 (0.105)	0.02 (0.143)	-0.12 (0.161)	-0.17* (0.091)	-0.18 (0.127)	-0.14 (0.136)
Foreign Owned	-0.07 (0.123)	-0.18 (0.177)	0.05 (0.181)	-0.19* (0.109)	-0.09 (0.154)	-0.28* (0.161)
Johannesburg	-0.29*** (0.128)	0.03 (0.220)	-0.50*** (0.167)	-0.56*** (0.117)	-0.22 (0.190)	-0.78*** (0.156)
Cape Town	-0.54*** (0.159)	-0.42 (0.256)	-0.54*** (0.212)	-0.71*** (0.139)	-0.52*** (0.215)	-0.83*** (0.190)
Port Elizabeth	-0.50*** (0.211)	-0.60 (0.406)	-0.45* (0.258)	-0.91*** (0.189)	-1.33*** (0.394)	-0.84*** (0.232)
Sole Proprietorship	0.12 (0.146)	0.44 (0.536)	0.11 (0.156)	-0.06 (0.132)	-0.21 (0.530)	-0.03 (0.140)
2008 Dummy	-0.05 (0.094)			0.09 (0.082)		
Food	0.22 (0.143)	0.38* (0.229)	0.08 (0.189)	0.22* (0.125)	0.28 (0.200)	0.14 (0.165)
Wood & Furniture	0.17 (0.138)	0.41** (0.192)	-0.12 (0.202)	0.22* (0.120)	0.34** (0.169)	0.05 (0.173)
Textile and Garments	0.02 (0.151)	0.26 (0.253)	-0.14 (0.198)	-0.05 (0.131)	0.30 (0.217)	-0.23 (0.171)
Metal	0.11 (0.134)	0.07 (0.198)	0.09 (0.187)	0.002 (0.117)	-0.04 (0.172)	-0.01 (0.165)
Chemical	0.09 (0.145)	0.30 (0.200)	-0.12 (0.218)	-0.01 (0.126)	0.08 (0.176)	-0.12 (0.184)
Observations	1271	593	678	1271	593	678
Log likelihood	-553.783	-251.387	-293.0218	-761.58	-342.9267	-408.7422

Table 3.5: Probit estimations of taxation and customs regulation being rated major or severe obstacles: 2003 vs. 2008

<i>Regulations</i>	<i>Access to Land</i>	<i>Tax Rate</i>	<i>Tax Administration</i>	<i>Customs and Trade</i>
Intercept	-1.26*** (0.293)	-0.80*** (0.249)	-1.13*** (0.296)	-1.00*** (0.281)
Large	-0.15*** (0.063)	0.04 (0.055)	0.05 (0.066)	0.06 (0.061)
Small	-0.02 (0.157)	0.09 (0.134)	0.02 (0.156)	-0.33** (0.150)
Medium	-0.18 (0.186)	0.20 (0.132)	-0.03 (0.162)	-0.32** (0.149)
Exporter	-0.03 (0.147)	-0.03 (0.116)	-0.06 (0.137)	0.19 (0.120)
Foreign Owned	-0.08 (0.174)	0.03 (0.138)	-0.09 (0.172)	0.04 (0.142)
Johannesburg	-0.09 (0.174)	-0.39*** (0.145)	-0.31* (0.184)	-0.14 (0.182)
Cape Town	-0.28 (0.218)	-0.32* (0.169)	0.14 (0.200)	0.02 (0.204)
Port Elizabeth	-0.41 (0.300)	-0.96*** (0.306)	-0.36 (0.313)	0.11 (0.255)
Sole Proprietorship	0.30* (0.168)	0.16 (0.193)	-0.04 (0.270)	-0.16 (0.302)
2008	0.23* (0.132)	-0.81*** (0.114)	-0.71*** (0.137)	-0.99*** (0.135)
Food	0.07 (0.201)	0.09 (0.170)	-0.05 (0.200)	0.11 (0.187)
Wood & Furniture	0.18 (0.187)	0.15 (0.154)	-0.07 (0.184)	-0.32 (0.198)
Textile and Garments	0.23 (0.194)	0.12 (0.173)	-0.21 (0.216)	0.39** (0.180)
Metal	0.11 (0.187)	0.10 (0.150)	-0.06 (0.180)	-0.18 (0.175)
Chemical	0.001 (0.210)	0.02 (0.164)	-0.07 (0.190)	0.08 (0.173)
Observations	1271	1271	1271	1271
Log likelihood	-274.405	-411.322	-269.235	-321.488

Table 3.6 shows that these differences in subjective ratings of business obstacles across sectors of activity and size groups reflect underlying differences in the costs of crime, power shortages, and corruption across groups of the Enterprise Survey sample. Each entry in the table aggregates over a large number of observations and therefore inevitably understates the underlying heterogeneity, with the true situation

being similar to one in which enterprises face idiosyncratic tax rates, rather than one where rates vary only by sector or location.

In the table, the cost of crime is defined as the sum of the cost of security and losses to theft or other forms of property crime, expressed as percentage of sales revenue. The cost tends to be higher in more labor-intensive industries, ranging from a low of 1.3 percent in the chemical industry, to a high of 5 percent in textiles and garments. Perhaps as important, SMEs incur far more crime-related costs relative to revenue (3.2 percent) than do larger firms (0.7 percent), just as microenterprise incur more (6 percent) than SMEs, and younger firms do more than longer-established ones.³³ Though not as pronounced as the variation in the cost of crime, there are significant differences in the incidence of power shortages, unionization, and petty corruption across sectors, regions, and business size or age groups. Notably, loss of revenue due to power outages is higher in manufacturing plants than in service enterprises, and much higher in microenterprises than in larger businesses. As expected, unionization rates are higher in larger firms than in smaller ones; in younger firms than in longer-established ones; in manufacturing than in the service sectors, and in the Western Cape and Gauteng than in other parts of the country. As should also be expected, microenterprises pay out a far greater percentage of sales revenue as bribes than larger businesses, and among the latter, the percentage decreases with firm size.

A caveat

At various points in the rest of this chapter we give some point estimates of the effects of crime, power shortages, and labor regulation, based on the pooling the 2003 and 2008 Enterprise Survey data. We do so with the strong caveat that there are major limitations to these data, including that the sample is relatively small, does not cover all major sectors, and has a comparatively small and short panel of just two time periods. The point of the estimates is not to provide formal evaluation of the impact of crime or any other aspect of business environment, or to supply conclusive evidence in favor of or against a particular argument or proposition relating to business environment. The aim is rather to advance hypotheses of some empirical foundation that we hope will be tested with better data in the future, while helping inform policy in the in the meantime.

The discussion in the following sections will focus far more on crime than the other three areas—power shortages, corruption, and labor regulation—since the estimates

33 Just like the Enterprise Surveys, the other surveys also reveal a great deal of heterogeneity in the cost and incidence of crime across age or size groups, by industry, by region, and in the case of SMEs and microenterprises, by the gender and ethnic group of the business owner. In Chandra et al. (2001a), the cost of crime is reported to increase with firm size and was larger for white-owned businesses. Skinner (2005) finds gender in the incidence of crime and reports that crime was less of a problem for the informal firms surveyed in the Durban area than in formal sector firms in the same area covered by another study.

suggest that crime is by far the most important of all in terms of its impact on employment and productivity. The discussion of the role of crime itself will be prefaced by an overview of property crime statistics from official sources and other survey-based studies. Following the discussion on the role of crime, we will present shorter analyses of the roles of labor regulation and power shortages.

Table 3.6: Selected business environment indicators by business groups: 2008 survey sample

	<i>Loss to outages</i> (% sales)	<i>Cost of crime</i> (% sales)	<i>Bribes</i> (% sales)	<i>Unionized</i> workers (%)
Industry groups:				
Food	2.8	3.1	0.6	31.5
Textile and garments	2.4	5.0	0.7	35.9
Machinery and metals	1.6	3.3	0.7	24.4
Chemicals and plastics	2.7	1.3	0.7	30.3
Other manufacturing	1.9	2.8	0.2	31.8
Retail and wholesale trade	1.8	3.9	0.8	12.4
Other services	1.8	2.7	0.5	17.1
Other industries	1.5	1.6	0.0	11.7
All industries	2.0	3.2	0.6	25.4
Size and age groups:				
Aged Less than 15 years				
<100 workers	2.0	4.2	0.5	17.0
100 workers or more	2.2	0.7	0.1	42.8
Aged 15 years or more				
<100 workers	2.3	3.3	1.1	25.8
100 workers or more	1.6	1.6	0.3	49.8
Business formality:				
unregistered micro	7.6	6.4	3.3	
registered micro	3.5	6.0	8.3	
SME	2.0	3.2	0.6	
Regions:				
Eastern Cape	3.9	1.0	0.0	18.7
Gauteng	2.1	3.6	1.7	24.9
KwaZulu-Natal	2.8	3.6	0.4	19.4
Western Cape	2.0	3.8	0.0	34.5

3.4 CRIME, EMPLOYMENT, AND PRODUCTIVITY

Crime against Businesses is Widespread and Growing

Comparing data across countries, we see that firms in South Africa are far more likely to rank crime to be a major problem than most of its middle-income comparators (figure 3.4). The costs of crime as the percentage of sales spent are also higher for South African firms for firms in all other comparators except Argentina (figure 3.5).

Figure 3.4 : % of Firms Identifying Crime, Theft and Disorder as Major Constraints

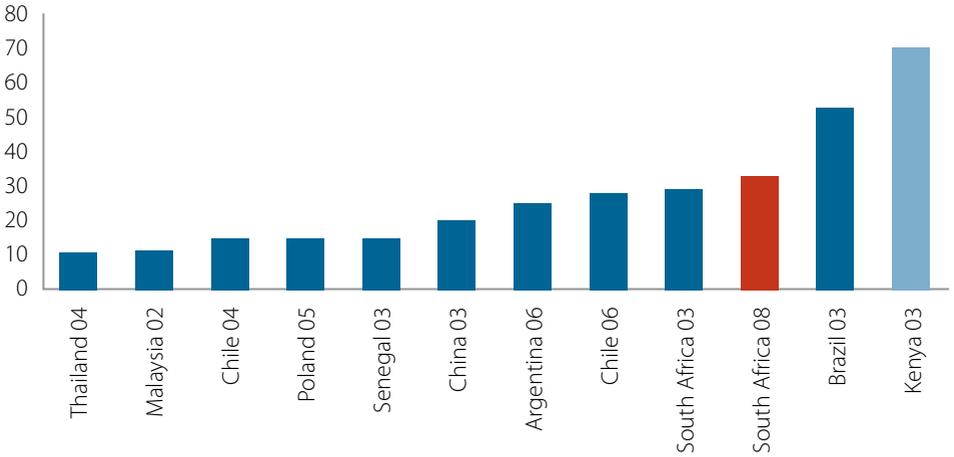
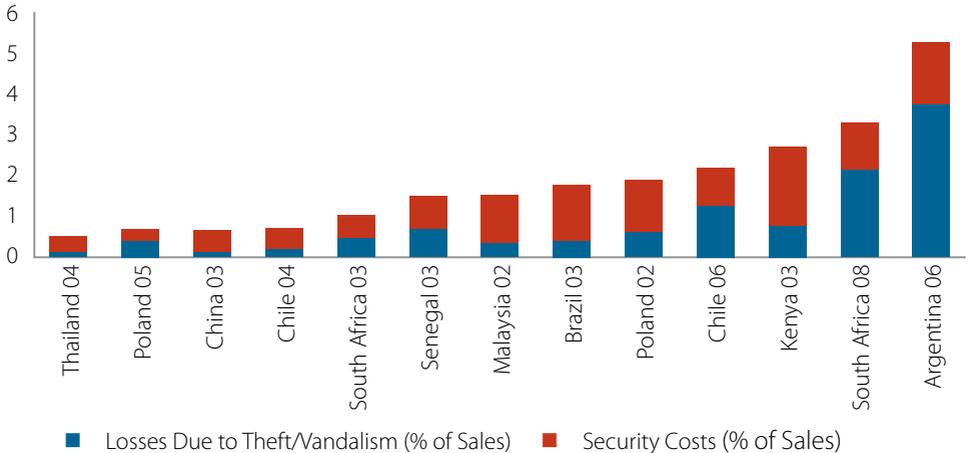


Figure 3.5 : Losses due to Crime and Security Costs: Cross Country Comparisons



Crime in general and property crime in particular has been a very serious social problem in South Africa at least since the early 1990s. The problem grew steadily worse throughout the 1990s and the early 2000s, although the number of crimes reported reached something of a climax in 2003 and has fallen steadily since then (figure 3.6; Louw 2006). Yet crime rates are still quite high in most parts of the country (figure 3.7), and seem to have picked up recently. Louw (2006) calculates that the number of serious crimes increased by 7 percent between 1994 and 2006—from 2,022,899 to 2,168,952. The latest count available to us is still about 2 million, and

is for 2007/08 (Small Business Project, 2008). The true figure is very likely significantly higher in view of the fact that, as a rule, only a fraction of crimes is reported to the police, especially when these involve property (Altbeker 2005).³⁴ This underscores the value of specialized surveys as a supplement to police statistics to get a better sense of how widespread various forms of crime are. The picture drawn of the incidence of crimes directed at businesses by one such survey of just under 800 SMEs and microenterprise in 1999 was rather grim, with 61 percent of the surveyed businesses indicating they had been victimized the previous year (Chandra et al. 2001b).³⁵ Business victimization rates were even higher for larger firms surveyed at about the same time, with 83 percent of a sample of some 350 firms reporting they had been victimized in the previous year (Chandra et al. 2001a).³⁶

More recent studies have also reported an increase in crime over the past two to three years. A Gallup survey³⁷ conducted in 2007 noted that 41 percent of South Africans felt safe walking alone at night in 2006, but this number declined to 31 percent in 2007. More respondents in their survey were also victims of a crime—35 percent in 2007, compared to 23 percent in 2006. *Business Day* reported in 2008 that crime was the most frequently cited reason for professionals leaving the country. A survey of 300 private businesses, conducted by Grant Thornton SA found that in 72 percent of businesses surveyed, employees or their relatives in had been affected by violent crime in the past year. The majority of businesses (80 percent) surveyed also reported increased costs for security. Enterprises in Gauteng province reported higher incidences of crime than other regions. The study also noted that violent crime is on the rise, despite assurances by the government that it is bringing crime under control.

The bulk of reported crime is directed at businesses and property. Of the approximately 2 million crimes reported to the police in 2007/08, 71 percent fell in this category, and involved theft, robbery, and burglary of businesses and residences (Small Business Project, 2008). Crimes in these particular categories are shown to be on the rise. For example, burglary of business premises increased by 8 percent from the previous year, while robberies grew by 14 percent (Small Business Project 2008).

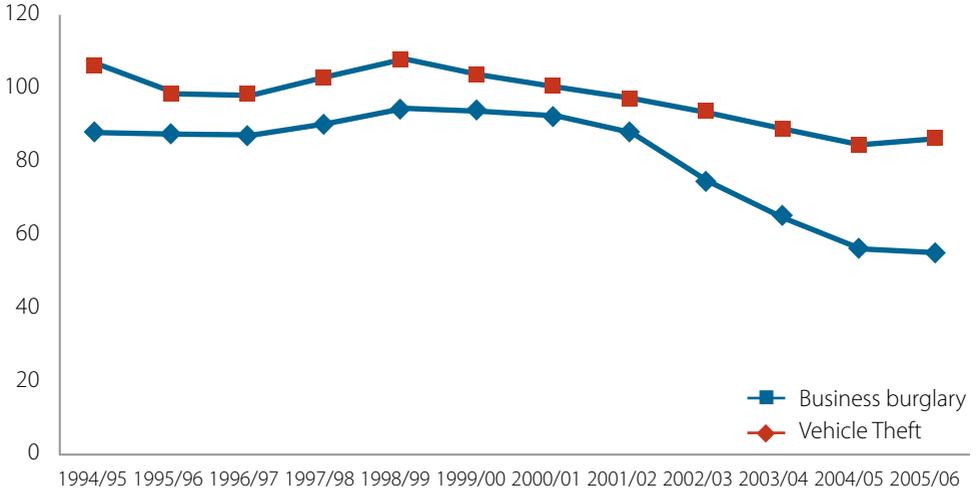
34 Altbeker (2005) cites a survey of about 5,000 people in 2003 that showed very low reporting rates for various categories of crime. For example, only 71 percent of those who reported in the survey that they had been robbed said they had not reported the matter to the police. Non-reporting rates for other categories were as follows: 64 percent of victims of stock theft, 59 percent of victims of other theft, and 43 percent of burglary victims.

35 This is the joint Greater Johannesburg Metropolitan Council (GJMC)-World Bank survey of micro, small, and medium enterprises in the Johannesburg area carried out in 1999. A quarter of the responding businesses were microenterprises, defined as those employing no more than four workers.

36 This was the 1999 joint GJMC-World Bank survey, of 325 large manufacturing firms drawn from the Johannesburg metro area, and eight sectors, including sectors covered by the Enterprise Survey, with more 70 percent of the sample employing 200 workers or more (Chandra et al. 2001a).

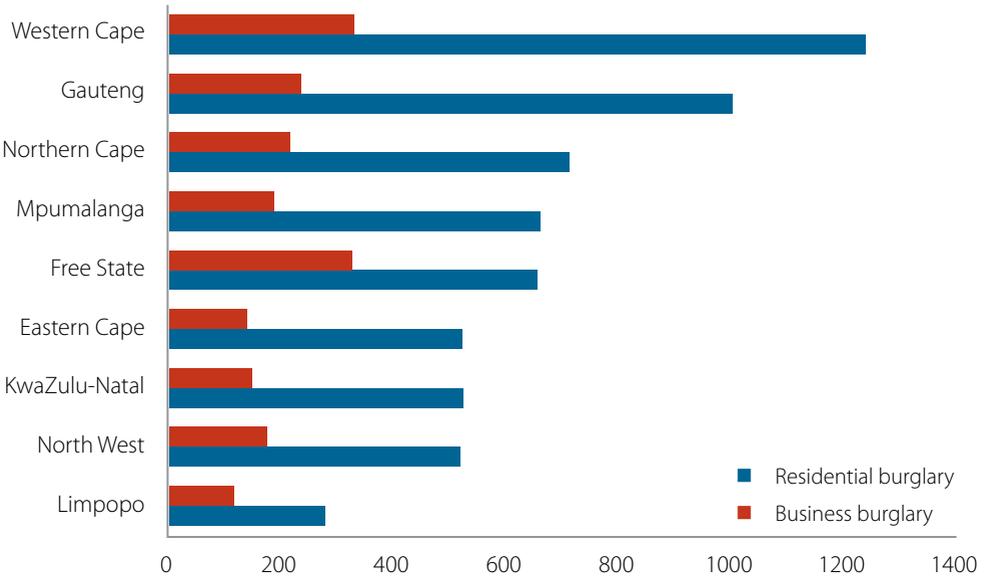
37 Gallup Surveys, www.gallup.com 2007.

Figure 3.6 : Business burglary and vehicle theft incidents ('000)



Source: Louw (2006)

Figure 3.7 : Incidence of property crime per 100,000 of population (2001/2002)



Source: Masuku (2003)

The Main Categories of Business Crime

In the 1999 GJMC -World Bank SME and microenterprise survey, of the 61 percent of the full sample that were victims of crime the previous year, 63 percent experienced break-ins and 40 percent reported employee theft, while employees of 35 percent of the businesses were victims of crime while traveling to or from work (Chandra et al. 2001b). In the GJMC-World Bank survey of large firms, break-ins, employee theft, and crimes against employees were identified by managers as the main forms of crime affecting their businesses, with some 61% of respondents saying their workers were victimized on their way to or from work (Chandra et al. 2001a). More recent surveys suggest that the relative weights of types of crime affecting businesses may not have changed much, although these surveys are comparatively specialized in coverage, and should be interpreted with caution. Thus the distribution of the sample of the survey described in Skinner (2005) by forms of crime reported is as follows: break-in and property theft (59 percent), vandalism (16 percent), employee theft (12 percent), extortion (10 percent), physical attacks (8 percent), other (7 percent), and employees being subjected to crime (5 percent).

In the SBP survey (Small Business Project 2008), the most prevalent forms of crime were burglary and armed robbery, with burglary alone accounting for over 40 percent of reported incidents. Other common forms of crimes were shoplifting, hijacking, car theft, and assault or street mugging. The SBP survey had a sample of 446 almost exclusively black-owned, small businesses (with an average employment size of six), chiefly from the inner cities of Johannesburg, Durban, and Cape Town, as well as surrounding townships and informal settlements. The businesses were mostly drawn from retail trade and personal and professional services, but also included small manufacturers, although the latter constituted less than 10 percent of the total. In the survey described in Madheba (2008), 25 percent of the sample of 160 VAT-registered SMEs and microenterprises had recently been victims of burglary. The sample was drawn exclusively from Pietermaritzburg (the capital and second-largest city of Kwazulu-Natal), and was distributed by sector as follows: 30 percent retail, 30 percent other services, 10 percent manufacturing, and 30 percent transport, travel and tourism, and food franchises.

Given how widespread crime directed at businesses and their employees has been over the years, it is not surprising that managers have rated the problem as a major business environment issues in surveys. Thus in the GJMC-World Bank 1999 large firm survey, 95 percent of the CEOs surveyed identified the problem as the main constraint to growth, compared to 80 percent who considered skills shortages as a bottleneck to firm growth (Chandra et al., 2001a). A similar percentage of business managers in the GJMC-World Bank SME survey also thought tackling crime should

be given priority by local governments (Chandra et al. 2001b). More recently, 54 percent of respondents to the SBP survey considered crime a key problem (Small Business Project 2008), while 89 percent of those interviewed in the survey analyzed in Madheba (2008) thought likewise. Finally, about a third of respondents to the 2003 and 2008 Enterprise Surveys rated crime as a major or severe obstacle to business expansion.

Crime Raises the Cost of Doing Business

What damage to business do managers have in mind when they complain about crime as a business problem? The most immediate reason for their complaint is that crime raises the cost of doing business.³⁸ Crime can also reduce consumer demand for the products of certain industries, notably, tourism. The additional costs of doing business due to crime have two broad components, one of which is the cost incurred directly in securing business premises and merchandise in transit, as well as the cost of insuring these against theft or robbery. The noninsurance part of this cost can include investment and running costs of special fences, alarm systems, cameras, and other security devices, and the cost of hiring and equipping guards or hiring the services of security firms. The second component is what businesses actually lose when crime occurs, in the form of theft or damage to goods and property. The sum of the two components averaged 3.2 percent of sales for the 2008 Enterprise Survey sample. Only Argentina among South Africa's peer group had a higher Enterprise Survey sample average of cost of crime relative to revenue (figure 3.4). The average for almost everyone else in the group was below 2 percent. More significantly, South Africa's current average is more than three times the average of the 2003 survey (Clarke et al. 2007), suggesting that, over the past five years, the cost of doing business has increased significantly for the average South African firm because of crime. That might explain why the complaint rate remained largely unchanged between the two surveys (figure 3.1), despite police statistics showing that the national aggregate of reported property crimes has declined over the same period (figure 3.6). We do not know how far back the trend of rising cost of crime to businesses started in time.³⁹

In the 2008 Enterprise Survey, a third of the overall business cost of crime was expenditure on security, with the balance being revenue lost as a result of actual crime. Although both components were larger than they had been in the 2003 survey, the share of the

38 For society as a whole, there is the additional cost to the public purse and to households. The aggregate cost of preventing, prosecuting, and combating crime in the mid-1990s was estimated to be on the order of R45 billion, of which about a third consisted of public expenditure, the balance being borne directly by businesses and households (Madheba, 2001).

39 The GJMC-World Bank surveys of 1999 reported only the security cost component, which averaged 1.6 percent of the revenue for the average firm in the large firm survey (Chandra et al. 2001a). This is significantly higher than that reported in both waves of the Enterprise Survey, and suggests that the security cost component might have declined since 1998, before picking up sometime before 2003.

loss due to crime grew faster. The survey reported on in Madheia (2008) showed more or less the same split between the two components as the 2008 Enterprise Survey.⁴⁰

Prevalence of Crime Means Fewer Jobs, Lower Productivity

The higher cost of doing business at the firm level due to crime has meant less investment, fewer jobs, and lower productivity on the aggregate. Crime has reduced employment by making investment more risky (Small Business Project 2008), and by reducing labor supply in crime-infested areas (Cichello et al. 2005; Madheia 2008).⁴¹ The Enterprise Survey data suggest that crime has also reduced employment and productivity in as far as it has led to misallocation of resources by forcing businesses to make choices that they would not make in a crime-free situation. In light of South Africa's severe unemployment problem, a particularly important manifestation of this misallocation has been underinvestment in labor-intensive industries, which in turn has meant lower aggregate employment, and also has reduced aggregate productivity by lowering the allocative efficiency of domestic industry as a whole. Thus, the losses in employment and productivity have been as much a product of how widespread crime is as they have been of the fact that crime has hit some sectors of the economy and some sections of society so much more than it has others.

Crime reduces employment by increasing risk and uncertainty

Crime has reduced employment in part because it has made business fixed investment rates lower, and partly because it has lowered the number of jobs created for a given volume of investment. Part of the reason that crime has reduced the rate of investment in fixed assets is that it reduces the expected rate of return to those assets. But crime also has reduced investment rates for other reasons, including that it makes the outcome of investment more uncertain. Table 3.7 shows the importance of these other reasons. The table estimates a dynamic fixed business investment equation based on Bond and Meghir (1994) and in which a range of factors are controlled for, including recent history of investment (first and second row of the table), the business's liquidity (third row), and the degree of monopoly it might enjoy in the market for its products (fourth row). Holding all these constant, and also controlling for other aspects of the business environment, including how the business is affected by power

40 The split of the cost of crime to the average business as reported in Madheia (2008) is as follows: cost of replacement of stolen stocks or repair of damaged facilities (50%); Cost of increased security including that of installing alarm systems and hiring guards (25%); Loss of income due to closure of premises (25%); Loss due to absentee workers (11%).

41 Chandra et al. (2001a) show a statistically significant negative correlation between net hiring and expenditure on crime. On the demand and labor supply effects of crime: 17 percent of respondents to the survey described in Madheia (2008) reported that their growth was constrained because of sales lost to crime because business was located in an area targeted by criminals, which customers avoided, while 13 percent reported that they could not hire as many people as they would have liked to because they were located in any area that potential recruits avoided. Also on labor supply effects, respondents to the survey in described in Cichello et al. (2005) identified crime as "the dominant hindrance keeping the unemployed from entering self employment."

shortages, the type of industrial relations in which it operates (row 6), an increase in the cost of crime relative to revenue by a percentage point would reduce the rate of fixed investment in the business by just under 12 percentage points (column 1). This is a large number, but one that we have good reasons to believe is a reliable estimate.⁴²

Table 3.7: Estimation of the Bond-Meghir Dynamic Investment Function

Allerano-Bond Dynamic Panel GMM Estimator						
<i>Dependent variable: current value of the ratio gross fixed investment to lagged fixed assets</i>						
	(1)	(2)	(3)	(4)	(5)	(6)
(Investment/Fixed assets) t-1	0.233 (1.39)	0.218 (1.23)	0.217 (1.26)	0.203 (1.14)	0.221 (1.31)	0.296 (1.89)
(Investment/Fixed assets) 2 t-1	0.012 (2.68)**	0.011 (2.90)**	0.012 (2.83)**	0.012 (3.03)**	0.013 (3.18)**	0.011 (3.17)
(Cash flow/Fixed assets) t-1	-0.433 (1.86)	-0.356 (1.55)			-0.121 (0.86)	-0.336 (1.97)*
(Sales/Fixed assets) t-1	0.052 (2.34)*		0.046 (2.07)*		0.037 (2.09)*	0.034 (1.82)
(Sales lost to outages(%)) t-1	-0.045 (0.42)	-0.061 (0.62)	-0.006 (0.05)	-0.017 (0.15)		-0.018 (0.21)
(Unionized workforce(%)) t-1	-0.002 (0.97)	-0.002 (0.97)	-0.001 (0.73)	-0.002 (0.84)		-0.003 (2.01)*
(Cost of crime(% of sales))t-1	-0.116 (1.69)	-0.067 (1.06)	-0.105 (1.17)	-0.073 (0.81)		-0.065 (1.49)
(Bribes(% of sales)) t-1	-0.132 (0.94)	-0.188 (0.87)	-0.122 (0.89)	-0.163 (0.81)		-0.013 (0.24)
Constant	0.497 (2.00)*	0.696 (3.11)**	0.237 (1.37)	0.462 (3.30)**	0.105 (0.85)	0.392 (2.28)*
Observations	382	382	382	382	382	382
Number of enterprises	176	176	176	176	176	176
Hansen overid test stat	8.5	10.6	8.4	9.7	12.5	15.4
p-value for Hansen overid test stat.	0.49	0.24	0.39	0.21	0.49	0.42

Robust z-statistics in parentheses | *significant at 5% level; **significant at 1% level

Note. Excluded instruments: (1) further lags of the ratios: (Investment/Fixed assets), (cash flow/fixed assets) and (Sales/Fixed assets); (2) location-industry cell means of lags of the business environment variables : sales lost to outages(%), unionized workforce(%), cost of crime(% of sales), and bribes(% sales); (3) business owner's social characteristics: business owners education, gender of the business owner, four dummies of the ethnic origin of the business owner; and number of employees at start up

Crime Reduces Expected Rate of Return on Investment

Raising the risk and uncertainty involved in fixed investment decisions is only one channel through which crime affects the rate of investment. Crime also reduces the expected rate of return to fixed assets, for which we have used a proxy in our analy-

42 Although we are unable to test for the presence of serial correlation which could bias it, we think that it is probably a reliable estimate, in part because the overidentification tests reported at the bottom of the table do not reject the validity of the instruments used to identify the effect crime has on investment in the presence of causation in the reverse direction. Perhaps as important, the estimate is quite close to what we infer from the scale effects of the cost of crime in productivity equations.

sis—the ratio of gross profits to fixed assets. Depending on the method of estimation we use, an increase in the cost of crime relative to revenue by 1 percentage point reduces the gross profitability ratio of fixed assets by 6 percent to 40 percent. The estimation methods vary in the way they identify the true effect of crime in the presence of causation in the reverse direction as we relate the cost of crime to profitability. The cost of crime itself may depend on how profitable a business is, either because more prosperous businesses attract the attention of criminals, or because more successful firms may prevent crime more effectively. It is necessary to deal with this kind of reverse causation in order to reliably estimate the effect of crime on profitability. One of our approaches to achieving this is to use a first-difference instrumental variable (IV) estimator. This method leads to the larger estimate that a percentage point increase in the cost of crime relative to revenue reduces the gross profitability of fixed assets by 40 percent. Our second approach is to use the Hausman-Taylor estimator, which leads to the estimate that a percentage point increase in the cost of crime relative to revenue reduces profitability by 6 percent.⁴³

Crime Has Made Production More Capital Intensive

Crime reduces the profitability of fixed assets because it also reduces the marginal revenue productivity of capital. We estimate that as a result of an exogenous increase in the cost of crime relative to output by a percentage point, the marginal revenue productivity of capital would fall in the range of 8.9 percent (Hausman-Taylor estimate) to 53 percent (first-difference IV estimate). This interpretation of the effect of crime on profitability is important because it also tells us about the other channel through which crime affects employment, namely the labor intensity of production and investment. One of the ways crime can reduce the marginal productivity of capital in a business is that it makes production more capital intensive, thereby reducing the number of jobs created for a given volume of fixed investment. The Enterprise Survey data suggest that crime has indeed done so in South Africa, possibly in a big way. Our estimate of the effect of increasing the cost of crime (relative to revenue) by a percentage point ranges from 16.2 percent (Hausman-Taylor estimates) to 43.5 percent (first-difference IV estimates).

The basic thrust of this finding should not be surprising. Given the nature and scale of crime in South Africa, it is only rational, especially for comparatively small firms, to try and avoid managing large numbers of employees, partly because a larger workforce would be more expensive to protect against crime. Firms could also see a larger workforce as more expensive to screen for criminal infiltration and more costly to monitor for the activities of such infiltrators.

43 A discussion of the two approaches and their respective limitations is provided in a separate technical note available on request.

Crime Generates Allocative Inefficiency

In principle, crime can also reduce the marginal productivity of capital either by reducing output price or by reducing total factor productivity. The data show that crime does reduce the product of output price and productivity, which is sometimes called total factor revenue productivity (TFPR). Although we have no formal way of separating out the price effect from the TFP effect in this, all the other results suggest that crime cannot lower output prices in the South African situation. If anything, it is likely to have increased prices, partly as a cost push factor, but mainly because of the fact that it reduces investment, which is likely to lead to greater concentration of market power in industries it affects most, which in turn would raise markup rates. The fall of TFPR with the cost of crime that we see in the Enterprise Survey data can therefore be explained by the cost of crime reducing TFP, which is also consistent with the result that crime reduces investment and makes industries more concentrated from another angle. The more concentrated an industry, the less the competitive pressure incumbents face, and the less likely they are to innovate. In other words, we would expect average within-firm TFP to be smaller in industries particularly affected by crime.

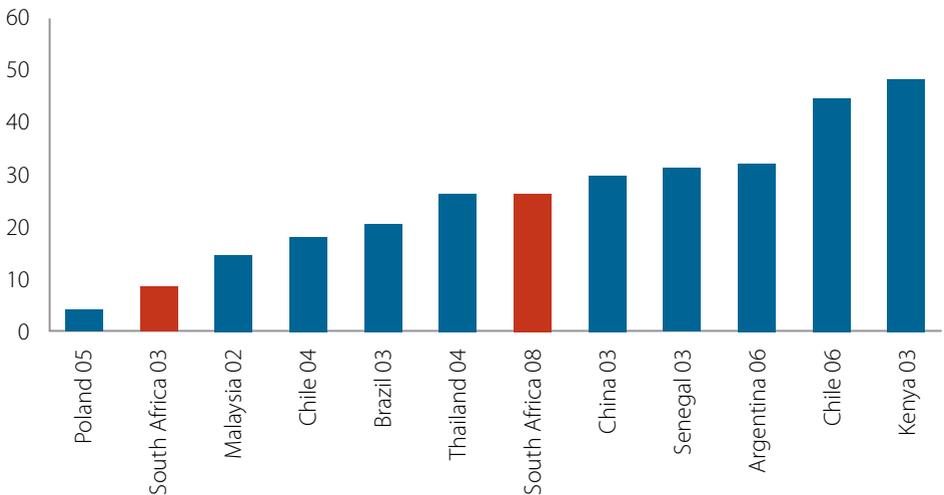
This consequence of crime should not be confused with the effect that crime has on aggregate productivity through its effect on allocative efficiency. Although we cannot quantify the magnitude of the loss of allocative efficiency due to crime, we know that such losses exist and are probably substantial from what we could tell from two patterns in our data. One is that crime does reduce investment rates. The other is that the cost of crime relative to revenue is extremely heterogeneous across firms in our sample. The best way of sizing up the losses is to compare them with what would happen in a counterfactual situation whereby all producers faced the same prices for identical product and purchases, the same tax rates, and an identical business environment in every other respect. In such an ideal world, everyone would maximize profits by employing their resources to the point where the marginal revenue productivities of capital and labor would be the same for all enterprises. This would not be the case if the cost of crime differed from firm to firm, as it does in South Africa, relative to revenue, assets, or hiring levels. In that case, the marginal factor productivities would differ between businesses in a pattern reflective of the distribution of the cost of crime. Even though everyone would still be maximizing profits given their respective crime costs, the allocation of capital and labor would be distorted from what it would be in the absence of crime or if the cost of crime did not vary much across firms. The distortion is to society because it means less aggregate output than there would be if there were no crimes or if the cost of crime were the same for everyone. This output loss is an allocative efficiency loss in the sense that society would

recover the loss if only it could reallocate productive resources from firms where their marginal productivity is low to those where their return would be higher.⁴⁴

3.5 THE POWER CRISIS OF 2008

A recent study by the World Bank (Bogetic and Fedderke 2006) finds that perceptions its physical infrastructure compare favorably with other upper-middle-income countries for those that have access to these services (table 3.8). However, there was something of a crisis in early 2008 when electricity supply failed to keep pace with comparatively rapid economic growth and brought to the surface that the sector has been subject to serious underinvestment for years. That power supply was rated a major business environment issues in the 2008 Enterprise survey, which it was not 2003, was reflection of the crisis. The change in ratings reflected a jump in output losses that businesses attributed to power outages between the two surveys (figure 3.10)

Figure 3.8 : % of Firms Identifying Electricity as a Major Constraint



The international comparison of the Enterprise Survey data shown in figures 3.9 and 3.10 also indicates that, unlike crime, the power crisis might not have affected much the international perception of South Africa's business environment. Although a greater percentage of firms in South Africa are reporting electricity to be a major problem than firms in Brazil, Thailand, Malaysia, and Poland, estimated output losses

⁴⁴ The only practical way of effecting the reallocation in this particular case is either to "eradicate" crime, or level the playing field for everyone somehow from the point of view of the cost of crime, which is part of what public law and order institutions are supposed to do.

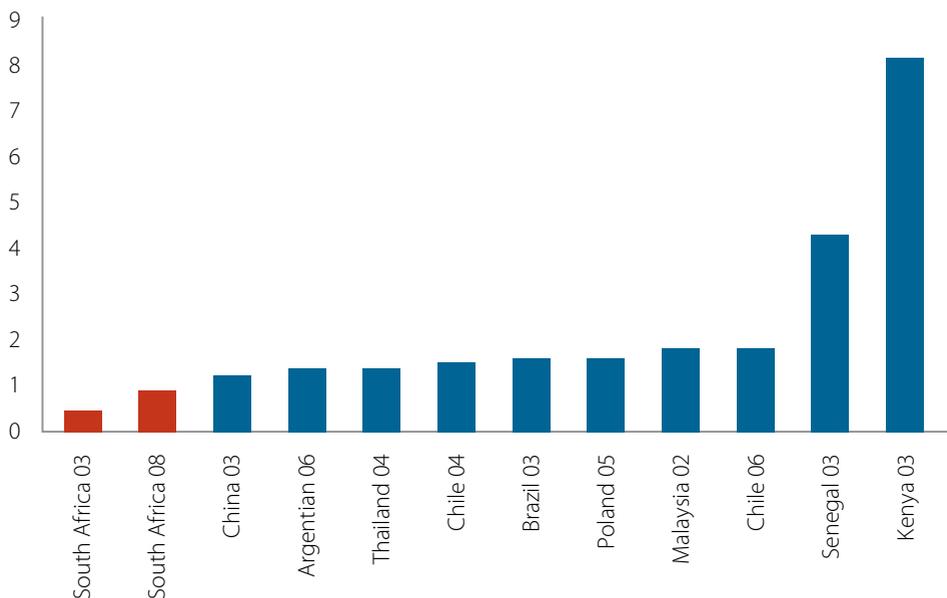
attributed to outages are low in South Africa by the standards of those countries. The crisis is believed to have cost South Africa in lost growth nonetheless. Thus, in January 2008, *The Economist* reported that⁴⁵ “the government says with a straight face that the economy, which grew by 5 percent last year, will not be affected... large power-hungry industrial projects... need guaranteed electricity supplies in order to go ahead. Smaller businesses, already hit by rising interest rates, cannot afford generators and are struggling to cope with power cuts.”

Table 3.8: Perceptions of infrastructure services

	South Africa	Upper Middle Income	Sub-Saharan Africa	South Asia	East Asia and Pacific
Electricity Avg. End User Prices (residential/non-residential us cents/kwh)	3/2	9/7	6/7		5/5
Commercial Perception of Electricity Service (1=worst,7=best)	5.8	5.2	4.3	2.6	4.3
Commercial Perception on Availability of Mobile phones	6.3	6.0	5.7	5.9	5.7
Commercial Perception of Road Services	5.3	4.1	3.7	3.9	4.4

Source: World Bank, 2006

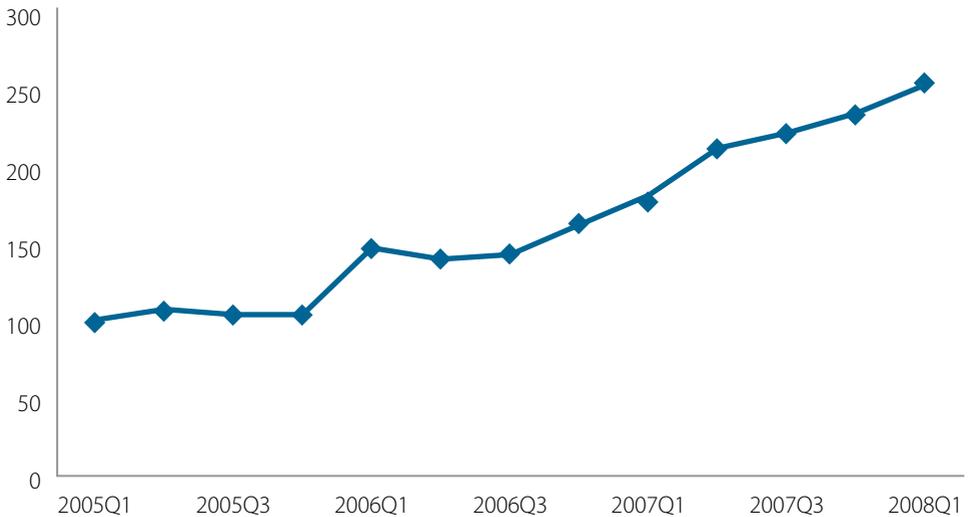
Figure 3.9 : Value Lost Due to Power Outages (% of Sales)



45 The Economist, January 31st, 2008

The Enterprise Survey data also provide some evidence that the power crisis may have made production more capital intensive, at least in the short run, and may have reduced employment as a result. To give orders of magnitude of the changes involved, Hausman-Taylor estimates suggest that the ratio of fixed assets to outlay on labor might have gone up by an average of 7 percent to 9 percent for every percentage point increase in the cost of outages relative to revenue. The first-difference IV estimates suggest that if anything, this understates that effect on capital intensity several times over. The reason we think that the rise in capital intensity might have reduced employment is that outages do not seem to have affected much the rate of investment itself, at least in as far as we can tell from the investment functions (table 3.2) and productivity equations estimated from the Enterprise Survey data.⁴⁶ The increase in average capital intensity therefore looks to have come about by firms switching funds from their wage bill to capital expenditure, most probably on equipment for backup power supply and, possibly on replacing existing machinery by substitutes less susceptible to damage from power fluctuations. A piece of evidence lending support to this conjecture is that aggregate expenditure on generators doubled in South Africa between the first quarter of 2007 and the first quarter of 2008 (figure 3.6).⁴⁷

Figure 3.10 : Generator Sales Index: 2005Q1=100



⁴⁶ The Enterprise Survey data do suggest that the power crisis might have reduced returns to fixed assets, and might therefore have reduced investment rates. However, the evidence on this is not as strong as that on the effect of crime on profitability, or as that on the effect of power shortages on capital intensity. Although Hausman-Taylor estimates suggest that the gross profitability of fixed assets would fall by nearly 14 percent for every percentage increase in loss to outages relative to revenue, no statistically significant association between profitability and the cost of outages shows up in the first-difference IV estimates. Similarly, the marginal revenue productivity of capital would be 16 percent smaller for every percentage increase in the cost of outages in the Hausman-Taylor estimate, but this result, too, disappears in the first-difference IV estimates.

⁴⁷ We are grateful to Neil Rankin of Wits University for drawing our attention to and supplying us with Figure 3.11.

Source: Diesel and Gas Engine Association of Southern Africa

Depending on how quickly the uncertainty of supply that the crisis has generated is resolved, the increase in capital intensity that this process of substitution has produced may well turn out to be a very short-term phenomenon. Indeed, even on the assumption that power shortages will be around for some time, the longer-term effect could be one of a decline in capital intensity rather than a rise, if the initial substitution of capital for labor is offset by decline in investment in energy-intensive sectors in favor of investment elsewhere in the economy. This assumes that energy-intensive sectors are normally more capital intensive than the rest of the economy and that energy is complementary to capital as an input. On this latter assumption, the positive correlation between capital intensity and the cost of power outages we see the Enterprise Survey data might sound counterintuitive. The correlation makes sense, though, if we view it as reflection of the initial phase of firms' adjustment to the crisis involving the substitution of capital for labor within every industry, as opposed to the effect that the shortages may have over the long term on the allocation of capital between energy-intensive sectors other industries.⁴⁸

3.6 A MISCELLANY OF ISSUES

Employment Regulation

Estimates of productivity and investment functions suggest that labor regulation has some influence on fixed investment rates as well as on the number jobs created per unit of investment. In the estimates, union coverage is used as the proxy for labor regulation. Table 3.7 suggests that the rate of fixed investment decreases with union coverage, with an increase in the rate of unionization by a percentage point reducing the rate of fixed investment by 0.3 percentage points. This estimate is conditional on the past investment history of the enterprise, its liquidity, and its market power. It does not, therefore, include the impact that labor regulation may have on the rate of investment through the rate of return on fixed assets, liquidity, or wages. We also estimate that the gross profitability of fixed assets drops by 0.5 percent to 1 percent with a percentage point increase in the unionization rate. This has partly to do with the fact that an increase in the unionization rate is associated with a decrease in TFP by about 0.3 percent. It is also consistent with a third result: An increase in unionization by a percentage point raises the ratio of fixed assets to employment by 0.7 percent.

⁴⁸ Hausman-Taylor estimates of productivity equations also suggest that power shortages might have significantly reduced average within-firm TFP, as well as industry-level allocative efficiency, although once again these effects fail to hold up in first-difference IV estimates.

These estimates are very much in line with the report in the first assessment (Clarke et al. 2007) that about a third of business managers rated labor regulation as a major obstacle to business expansion. They are also consistent with the findings of an earlier World Bank study (Chandra et al. 2001a) that some 40 percent of CEOs in a sample of 300-plus large businesses interviewed reported to have substituted capital for labor and temporary workers for permanent workers in response to the post-apartheid tightening of labor regulation. At the same time, there are indications that South Africa's labor market has grown considerably more flexible in recent years. One such indication is that that labor regulation is being reported as a growth obstacle by fewer and fewer businesses. Thus according to the 2008 Enterprise Survey, only 6 percent of employers considered labor regulation to be a major or severe obstacle to business expansion. This is a sharp drop from the proportion of managers who gave the same rating to labor regulation as an obstacle in the 2003 survey. The drop does not seem to be driven by changes in sample design. It applies to all industries and to all business size and age groups. Most interesting, it is even more pronounced among businesses that were covered by both surveys.

This change in perceptions could mean that there have been changes either in the implementation of labor laws or in the performance of labor market institutions that have eased the cost of labor regulation to businesses. It could alternatively mean that businesses have adjusted away from those costs somehow to a point where they would not consider them to be relevant to their operations anymore, even though the costs would still be there and be as high as before in the absence of the adjustments. A third possibility is that the responses to the 2003 Enterprise Survey reflected respondents' uncertainty or fears about the behavior or impact of evolving regulatory institutions, and that uncertainty had been resolved and anticipations corrected by the time of the 2008 survey.

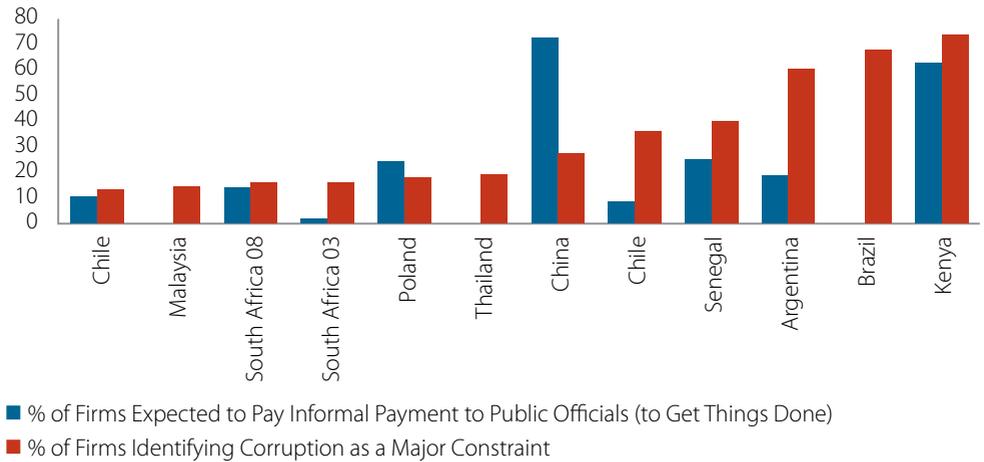
Although we have no way of testing for the second or third explanations, the last explanation finds support in a widely held expert opinion that labor market institutions are more favorably viewed now than they were in 2003, essentially because survey respondents were more uncertain of the direction of the government's labor market policy in the early days than they are now. We do think there is significant evidence in favor of the first explanation as well, that South Africa's labor market is objectively more flexible now than it was six or seven years ago. One example of that evidence is that the average enterprise workforce unionization rate in the 2008 sample is significantly lower than in the 2003 sample. Needless to say, the third and first explanations are not mutually exclusive.

Petty Corruption

South Africa is a relatively corruption-free country. As a result firms in the country are less likely to rate corruption as a major problem and less likely to pay bribes to officials

than all other comparators in figure 3.12 except Chile and Malaysia. Moreover, the percentage of firms who consider corruption as a problem has not changed significantly since what it was in the 2003 survey once we control for changes in sample composition as can be seen from the probit estimates of table 3.4. Although the percentage of firms paying bribes is greater than in 2003, it is comparatively small at 10 percent.

Figure 3.11 : Rating of corruption as a business obstacle and bribe payments across countries



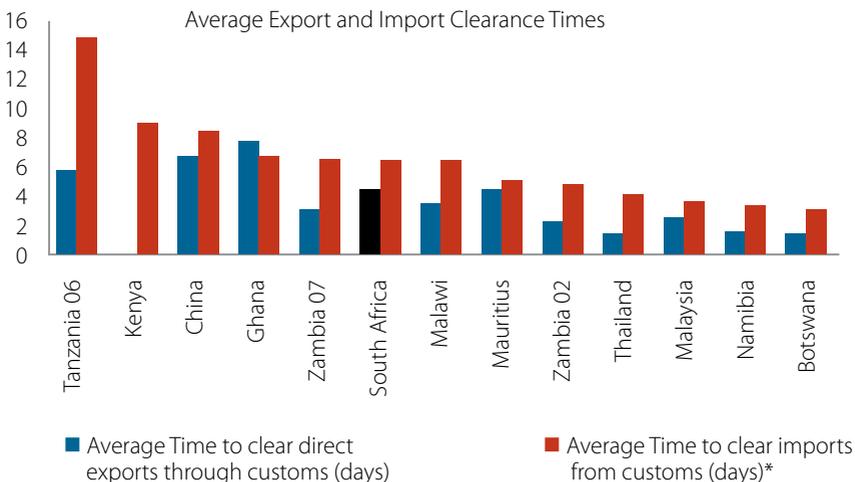
At the same time, it is important that corruption is the third most complained about aspect of the business environment in the 2008 Enterprise Survey after power shortages and crime, which makes worthwhile to investigate if it has had significant economic impact. Some 16 percent of manufacturers and 19 percent of retailers in the survey sample rated it as a major or severe obstacle to business operations or business expansion (table 3.1). The complaint rate in the 2003 Enterprise Survey was also sizable, at about 15 percent (figure 3.3). It turns out that, unlike crime, power shortages, and labor regulation, corruption does not seem to be robustly associated with employment outcomes or productivity in the Enterprise Survey data. Although it is significantly correlated with both in the Hausman-Talyor estimates, the correlation disappears in all first-difference and fixed-effects IV estimates. We are therefore wary of drawing any firm conclusions about the employment or productivity implication of this potentially important aspect of South Africa's current business environment. We still would like to draw attention to the correlations in the hope that they will help motivate further studies of the subject. On the face of it, the correlations suggest that bribery payments tend to be higher in more labor-intensive industries and industries where product market competition is weaker.

Macroeconomic Stability, Taxation and Regulation

Macroeconomic instability was one of the top four issues of concern in the 2003 survey (figure 3.3). It was rated then as a major or severe obstacle to business expansion by more than 30 percent of respondents, who were primarily concerned about the volatility and appreciation of the Rand at the time. The situation changed radically in the 2008 survey, where only about 5 percent of firms rated currency fluctuation and appreciation as a major obstacle to growth. Still, it is clear that macroeconomic instability continues to be seen as a major problem in the construction and transport sectors, where 21 percent of respondents rate it as a major or severe obstacle to business expansion.

Other aspects of the business environment which are often found to matter in other countries but have not been of significant concern to the business community in South Africa in the 2008 Enterprise Surveys include taxation, business licensing, customs administration, and political instability. None of these was considered to be a major or severe obstacle to business growth by more than 10 percent of respondents in the 2008 survey. Moreover, in every one of these cases, the percentage of firms who rate a problem as a major or severe obstacle decreased substantially between the two surveys. The decrease remains substantial and statistically significant when we control for changes in sample composition in the case of high taxes and customs administration, which were rated as major or severe obstacle in the 2003 survey by 20 percent and 15 percent respectively of respondents in the 2003 survey (table 3.5).

Figure 3.12 : Customs and Trade - Export and Import Clearance Times



This picture is very much consistent with South Africa's international position on the World Bank's Doing Business Indicators, which are based on expert surveys and examines rules that govern business across countries, as opposed to firm experiences. As pointed out in the opening chapter, rules in South Africa compare favorably to those of other countries in all areas of regulations. The only area where South Africa ranks very low (134th), is in cross-border trade. Doing Business bases this ranking on a calculation of the days it takes after initial contact is established till the date of export or import, and the cost of exporting or importing. Findings from Enterprise survey, on the number of days it takes to export or import, based on actual firm experiences, are presented in figure 3.13. We see that South Africa lies in the middle of the pack. Import clearance times average around six days, and this has not changed since 2003. Export clearance times range around four days, and this has also remained unchanged. But there is certainly room for improvement as a comparison of South Africa's days in chart with those Malaysia and Thailand suggest.

3.7 CONCLUSION

Overall, South Africa's business environment compares favorably within its peer group and has improved a great deal since the 2003 survey. On their own, the 2008 ratings of business environment issues by business managers tell a story that is very much consistent with the Doing Business indicators and other indices that put South Africa's business environment in a favorable light compared to other emerging market economies. When comparing ratings of the 2003 and 2008 survey, the most significant change is probably that complaint rates have fallen drastically more or less across the board. A much smaller percentage of respondents rated individual areas of business environment to be major or severe obstacle to business expansion in the 2008 survey than did in the 2003 survey. Indeed, the complaint rate in 2008 turned out to be less than 10% in all areas except those of crime, electricity shortages, access to finance and petty corruption.

The only one of these four items of business environment that had made it to the top four areas of concern in the 2003 survey as well is crime. In 2003, the top four business environment issues of concern were macroeconomic instability, labor regulation, skills shortage and crime, in that order of importance. The level of concern had dropped dramatically with the first three of these, to the point that less than a tenth of respondents considered any of them to be a major obstacle. We have shown in the chapter that this shift in priorities, as well as the overall improvement in rating of South Africa's business environment by the business community, holds up when we control for changes in sample composition between the 2003 and 2008 surveys.

We have also shown that both the shift in priorities and the overall improvement in ratings are backed up by a variety of objective indicators of improvement.

Important as this improvement has been, the central message of the chapter is that crime is a major business environment problem for South Africa today. The prevalence of property crime has helped hold back employment growth in South Africa by discouraging investment in labor-intensive sectors and by helping make production more capital intensive overall. Widespread crime has also helped reduce aggregate productivity by lowering the allocative efficiency of domestic industry. It may therefore have adversely affected the growth of exports in general and of labor-intensive exports in particular. As a force that discourages domestic investment, crime is likely to have adversely impacted inward FDI as well. Combating property crime effectively is therefore one of the most important challenges to improving South Africa's business environment toward the fulfillment of the country's strategy of shared growth.

The chapter has also highlighted the potentially adverse influence of two other business environment factors to employment and productivity: the recent power crisis and labor regulation. Neither of these seems to have been nowhere near as powerful an influence as crime has been on employment or on productivity. But each seems to have been a significant factor nonetheless. The power crisis seems to have adversely affected employment, at least in the short run, in as far as it appears to have pushed up capital-labor ratios, especially in the small business sector.

CHAPTER 4

Formalizing Microenterprises

4.1 INTRODUCTION

One of the more immediate factors behind South Africa's high unemployment rate is the fact that micro and small enterprises have not absorbed as much wage labor as they could have. This in turn has partly to do with the legacy of the active suppression of entrepreneurial activity among the black population in the apartheid era. The consequences of that legacy are most visible in the shortage of management skills and the underdevelopment of informal business networks.⁴⁹ In this chapter we draw attention to contemporary business environment problems that continue to hold back the growth of wage employment in micro and small enterprises by deterring the formation, growth, and formalization of promising informal enterprises, which is probably the most direct linkage between the informal sector and the SME sector.

An indication of the strength of this linkage is that some 74 percent of businesses in the 2008 survey sample observed in the five to 49-employees size group started as microenterprises, while of those within the 50-99 employment size group, about 31 percent started likewise. Of those observed as having 100 or more employees, some 29 percent began as microenterprises. The rate of expansion of the SME sector as the more labor-intensive part of the economy may depend on how soon and how far business environment problems that weaken the linkage are addressed. The most important of these problems relate to access to finance, crime, skills development,

49 See, for example, Reynolds (1992), Simon and Birch (1992), Altman (2008), Valodia et al. (2007), and Banerjee et al. (2006), on the nature and contemporary significance of these historical and political factors in enterprise development.

availability of urban space for business premises and facilities and transportation infrastructure.

A network of governmental and private sector business support schemes has evolved in South Africa in recent years—partly under the aegis of the Department of Trade and Industry (DTI, 2005) and local government authorities— and is addressing some of these problems in the SME and microenterprise sectors as a whole. It is not clear, however, how far these schemes have succeeded in reaching out to microenterprises in general, and to the more promising of informal enterprises in particular within that group. While our data suggest that existing programs are clearly assisting a sizable fraction of the upper end of the size distribution of the small enterprise sector, they do not show significant coverage of microenterprises, formal or informal. This could be entirely due to the limitations of our data, which consist of observations on a small sample of microenterprises drawn exclusively from Johannesburg. On the other hand, it is quite possible that our sample information is typical of the major urban centers in this particular regard. It is therefore worth emphasizing that the social payoffs from business support schemes specifically targeting formal microenterprises as well as more promising informal enterprises could be significant in the context of the government's employment promotion strategy in as far as the results reported here can be projected to the national setting.

By more promising informal enterprises we mean microenterprises that are unregistered for tax purposes but have proved to be entrepreneurial or risk-taking undertakings of operators who are in their line of business as a matter of active choice, rather than as means of survival of owners who are in their current occupation by default, having been rationed out of the labor market. Available evidence, including some from the Enterprise Survey data, suggests that more than four in five people in South Africa's informal sector are involuntarily self-employed. It is the welfare of this group that should be the primary consideration in South Africa's current employment promotion and poverty reduction strategy. Moreover, drawing as much of the group as possible into formal employment is an important part of the strategy. At the same time, the most effective way of facilitating the transition of those who are involuntarily self-employed into formal sector employment may not be by targeting them with business support schemes. The immediate goal for this group should most likely be one of preparing those who are young enough for better paying and relatively durable jobs through apprenticeship and training programs. Such a goal would certainly have an enterprise development dimension as well in as far as employers, including small and microenterprises, would be the beneficiaries of the improved supply of skilled manpower that would result from the program. However, the focus of the chapter is not on the rationale for such programs, but on the potential scope for business support schemes aimed at reducing barriers to the growth and formalization of promising informal enterprises.

Role of the Informal Sector in South Africa's Economy

What Is the Informal Sector?

The distinction between formal and informal employment is meaningful whenever government is unable or unwilling to enforce important laws and regulations on micro and small enterprises that it routinely enforces on larger employers. In that case, the formal sector consists of producers who are normally in compliance with laws and regulations. In practice, this includes all businesses operating beyond a certain size threshold, and usually also includes some of the smaller operators. The informal sector is composed of all micro or small enterprises that are exempt from or have chosen not to comply with some or all of the laws and regulations applying to the formal sector. The closest there is to an official definition of the informal sector in South Africa is provided by the country's Labor Force Surveys (LFS), which defines informal businesses as those that employ less than five workers and are not registered for tax purposes (Essop and Yu 2008).⁵⁰ This is also the definition we use in this report.

How Large Is the Sector?

The informal sector in South Africa is a large part of what the DTI calls the SMME—small, micro, and medium enterprise—sector. Although we do not have the latest figures on the size of the SMME sector, DTI estimates for 2003 should give us a fair idea of how large it is relative to the corporate and public sectors. According to these estimates, the sector's shares in GDP and aggregate employment were 35 percent and 55 percent respectively (World Bank 2006). Available estimates of the output share of the informal sector are even more dated. The latest we have is that of Valodia (2007) for 1999, which puts its share in GDP at 8 percent, with the following breakdown by industry groups: agriculture (9.4 percent), manufacturing (2.7 percent), mining (0.2 percent), construction (21.8 percent), trade (16.6 percent), transport (6.5 percent), and finance (14.7 percent).

Depending on how one classifies domestic workers, the share of informal workers in total employment stood between 23 percent and 30 percent, according to the 2005 LFS, which in absolute numbers means 2.8 million people if domestic workers are excluded and 3.7 million people otherwise (Benjamin 2008). Moreover, this share has been growing rapidly and far more so than that of the SMME sector since the mid-1990s.⁵¹

⁵⁰ The Labor Force Surveys enumerate and classify workers rather than enterprises.

⁵¹ Valodia (2006) calculates the employment share of the informal sector in 1997 at 10 percent, while Essop and Yu (2008) estimate that there were 1.4 million more informal sector workers in 2006 than there were a decade earlier, which was about 38 percent of the overall increment in employment over the same period.

Structure of the Informal Economy

There are two ways in which a person can be engaged in the informal sector. One is own-account work or self-employment, which may involve employing and managing others as wage workers. The other form is working for an informal sector employer in return for wages paid in cash or in kind. The employer could be a commercial enterprise or a household. Those engaged in the first form are by far the larger in number. Thus, only one in three of those in the informal sector in 2006 worked for an employer (Essop and Yu 2008). The most common occupation in own-account work is street vending, which engaged 44 percent of all female informal sector workers and 14 percent of their male counterparts in 2006 (Essop and Yu 2008). Next in importance for male informal workers for the same year were construction (12 percent), wood work, metal work, and house painting (6 percent), and Spaza shops, car services and taxi services, each employing 4 percent of male workers. For female workers, the next most important occupations were personal care (9 percent), Spaza operations (6 percents), taverns, and tailoring and dress making (4 percent). Again, while there are no up-to-date estimates of the distribution of the sector's output across standard industry groups, the following estimates from Valodia (2007) for 1999 could be useful indicators of current magnitudes: trade (33 percent), finance (20.7 percent), construction (15.4 percent), manufacturing (12.7 percent), transport (6 percent), and other (6.5 percent).

Informal economic activity is not necessarily located in purpose-built business premises. A large number of informal enterprises are residence based, and many are itinerant operations. Although we do not have national estimates, the following distribution of the sample of a 2002 survey of 507 microenterprises in the Durban municipality area could be typical of the scene around major urban centers (Skinner 2005): operating from inside the home (37.3 percent), outside building but on residence property (14.8 percent), building on property other than home (11.8 percent), fixed stall in the market (10.8 percent), unit provided by municipality (6.7 percent), temporary structure (4.1 percent), mobile (3.6 percent), other (7.3 percent). An important caveat is that Skinner's sample is heavily biased toward manufacturing activities in relation to the national picture.⁵²

The Informal Sector and Enterprise Development

In addition to an involuntary or survivalist segment of self-employees who would rather be working for someone else given the choice, the informal sector includes a sizable voluntary segment of active entrepreneurs running growth-oriented micro

⁵² The sectoral distribution of the sample in Skinner (2005) is as follows: apparel (16.2 percent), craft (15.8 percent), traditional medicine (15.8 percent), Spaza shops (12.2 percent), construction (7.7 percent), metal work (8.5 percent), shebeens (8.1 percent), crèches (7.7 percent), hair dressing services (8.1 percent).

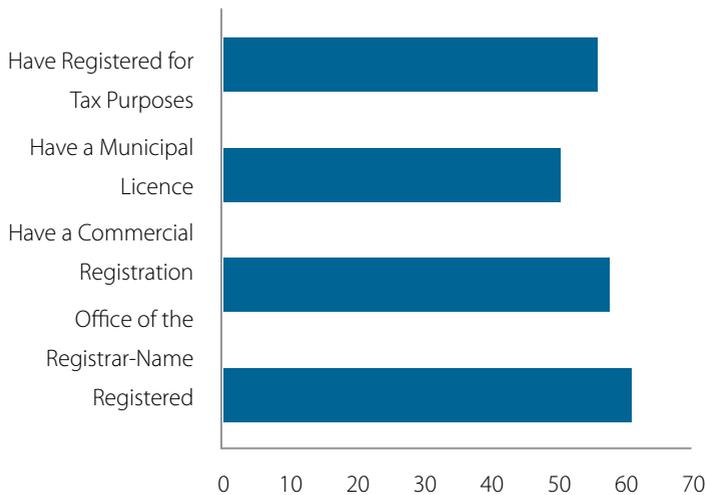
or small enterprises based on wage labor. The segment is an important part of the seedbed of the SME sector, particularly along certain labor-intensive lines of activity where economies of scale are comparatively small. From this point of view, one of the main reasons why the South African economy has not absorbed as much labor as it could have is that the growth of the SME sector was historically impeded by political barriers to the formation, growth, and formalization of black-owned micro businesses (Kaplinsky 1995; Valodia et al. 2007; and Altman et al. 2008). One of the issues that we have looked at in analyzing the Enterprise Survey data is therefore whether the data are consistent with the notion that the informal sector includes a sizable entrepreneurial segment that feeds into the dynamics of the SME sector. The second issue we have examined is that of factors which are currently impeding enterprise development in the informal sector now that there are no obvious political obstacles to such development.

4.2 MICROENTERPRISES—FORMAL AND INFORMAL

4.2.1 Registration and Informality

The primary data we analyze in the following sections consist of observations on 120 microenterprises that were collected as part of the South Africa Enterprise Survey of 2008. By microenterprises we also mean businesses employing less than five workers. Apart from the smallness of the sample size, an important limitation of the data is that the sample was drawn exclusively from Johannesburg. We do believe, though, that the sample is probably what one would pick from any of the major urban centers in South Africa if one used the same selection rule as the one used to draw this sample. In selecting the sample, specific zones within specific districts in Johannesburg where it was known that there was a high concentration of micro establishments were first selected. All micro establishments in these zones were then counted. Based on this count, a list was created, and establishments were selected at random from that list.

Figure 4.1 : Distribution of sample of micro enterprises by registration status, South Africa Enterprise Survey Sample, 2008 Total =120



One of the survey questions asked the business owner if his or her enterprise was registered with any of the following agencies for the indicated purpose: name registration with the Office of the Registrar or other government institutions approving company names; commercial registration with the Office of the Registrar, the local courts, or other government institutions responsible for commercial registration; an operating or trade license or otherwise registered for a general business license with any municipal agency; and tax registration with the tax administration or some other agency. The responses, as summarized in figure 4.1, show that a large majority of businesses are registered with some authority for at least one purpose. However, of the four registration categories, that for tax purposes is the most important for the enterprise financially. Partly for this reason, but mainly because it is in line with the official ILO and South African LFS definition of informality, we have classified the sample into two groups, namely, formal microenterprises, by which we mean those that have registered for tax purposes, and informal enterprises, by which we mean those that have not registered for tax purposes or do not have a tax identification number.⁵³ This splits the 120 microenterprises in the sample into 67 formal enterprises and 53 informal ones.

⁵³ We should note here that, because of the strong correlation between registration for one purpose and registration for any of the others—and which is suggested in figure 4.1—, our analysis would not be much affected if we had used any of the other categories of registration instead of that for tax purposes. Thus, only 15 percent of what we have classified as informal because they have not registered for taxes have a trade license. Likewise 15 percent have a registered name.

4.2.2 Basic Characteristics of Informality: Organization, Lines of Business, Demographics

All but 11 of the formal microenterprises in the sample operate from fixed structures on premises separate from the business owner's residence. Of the 11, six are residence based, while five are itinerant operations. In contrast, more than half of the informal enterprises are itinerant. Of the remaining informal enterprises, five are residence based, while the rest operate from fixed structures on premises separate from the owner's residence. We show in table 4.1 the distribution of the sample by industry sectors, along with that of a combined microenterprise sample from a dozen other Sub-Saharan countries. The distribution of the South African sample does not look to be far out of line with what various sources suggest to be the national picture. It is also similar to what might be the aggregate picture across the rest of Sub-Saharan Africa.

Table 4.1: Distribution of Enterprise Survey Samples by sector and registration status – Sub Saharan Africa

Industry	Informal micro-enterprises (unregistered for taxes)				Formal micro-enterprises (registered for taxes)				Formal SME and large enterprise			
	Sub-Sahara sample excl. South Africa		South Africa Sample		Sub-Sahara sample excl. South Africa		South Africa Sample		Sub-Sahara sample excl. South Africa		South Africa Sample	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Food	30	2.2	6	9.0	24	2.3	2	3.8	856	10.6	114	12.2
Textiles	5	0.4	1	1.5	11	1.1	1	1.9	71	0.9	9	1.0
Garments	87	6.3	2	3.0	90	8.7	5	9.4	810	10.0	106	11.3
Chemicals and plastic	6	0.4			1	0.1			180	2.2	84	9.0
Fabricated metal and furniture	98	7.0	1	1.5	109			10.6	980	12.1	219	23.4
nonmetallic minerals	8	0.6			4	0.4			93	1.2	7	0.8
Machinery	3	0.2			3	0.3			46	0.6	43	4.6
Electronics	3	0.2			1	0.1			17	0.2	7	0.8
Other manufacturing	58	4.2	2	3.0	37	3.6	2	3.8	680	8.4	90	9.6
Construction	9	0.7			4	0.4	1	1.9	275	3.4	18	1.9
Retail & wholesale	886	63.7	48	71.6	620	60.0	40	75.5	1,888	23.4	140	15.0
Transport	1	0.1		4.5					19	0.2		
Hotels and Restaurants	52	3.7	3	4.5	44	4.3	2	3.8	1,176	14.5	60	6.4
Other services	146	10.5	4	6.0	85	8.2			995	12.3	39	4.2
Total	1,392	100	67	100	1,033	100	53	100	8,086	100	936	100

In terms of the demographic profile of business owners, 22 of the 67 formal microenterprises and 11 of the 53 informal ones are female owned. Ninety-two percent of the informal enterprises are black owned, as compared with 69 percent of the formal microenterprises and 26 percent of SMEs and larger businesses. There are no white-owned informal enterprises, although 18 percent of formal microenterprises are white owned. Some 12 percent of formal microenterprises are owned by Indians and other Asians.

4.2.3 Drivers of Informality: Regulation, Taxes, and Fees

It is not only to avoid taxes and regulation that informal enterprises choose not to register. About a third of the owners of enterprises in the informal group reported that they did not register because they thought their businesses were too small, while more than 40 percent cited not having the information needed to register (figure 4.3). However, avoiding taxes and regulation was cited by more people than any of these other reasons (figure 4.2). Thus, some 83 percent of informal business owners cited avoiding taxes and related costs. This aggregates information given in figure 4.3 in that it includes those who cited as their reason avoiding one or more of the following: paying taxes, dealing with tax administration, registration fees, and spending time and effort on registration. Likewise, about 80 percent cited the cost of labor regulation and other regulation (figure 4.2) as a reason.

Figure 4.2 : Informal Micro-Enterprises citing as reason for not registering with authorities (%)

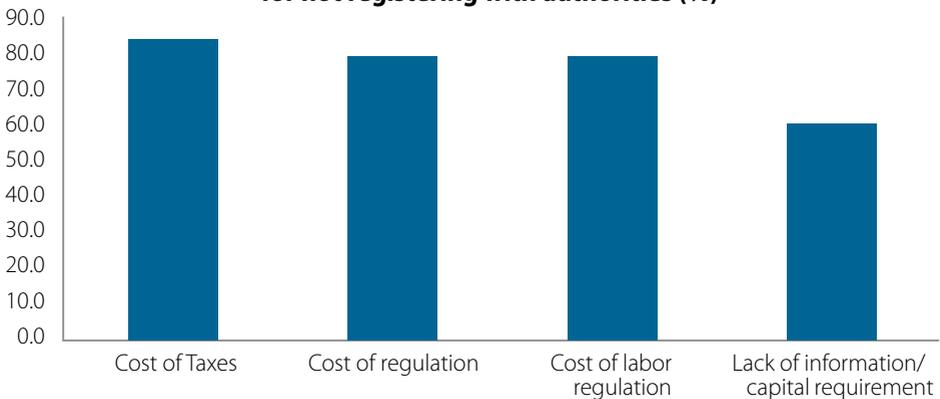
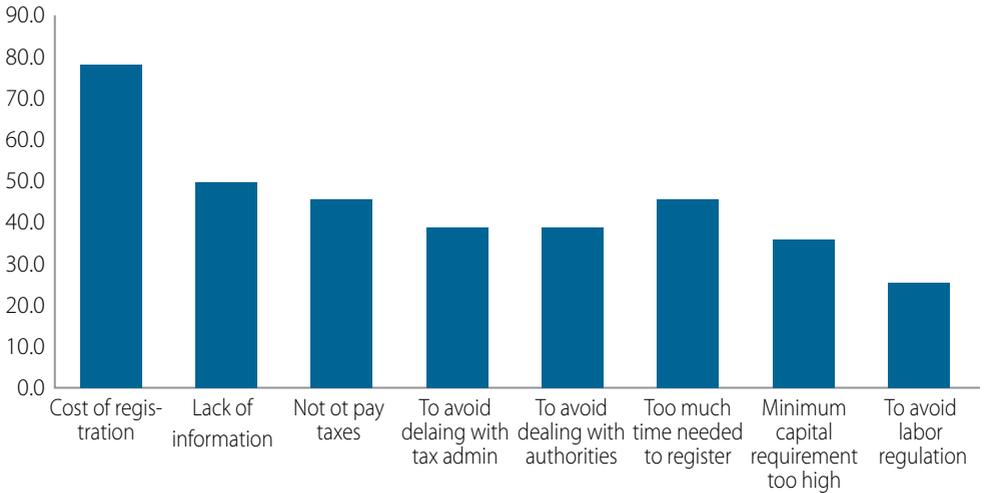
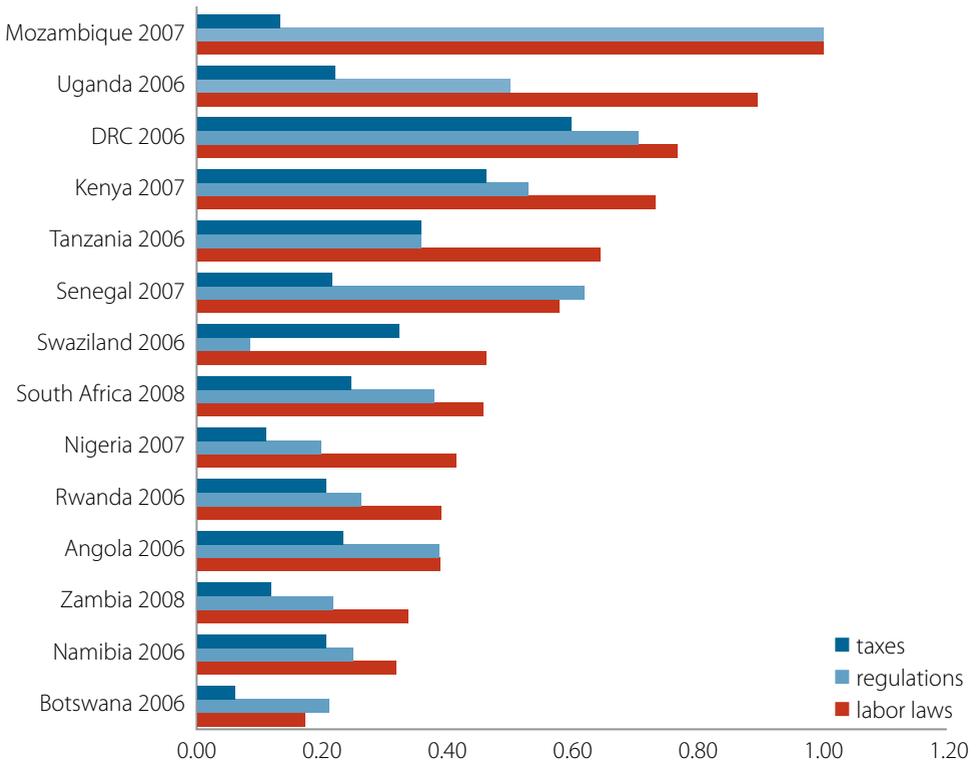


Figure 4.3 : Percent citing as a reason for not registering with authorities – Informal micro-enterprises



How does the motivation for informality in South Africa compare with those in other African countries? Evading taxes and regulation plays similar roles in the rest of Sub-Saharan Africa, with tax evasion playing the greater role in almost every country than avoiding regulation in general, or labor regulation in particular (figure 4.4). It is significant and interesting, though, that, while the proportion of those citing taxes or regulation as the main reason for not registering in South Africa is comparable to that in other middle-income countries in the region, it is much lower than that in lower-income countries.

Figure 4.4 : Proportion of informal enterprises citing reason for not having registered with authorities



4.2.4 Schooling, Scale, and Informality

The size distribution of businesses ultimately reflects an underlying distribution of management talent across an economy's working population, whereby the more talented run bigger firms (Lucas 1978). The strength of the empirical association between the talent of business managers and the scale of the firms they run no doubt depends on the correlation of individuals' talent with their risk behavior and personal wealth, as well as on how well financial and other markets function. One would nonetheless expect those in charge of larger businesses to be more educated and more skilled on average than those running SMEs, just as one would expect owners of microenterprises to be less educated on average than owners of SMEs. This is indeed what we see in table 4.2. In that table, nearly all of small business owners (employing five to 19 workers)

have completed at least secondary school, while as many as 14 percent of microenterprise owners have had no more than primary education.

Within the microenterprise group, 90 percent of the owners of formal enterprises have at least completed secondary school, compared to 69 percent of the owners of informal microenterprises who have the same level of education. This gap in the schooling of business owners is matched by a fairly large dispersion of business revenue and business assets. The fact that owners of informal enterprises are less educated means that those enterprises bring the lower end of the scale distribution within the group.

Figure 4.5 : Percentage distribution of micro enterprises by level of schooling completed, Enterprise Survey Samples

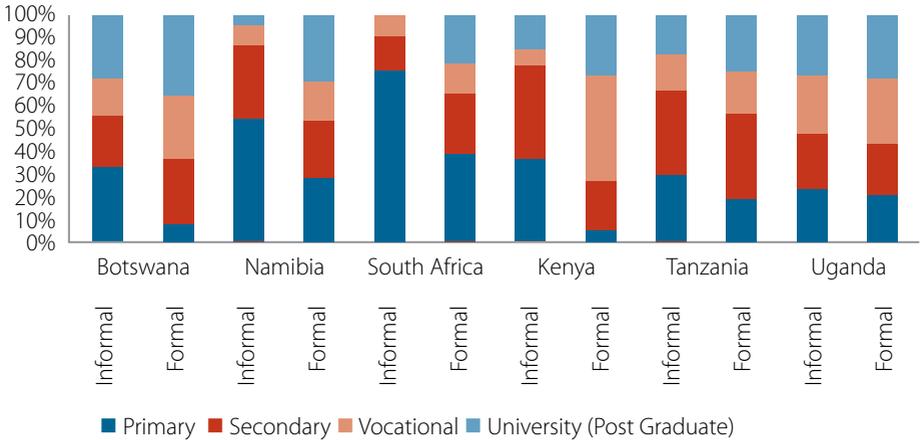


Table 4.2: Percent distribution of enterprises by business owners, education and employment size

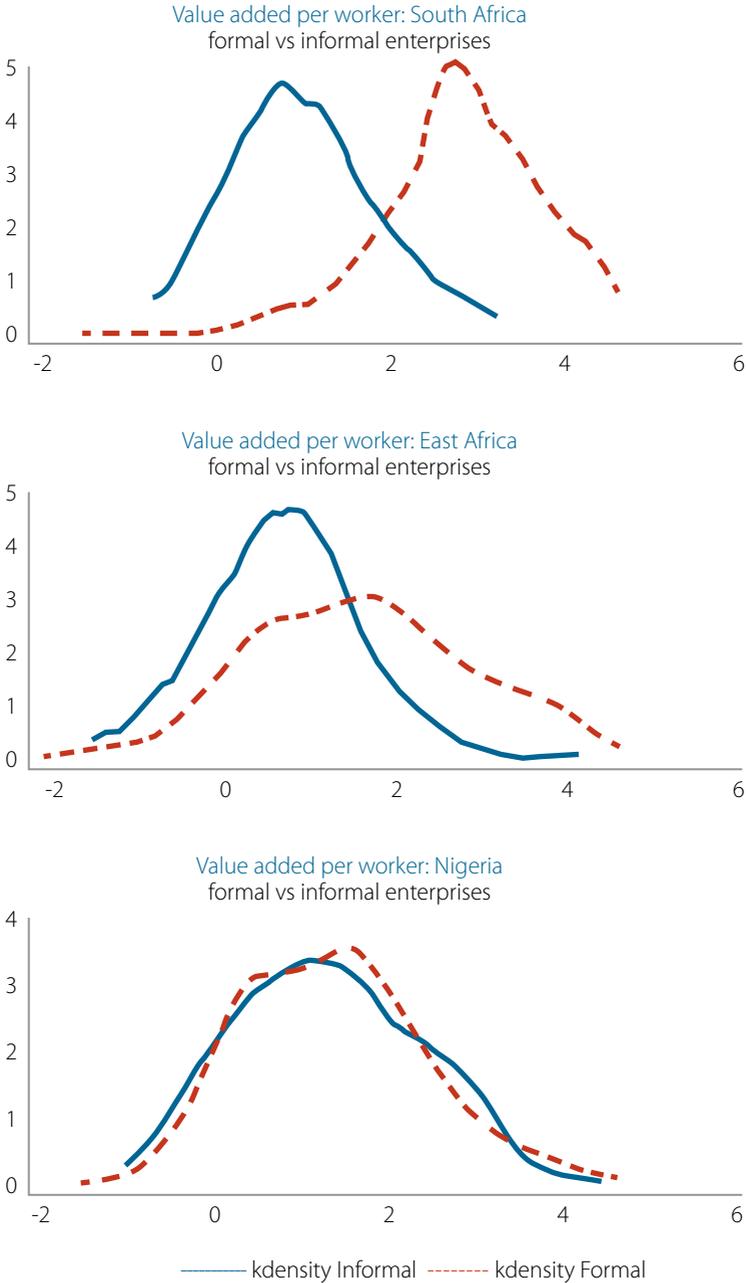
	<i>Micro</i>			<i>Small</i>	<i>Medium</i>	<i>Large</i>	<i>Total</i>
	<i>Informal</i>	<i>Formal</i>	<i>Subtotal</i>				
No Education	5.17	1.61	3.33	0.27	1.64	0.51	1.14
Primary school completed		18.97	3.23	10.83	0.53	0.27	0.51
1.61							
Started but did not complete secondary	5.17	6.45	5.83	6.93	1.92	1.53	4.07
Secondary School completed	39.66	30.65	35	30.13	15.89	5.1	21.12
Vocational Training	18.97	24.19	21.67	32.27	24.66	10.71	24.43
Some university training	6.9	16.13	11.67	12	14.79	10.2	12.59
Undergraduate degree (BA, BSc etc.)	5.17	17.74	11.67	14.13	29.04	34.18	22.73
MBA from university in this country	-	-	0	1.87	7.67	23.98	7.77
MBA from university in another country	-	-	0	0.8	1.37	8.67	2.37
Other postgrad degree from local univ.	-	-	0	1.07	1.92	4.59	1.89
Other postgrad degree from foreign univ.	-	-	0	0	0.82	0	0.28
Total	100	100	100	100	100	100	100

Source: Enterprise Survey 2008. Values in percentages

Table 4.3: Distribution of micro enterprise by business characteristics

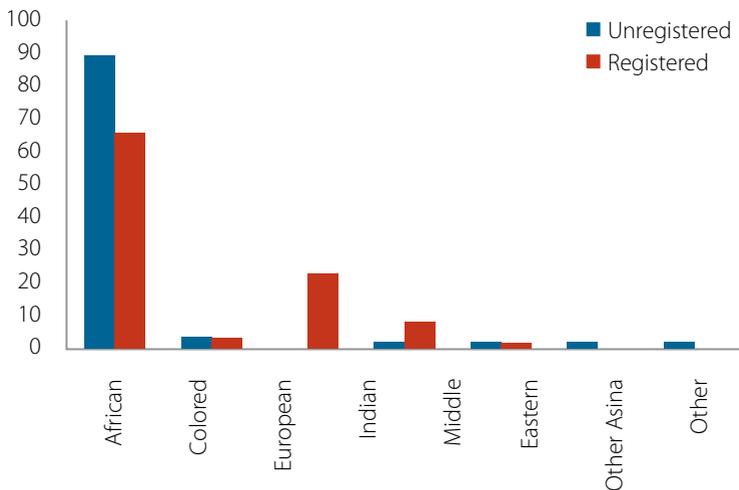
	<i>South Africa</i>	<i>Bangladesh</i>	<i>Botswana</i>	<i>Brazil</i>	<i>Cambodia</i>	<i>India</i>	<i>Guatemala</i>	<i>Pakistan</i>
Number of enterprises in the sample	120	144	101	387	57	877	174	171
Average age (years)	23	9	27	8	7	13	11	11
Average number of employees	2	3	2	2	3	2	3	3
Manager Education (%):								
No education	3	17	4	25	15	9	4	25
Primary school	11	22	9	16	30	22	18	22
Started but did not complete secondary	6	42	8	6	24	0	18	34
Secondary School	35	15	26	39	25	42	12	12
Vocational Training	22	0	23	3	2	0	13	1
Some university training or higher	23	4	30	11	4	27	35	5

Figure 4.6 : Kernel density estimates of log value added per worker



From an international perspective, the average South African microenterprise owner is less educated than her counterpart in any of the other five countries represented in figure 4.5, even though South African microenterprise owners have significantly greater schooling than their counterparts in South Asia and much of Latin America (table 4.3). The average schooling of South African informal operators is even lower in comparison with other African countries. In light of the preponderance of black business owners in the microenterprise sector in South Africa (figure 4.7), this has to be part of the legacy of the apartheid era, when the black population's access to schooling in South Africa was restricted compared to the access that the population of the other five countries had at the time. However, it is very unlikely that this is the sole explanation for why the average informal business operator in South Africa is less educated than her counterparts in East Africa or in Botswana or Namibia. This is because, as we can see from figure 4.5, the distribution of South Africa's operators of *formal* microenterprises by schooling is very similar to that of informal microenterprise operators in Botswana, Namibia, and Tanzania. The question then arises as to why all those observed to be formal operators in the South African sample are not informal instead as they would likely have been if they were in one of those three countries. The answer would in effect tell us the reason why the average schooling of informal enterprise owners is lower in South Africa than in the other countries and why South Africa's informal enterprise sector is smaller than in other countries when measured relative to the formal sector.

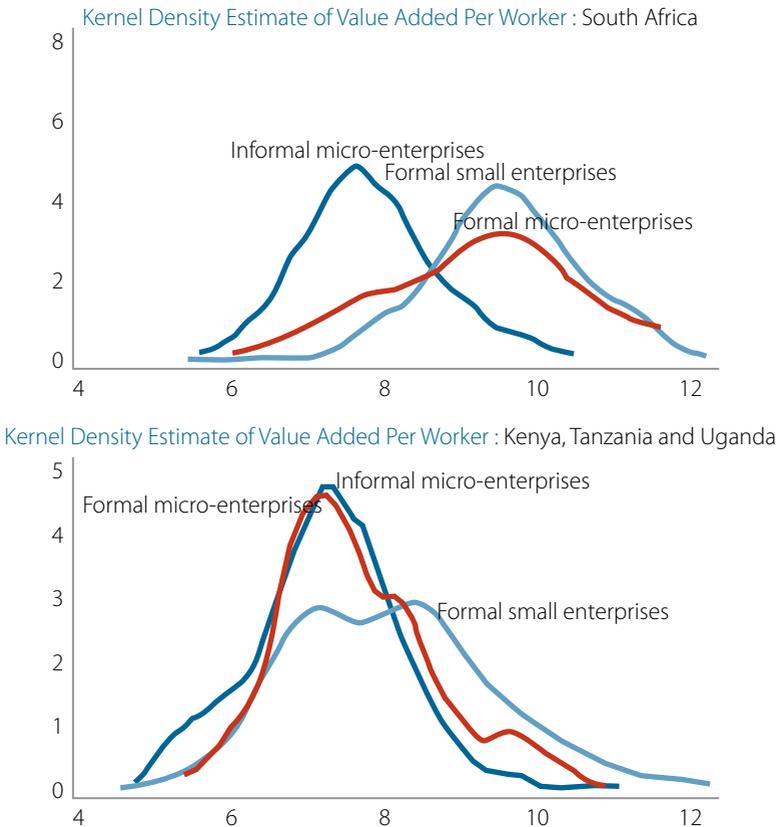
Figure 4.7 : Percent distribution of micro enterprises by ethnic group of business, South Africa Enterprise Survey Sample, 2008



4.2.5 The High Cost of Informality in South Africa

The average South African informal business owner is less educated than the average informal business owner in other African countries because the net benefit that derives from operating informally is lower in South Africa for any given enterprise and business owner.⁵⁴ A higher net benefit of informality means that the minimum schooling that is needed to operate formally is lower in South Africa, and pulls down the average schooling of those operating in the informal sector compared to those in other countries. It also means that South Africa has a smaller percentage of its entrepreneurs operating informally than other African countries.

Figure 4.8 : Labor productivity gaps between formal and informal micro enterprises



Source: Gelb et al. (2008)

54 The rest of this section draws heavily on Gelb et al (2008).

This is obviously all to the good as it attests the superiority of South Africa's overall business environment. In particular, it is reflection of South Africa better standing in terms of the quality of governance and greater availability of business services and infrastructure for formal enterprises. The benefit item in the cost-benefit calculation that a business owner would make in contemplating whether or not to operate informally is the saving that they would make by evading taxes or by not complying with regulations. This has to be set against two key cost items, one of which is the cost that an informal enterprise would incur to conceal its activities, such as the cost of working from an inconvenient site, operating the wrong technology, or paying off a corrupt enforcement agent. The other is an opportunity cost item, and consists in the value of the services the enterprise would receive from public agencies and the private sector as a matter of course if it were a formal enterprise, but would have to forgo as an informal one, or would have to get at higher prices.

This is obviously all to the good as it attests the superiority of South Africa's overall business environment. In particular, it is reflection of South Africa better standing in terms of the quality of governance and greater availability of business services and infrastructure for formal enterprises. The benefit item in the cost-benefit calculation that a business owner would make in contemplating whether or not to operate informally is the saving that they would make by evading taxes or by not complying with regulations. This has to be set against two key cost items, one of which is the cost that an informal enterprise would incur to conceal its activities, such as the cost of working from an inconvenient site, operating the wrong technology, or paying off a corrupt enforcement agent. The other is an opportunity cost item, and consists in the value of the services the enterprise would receive from public agencies and the private sector as a matter of course if it were a formal enterprise, but would have to forgo or pay higher prices for as an informal one.

Why is the net benefit of informality lower in South Africa than in other African countries? In part because the savings that a microenterprise would achieve by not paying taxes or complying with regulations are probably less in South Africa than they would be in other countries since South African formal microenterprise owners complain less about high taxes and regulatory burdens than formal owners in other countries (figures 4.13 and 4.14). On the other hand, the costs of concealing informal businesses should be higher in South Africa because the rule of law and the enforcement of rules and regulations are generally stronger in South Africa.⁵⁵ Third, the opportunity cost of informality should also be higher in South Africa, partly for the same reason and, perhaps more important, because more and better business

55 This is the very factor that Altman (2008) and Valodia et al. (2007) point to as the explanation why formal activity is easier than informal in South Africa than in many other countries.

services and infrastructure are available for formal economic activity in South Africa than in other African countries.

To give a sense of the contrast between South Africa and other countries in the region in terms of the opportunity cost of informality, we show in figure 4.9 cross-country differences in the gap between the two types of microenterprises in terms of access to the public electricity grid. The gap is larger in South Africa than in most of the countries represented in the chart. This is partly because the proportion of formal businesses that have access is much higher in South Africa. It is also in part because informal enterprises are excluded from services more effectively in South Africa. Figure 4.10 shows a similar contrast between South Africa and other countries in terms of water connections. South Africa's gap between the proportions of formal and informal microenterprises that have access to banking services is also larger than for many other countries (figure 4.11).

Figure 4.9 : Gap in proportion that have electrical connection: formal – informal

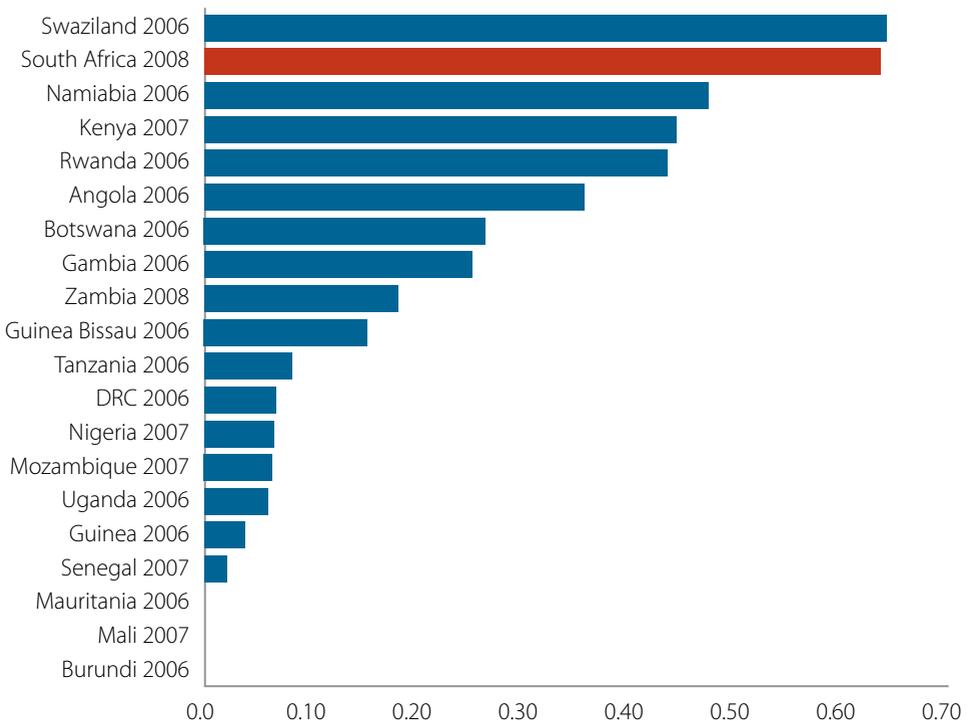
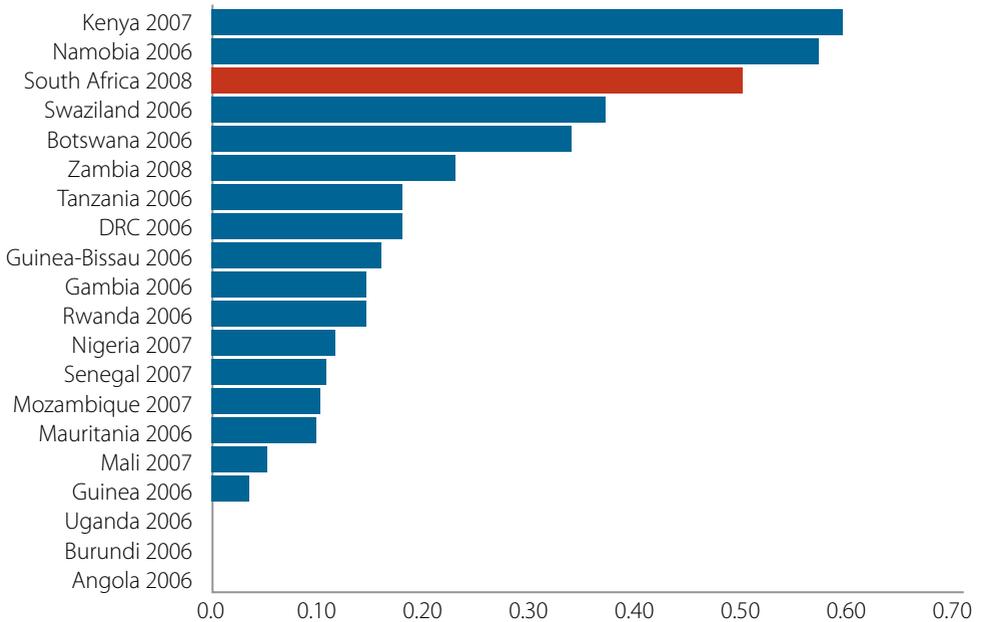
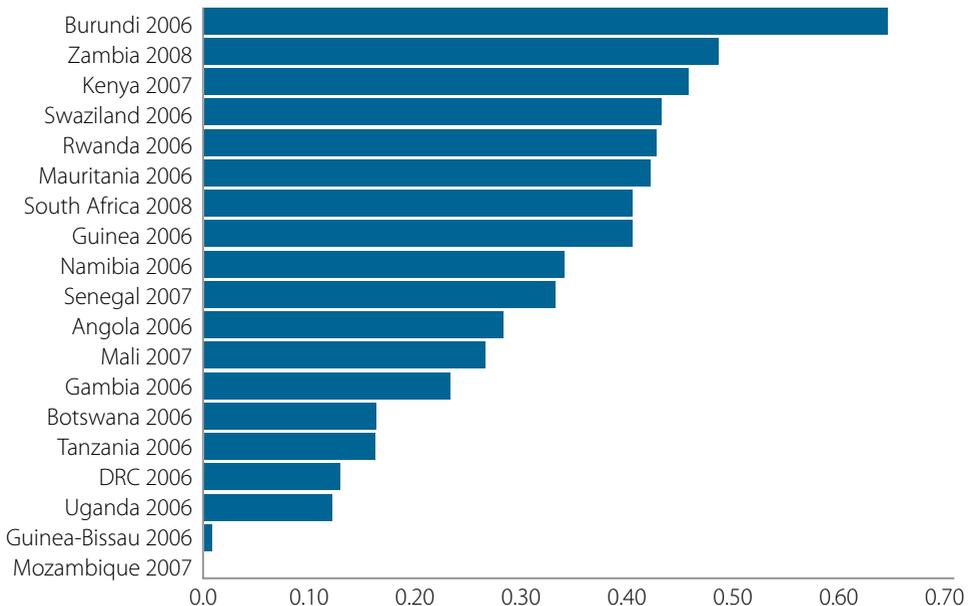


Figure 4.10 : Gap in proportion that have water connection: formal – informal**Figure 4.11 : Gap in proportion that have Bank accounts: formal – informal**

4.2.6 Labor Productivity: Gaps and Overlaps

Not only is the average South African informal microenterprise owner less educated than his or her counterpart in other African countries, but the schooling gap between formal micro business owners and informal owners is also larger in South Africa (figure 4.5). The sharpest contrast to South Africa in this regard is provided by Uganda and Tanzania, where there are almost no educational gaps between the two groups of microenterprise owners. While there are gaps between the groups in Namibia and Botswana, these are noticeably smaller than those of South Africa. This is important for two reasons. First, it means that a business owner's schooling is a better, stronger predictor of whether an enterprise will operate informally in South Africa than it is in other African countries. As we can see from the probit models estimated in tables 4.4 and 4.5, this is only partly because schooling is a better predictor of business size in South Africa. It is also partly because schooling is still a better predictor of a business's informality status in South Africa than it is in other countries, even when we control for business size. Second, the higher gap in average business owners' schooling in South Africa means that there is a larger (total factor) productivity gap in South Africa between formal microenterprises and informal ones than found in other African countries.

This in turn should mean there is a larger labor productivity gap in South Africa between formal microenterprises and informal enterprises than that in the other African countries, which is what we see in figure 4.6, where the kernel estimates of the density of log value added per worker are plotted for the two groups of enterprises. It is important that despite the gap in average labor productivity, there is a significant overlap in the productivity densities of the two groups for South Africa. It is even more important, though, that the overlap in densities is far smaller in South Africa than it is in the other countries. In contrast to the overlap in the first panel, that in the second, for Eastern Africa, is very large. That in the third panel for Nigeria is even larger—so large, in fact, that the densities for the two groups of firms are indistinguishable. A similar picture emerges in figure 4.8, where we compare densities for the South African sample and the East African sample across three groups of enterprises: informal enterprises, formal microenterprises and formal small enterprises (employing five to 19 workers).

4.2.7 Why Schooling and Productivity Gaps are Larger in South Africa

Why are the schooling and productivity gaps between the two groups of microenterprises larger in South Africa than in other countries? Or, why is the overlap between the density of labor productivity for informal enterprises and formal enterprises far

smaller in South Africa than in the other countries shown in figures 4.6 and 4.8? Once again the explanation lies in the fact that the enforcement of laws and regulations is stronger in South Africa, but this time it affects the speed with which the cost of informality increases as an enterprise expands. In the first instance, the extent of overlap depends on how fast the cost of informality increases as businesses expand by hiring more workers. The faster the increase in the cost of informality with respect to the expansion of employment, the smaller the productivity overlap between formal enterprises and informal enterprises. The speed with which the cost of informality rises with additional employment expansion in turn depends on how effective governments are in enforcing rules and regulations on enterprises. One would therefore expect the proportion of informal enterprises that are as productive as some formal businesses to be smaller in South Africa than in most other African countries. On the other hand, where the enforcement of laws is so weak as to make the marginal concealment costs largely invariant with employment size, as would seem to be the case in Nigeria, the density of labor productivity of informal enterprises becomes virtually indistinguishable from that of formal enterprises.

Table 4.4: Owner's schooling, business scale and the decision to formalize

A probit model

Specification 1: Employment Size and registration for taxes

	<i>South Africa</i>	<i>Botswana</i>	<i>Namibia</i>	<i>Kenya</i>	<i>Tanzania</i>	<i>Uganda</i>	<i>Zambia</i>
Intercept	-0.83*** (0.332)	-1.16*** (0.397)	-0.63** (0.300)	-0.81*** (0.301)	-0.09 (0.411)	-0.58 (0.403)	-0.80*** (0.285)
Log(Workers)	0.99*** (0.200)	0.75*** (0.228)	0.86*** (0.242)	0.32* (0.184)	0.66** (0.313)	0.38* (0.215)	0.67*** (0.182)
Retail trade	0.18 (0.302)	0.90*** (0.332)	-0.01 (0.320)	-0.41 (0.329)	-0.48 (0.343)	0.08 (0.303)	-0.08 (0.243)
Female	0.24 (0.292)	-0.46* (0.277)	-0.89*** (0.329)	0.06 (0.266)	-0.35 (0.346)	0.25 (0.289)	0.41* (0.245)
Number of Observations	120	101	85	107	65	98	119
Log likelihood	-67.34	-59.80	-42.34	-62.65	-39.24	-65.94	-73.57

Specification 2: Owner's schooling and registration for taxes

	<i>South Africa</i>	<i>Botswana</i>	<i>Namibia</i>	<i>Kenya</i>	<i>Tanzania</i>	<i>Uganda</i>	<i>Zambia</i>
Intercept	-3.42*** (1.154)	-2.30*** (0.986)	-2.43*** (0.823)	5.88*** (1.271)	-0.19 (1.352)	-0.59 (0.986)	-8.46*** (1.884)
years of educ.	0.34*** (0.111)	0.17** (0.077)	0.20*** (0.071)	0.45*** (0.103)	0.07 (0.113)	0.06 (0.081)	0.84 (0.177)
retailit	-0.15 (0.361)	0.59* (0.325)	-0.19 (0.333)	-0.28 (0.337)	-0.78*** (0.343)	-0.08 (0.292)	-0.81* (0.417)
female	0.55 (0.381)	-0.41 (0.284)	-0.77*** (0.332)	0.25 (0.285)	-0.36 (0.352)	0.01 (0.288)	0.09 (0.405)
Number of Observations	78	91	80	115	61	88	66
Log Likelihood	-44.49	-56.70	-40.40	-53.61	-38.25	-60.52	-24.70

Table 4.5: Owner's education, business scale and the decision to Formalize*A probit model***Specification 1: Schooling and registration for taxes**

	<i>South Africa</i>	<i>Botswana</i>	<i>Namibia</i>	<i>Kenya</i>	<i>Tanzania</i>	<i>Uganda</i>	<i>Zambia</i>
Intercept	-0.49 (0.336)	-1.56*** (0.574)	-0.67* (0.374)	-1.77*** (0.468)	0.12 (0.454)	-0.03 (0.386)	-1.71*** (0.519)
High school completed	0.41 (0.346)	0.64 (0.706)	0.18 (0.450)	0.41 (0.727)	0.85 (0.779)	0.01 (0.544)	1.40*** (0.497)
Vocational training	0.99*** (0.382)	1.38*** (0.569)	0.21 (0.398)	0.74 (0.497)	0.55 (0.481)	0.14 (0.449)	2.24*** (0.538)
University educated	1.46*** (0.405)	1.35*** (0.542)	1.13*** (0.413)	1.83*** (0.485)	0.56 (0.480)	0.12 (0.403)	2.96*** (0.598)
Retail trade	-0.12 (0.305)	0.63* (0.324)	-0.03 (0.298)	-0.28 (0.336)	-0.64* (0.332)	-0.13 (0.285)	-0.22 (0.276)
Female	0.20 (0.290)	-0.36 (0.281)	-0.66** (0.298)	0.31 (0.277)	-0.39 (0.361)	0.15 (0.282)	0.45* (0.271)
Number of Observations	120	99	99	124	65	98	119
Log Likelihood	-72.199	-59.413	-49.592	-56.513	-40.668	-67.465	-59.339

Specification 2: Size, Education and Registration for taxes

	<i>South Africa</i>	<i>Botswana</i>	<i>Namibia</i>	<i>Kenya</i>	<i>Tanzania</i>	<i>Uganda</i>	<i>Zambia</i>
Intercept	-0.97*** (0.386)	-2.14*** (0.628)	-0.73* (0.437)	-1.73*** (0.521)	-0.47 (0.542)	-0.67 (0.532)	-2.60*** (0.644)
High school completed	0.20 (0.362)	0.84 (0.704)	-0.19 (0.523)	0.28 (0.750)	0.78 (0.774)	-0.04 (0.554)	1.60*** (0.537)
Vocational training	0.52 (0.411)	1.19** (0.579)	-0.05 (0.454)	0.72 (0.522)	0.51 (0.488)	0.18 (0.454)	2.41*** (0.582)
University educated	0.99*** (0.434)	1.11** (0.554)	0.79* (0.468)	1.76*** (0.529)	0.30 (0.503)	0.06 (0.409)	2.99*** (0.640)
Log(Workers)	0.83*** (0.213)	0.69*** (0.248)	0.79*** (0.256)	0.08 (0.206)	0.69** (0.337)	0.39* (0.218)	0.68*** (0.222)
Retail trade	0.04 (0.323)	0.82*** (0.339)	-0.10 (0.337)	-0.15 (0.364)	-0.47 (0.349)	0.08 (0.308)	-0.17 (0.289)
Female	0.13 (0.306)	-0.33 (0.291)	-0.85*** (0.342)	0.24 (0.296)	-(0.360) (0.369)	0.28 (0.296)	0.56* (0.290)
Number of Observations	120	99	85	107	65	98	119
Log Likelihood	-64.00	-55.38	-39.44	-52.20	-38.43	-65.80	-54.20

4.3 BARRIERS TO MICROENTERPRISE DEVELOPMENT

4.3.1 The Entrepreneurial Segment of the Informal Sector

While most own-account workers in South Africa's informal sector survivalist, there is substantial anecdotal evidence that a sizable fraction of informal microenterprises are growth-oriented, voluntary operations (e.g Simon and Birch 1992). This has recently been supported by survey evidence in Valodia et al. (2007), who conclude that some 17 percent of their sample of informal sector operators belonged to this voluntary or entrepreneurial segment of the sector. This is a comparatively high proportion considering that, as Essop and Yu (2008) point out, only 7 percent of people employed in the formal economy run businesses. It is also comparable to what figures 4.6 and 4.8 seem to suggest as the relative size of the entrepreneurial segment of informal businesses in the Enterprise Survey sample, which segment is roughly marked out by the upper end of the labor productivity density of informal enterprises overlapping the density for formal micro enterprises in the first panels of figures 4.6 and 4.7. Table 4.6 includes additional evidence on this point, showing that more than a fifth of the informal enterprises registered employment growth over a three-year period. This is significantly less than the proportion of formal microenterprises that showed similar growth, but in the light of the fact that a fifth of formal microenterprises did not register growth over the same period, still underscores our point about the existence of a sizable entrepreneurial segment within the informal sector.

Table 4.6: Percent distribution of enterprises by employment growth state

	No Growth	Growth
Micro	45.83	54.17
Informal	25.83	22.5
Formal	20	31.67
Small	20.8	79.2
Medium	20.55	79.45
Large	21.94	78.06
Total	23.77	76.23

Source: Enterprise Survey 2008.

4.3.2 Main Barriers

What are the main barriers to the growth and formalization of promising informal microenterprises that government can or should help reduce? Table 4.7 suggests that the most important barriers are by and large the same as those reported in World Bank (2007) based on a similar survey in 2003. According to the 2008 Enterprise Survey, the same barriers are also the main impediments to the growth of formal

microenterprises, even though their impact on the performance of formal businesses is not as strong as it appears to be on informal microenterprises. The table shows the percentage of respondents in the 2008 survey that considered particular barriers to be severe. Topping the list is the difficulty of getting access to finance, which just below 50 per cent informal operators rate as a major obstacle to their growth. This is not high by the standards of other African countries (figure 4.15), but very high compared to the complaint rate of formal microenterprises within South Africa. Following problems of access to finance in importance are crime, limited access to land and problems of transport. These are more or less the same complaints voiced by owners of formal microenterprises, but with a far smaller complaint rate in each case. Figure 4.13 provides some international perspective for the complaint rate on the problem of access to land.

Table 4.7: Summary of Degree of Severity of Investment Climate Obstacles by Firm Size

	<i>Micro (combined formal & informal)</i>		<i>Micro Informal</i>	<i>Micro</i>
<i>Formal</i>				
Most Severe	Access to finance	Access to finance	Crime, theft & disorder	
2nd Severe	Access to land	Crime, theft & disorder	Practices of competitors in informal sector	
3rd Severe	Business licensing / permitting	Access to land	Corruption	
4th Severe	Practices of competitors in informal sector	Business licensing / permitting	Access to finance	
5th Severe	Corruption	Electricity	Business licensing; Access to land; Transportation	
	Small	Medium	Large	
Most Severe	Crime and theft	Crime and theft	Crime and theft	
2nd Severe	Electricity	Electricity	Electricity	
3rd Severe	Access to finance	Corruption	Corruption	
4th Severe	Corruption	Access to finance	Skills of workforce	
5th Severe	Practices of competitors in informal sector	Access to land	Practices of competitors in informal sector	

Source: Enterprise Survey 2008. See Appendix 1 for the percentage of responses to each investment climate constraint.

Table 4.8: Proportion of Retained Income used to Finance Working Capital by Firm Size

	<i>Mean</i>	<i>Std. Dev</i>	<i>Median</i>
Micro	80.63	28.20	92.50
Informal	85.57	28.13	100.00
Formal	76.00	27.69	85.00
Small	72.68	23.97	80.00
Medium	64.98	27.66	70.00
Large	66.21	25.96	70.00
Total	69.72	26.62	76.50

Source: Enterprise Survey 2008.

Table 4.9: Loan and Overdraft by Firm Size

Loan/Credit	Loan		Overdraft		
	Loan	No Loan	Overdraft	No Overdraft	
Micro	6.67	93.33	Micro	13.33	86.67
Informal	0	48.33	Informal	3.33	45
Formal	6.67	45	Formal	10	41.67
Small	21.6	78.4	Small	43.2	56.8
Medium	36.71	63.29	Medium	60.27	39.73
Large	40.31	59.69	Large	80.1	19.9
Total	28.6	71.4	Total	52.56	47.44

Source: Enterprise Survey 2008. Note: All the values represented in the table are percentages

Only 10 percent of formal micros have access to a bank credit line and even fewer are servicing active loans, which is quite low by the standards of SMEs in South Africa (table 4.9). At the same time, there are clear indications that the lack of legal status of informal microenterprises might have impeded their access to finance. One indication is the fact that only half of informal microenterprises even have a bank account, which is comparable to the proportion in other African countries (figure 4.16), but is almost half of that of formal microenterprises within South Africa. A second is that problems of access to finance are perceived to be the most important business obstacles by informal microenterprises, and yet are a distant third for formal micros (table 4.7), with far fewer of the formal microenterprises rating the problem as severe. Uncertainty of the legal status of informal enterprises may also have to do with their poorer access to infrastructure, as indicated by their higher complaint rates in table 4.7 about access to land, transport, and electricity.

4.3.3 Small Business Support Schemes and Microenterprises

Many governmental and nongovernmental business support schemes are active today in South Africa very much in the framework of the DTI's strategy for the promotion of entrepreneurship and small enterprise development. As many of these explicitly target formal and informal microenterprises, the Enterprise Survey of 2008 asked managers whether their businesses had benefitted from the services of any of schemes that operated in Gauteng and as listed in table 4.10. Two of the programs in that table are national in scope and were the subject of a more formal impact assessment as part of the 2003 Enterprise Survey (World Bank 2007). One of these is the Black Business Supplier Development Program (BBSDP), which is aimed at providing matching grants to majority black-owned small businesses for skills development, improved marketing, entry to new markets, and so on. The other is the Small

and Medium Enterprise Development Program (SMDEP), which provides matching grants for start up or expansion investment in plants and equipment in the manufacturing and tourism sectors. The responses to the survey question suggest two things. One is that just under 10 percent of the SMEs in the Enterprise Survey sample had received any assistance from business support schemes listed in table 4.10, and less than 15 percent had sought any such assistance. The second is that only two of the 120 microenterprises in our sample had actually received any assistance from the same schemes listed in table 4.10, although some 13 percent had applied for support from at least one of the programs. Moreover, neither of the two that received assistance was informal, although six of the 53 informal enterprises in the sample applied for such assistance.

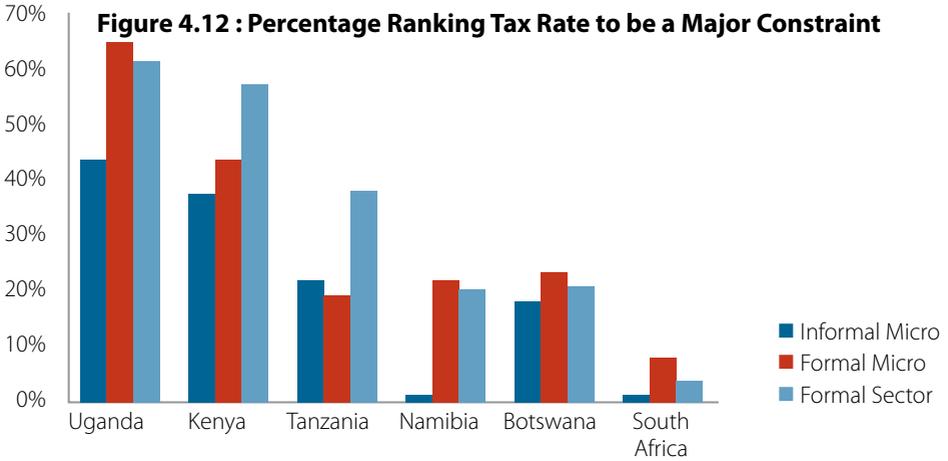


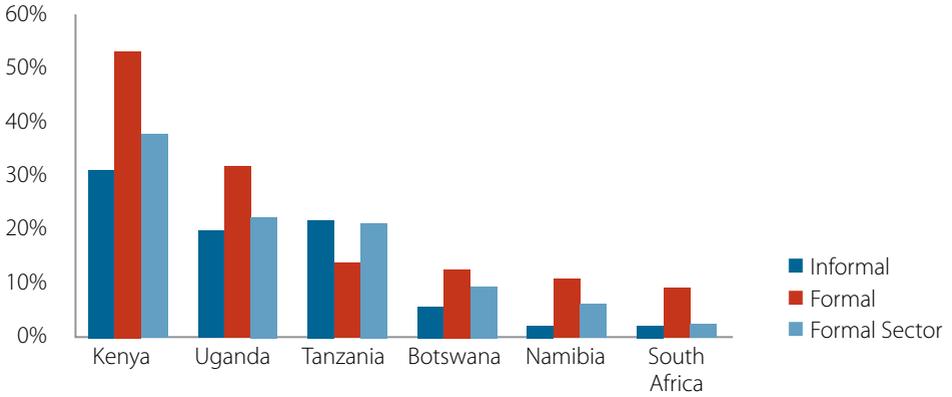
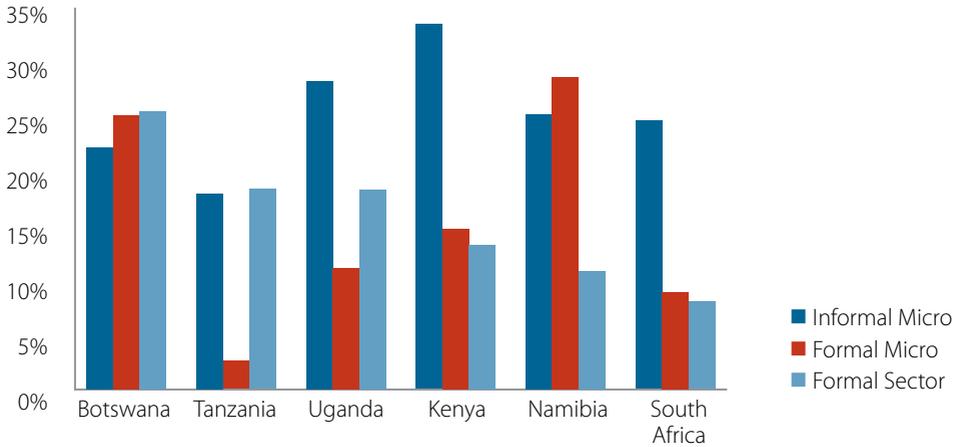
Figure 4.13 : Percentage Ranking Tax Administration to be a Major Constraint**Figure 4.14 : Percent Ranking Access to Land to be a Major Constraint**

Figure 4.15 : Percent Ranking Access to Finance to be a Major Constraint

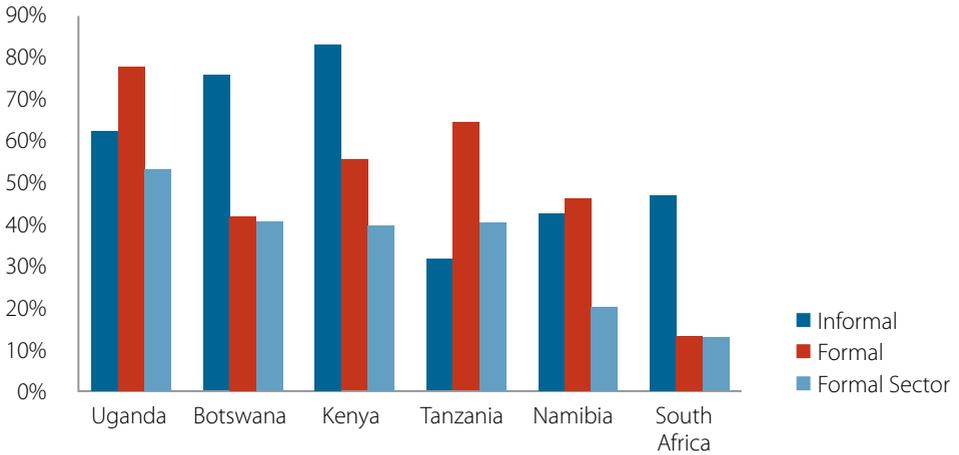
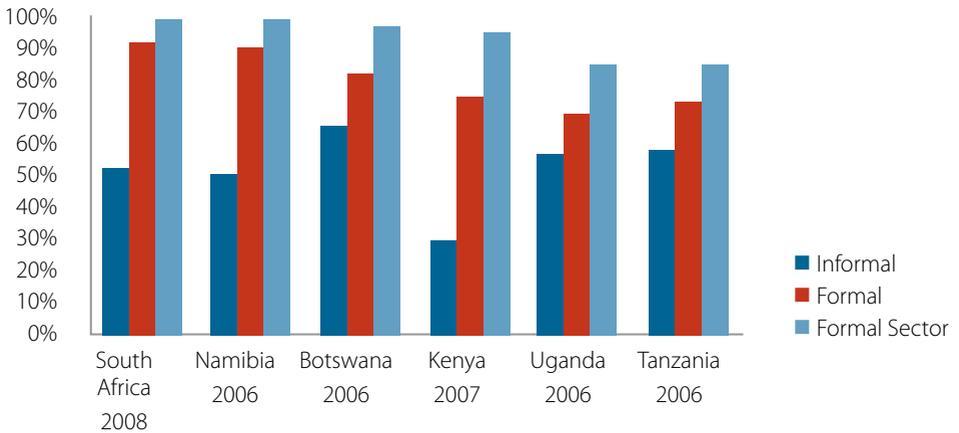


Figure 4.16 : Percent of Firms with Checking Account



The smallness of the sample and its lack of representativeness do not permit us to project any of these findings to the broader picture in South Africa, or even to Gauteng. Nonetheless, they suggest that existing programs might not be reaching micro-enterprises in general and informal ones in particular. Yet the fact that more than 10

percent of informal enterprises actually sought assistance from the schemes underscores our point about the existence of a sizable entrepreneurial segment within the informal sector. It also indicates that the idea of formal business support for informal enterprises is not necessarily as counterintuitive as it might sound, especially if one bears in mind that part of the goal when business support schemes engage such enterprises is to provide them with concrete incentives to formalize.

Table 4.11 suggests it may well be that business support schemes make the greatest difference at this point of transition to formality. The table lists the reasons that respondents gave for not seeking assistance from the support schemes listed in table 4.10. For two-thirds of the SMEs in the sample (SMEs being defined as those employing between five and 100 workers), the main reason was that they did not need any support. This is not surprising given that the main target of the schemes would be enterprises employing less than 30 to 50 workers. It is surprising and interesting that nearly a third of the owners of formal microenterprises felt that they did not need any assistance from business support schemes. In contrast, only 8 percent of owners of informal microenterprises thought likewise. In their case, ignorance about the programs was most often cited as the reason for not applying for assistance. About 40 percent of informal microenterprises gave that reason. An additional 17 percent thought that they did not qualify for the programs.

Table 4.10: Distribution of enterprises by status of link to small business support programs, Enterprise Survey Sample

Small business support program	Number that have received assistance from		Number that have applied for assistance from			
	SMEs*	Micro enterprises Formal Informal	SMEs *	Micro enterprises Formal Informal		
SME Development Program	21		33		4	
Khula Financial Retail Program	4		6		2	
NTSIKA(SEDA)Business Service	2		2			
BBSDP	8	1	11	1	1	
SSP	6		8			
Sector Partnership Fund	1	1	2	3		
Khula Credit Guarantee Program	8		9	2		
Guateng Enterprise Propeller	4		5		1	
Other	3		3	1		
Total	57	2	79	9	6	
Total number of respondents	599	67	53	599	67	53

Note: * only subsample with less than 100 employee

Table 4.11: Distribution of sample by reason for not having applied for assistance from a small business support program, Enterprise Survey 2008

Reason	Micro enterprises					
	SMEs*		Formal		Informal	
	Count	%	Count	%	Count	%
We never heard about these programs	77	13%	13	21%	14	29%
We don't qualify	46	8%	7	11%	8	17%
Don't need their support	397	66%	19	31%	4	8%
Applying too cumbersome	36	6%	14	23%	8	17%
We have no matching payment	22	4%	3	5%	3	6%
We have no enough information about the programs	9	2%	4	7%	8	17%
We do not have the right connections			1	2%	3	6%
Total number of respondents	599	100%	61	100%	48	100%

Note: * only subsample with less than 100 employees

4.4 CONCLUSION

This chapter has highlighted some of the problems in the current business environment of South Africa that have weakened the linkage between the informal and the SME sectors by impeding the growth and formalization of promising microenterprises. These relate to lack of access to finance, high crime rates, limited skills development, and lack of space for business premises and limited transport infrastructure. Although there are a variety of small business support schemes addressing these problems in the SMME sector as a whole, there is no indication in our data or other sources that these schemes have succeeded in reaching out to microenterprises in general, and to promising informal enterprises in particular. By the latter we mean microenterprises that are unregistered for tax purposes but have proved to be entrepreneurial or risk-taking undertakings of operators that are in their line of business as a matter of active choice, rather than as means of survival of owners who are in their current occupation by default.

South Africa's stronger rule of law and superior enforcement of rules and regulations on the one hand, and the wider range and quality of services available to South Africa's formal sector, on the other, have made the cost of informality quite high by the standards of other African countries. This, along with the fact that taxes are probably lower in South Africa, makes informality a less attractive proposition for micro entrepreneurs in South Africa than is the case in other countries. As a result, a smaller proportion of South Africa's micro entrepreneurs are operating informally than in other countries in Africa. Average skill levels are also lower among South African micro entrepreneurs than in other countries for the same reason. Nonetheless,

a significant proportion of South Africa's entrepreneurs are operating in the informal sector. Identifying these entrepreneurs and facilitating the growth and formalization of their businesses should be an essential component of employment promotion strategies in South Africa.

CHAPTER 5

Investing in Skills

5.1 INTRODUCTION

Shortage of skills was one of the problems topping manager's lists of obstacles to growth in the first assessment. Although it had slipped far behind power shortages and crime by the time of the 2008 survey in managers' ratings of obstacles, it remains a significant bottleneck to growth by all other indications. The problem is consistent with the trend in the rising skill intensity of production discussed earlier. The fact that skill shortages are less of a concern to the 2008 Enterprise Survey sample suggests that the shortages reported in 2003 might have been resolved, at least for some firms or sector, or that the supply of skills might have improved overall. This chapter analyzes firm-level and employee data pooled from the 2003 and 2008 surveys in order to assess (a) the extent to which the growth in demand for skills has been driven by skill-biased technical change (SBTC); (b) the role that firm-financed on-the-job training is playing to help meet the demand for skills; (c) the role that government-initiated skills development schemes are playing in this; and (d) the influence that unions, bargaining councils, and the wage formation mechanism overall have had on the demand and supply of firm-financed training.

The chapter starts out by illustrating the changing context of labor demand in the manufacturing sector. It underlines the skills gaps that have been identified by employees and firms, and that will need to be addressed by a variety of public and private interventions. In discussing the private sector's role in skills development, the chapter outlines some impediments and possibilities for firms to play a key role in

promoting a lifetime of learning. The chapter then discusses the role of geography and labor market institutions in remuneration. Finally the chapter looks at the role of labor market regulations on the nature of workplace programs to address the HIV/AIDS epidemic.

The actual data used in the chapter includes 937 formal sector firms from the 2008 Enterprise Survey representing the manufacturing (679), retail (141), and services sectors (117). The individual employee data comes from 1,732 workers selected from about one-third of manufacturing firms. To examine trends in key labor market outcomes, we rely on a sample of about 230 firms that were surveyed in 2003 and 2008.

5.2 THE CHANGING SKILLS COMPOSITION OF LABOR DEMAND

Across a number of developed and developing countries, the adoption of information technology-intensive methods in the production process has led to a shift in the demand for skilled labor. This skill-biased technical change phenomenon has been documented in South Africa (Bhorat and Hodge 1999 and others). In general, while a number of trends of key indicators in South Africa, such as a large skilled wage premium, are consistent with SBTC, a reliable measure of this transformation at the firm level has been lacking. In part, this is because it is notoriously difficult to measure changes in technology intensity in production in standard survey instruments. Here we analyze data from the technical change module of the 2003 Enterprise Survey in which firms were asked if they had undertaken any major adoptions of technology or changed their production processes significantly in 2001-03. While the questions are open ended and possibly make it difficult to make comparisons across firms on the extent of technical change, we rely on a question which asks if firms have “introduced a new technology that has substantially changed the way that the main product is produced” as our measure of technical change. Figure 5.1 below shows the likelihood of firms introducing new technology against the log of employment at the outset of the time-frame of the question.

Both figures show the well-documented positive technology-adoption gradient with respect to employment. However, what is remarkable is the fact that even among very small firms with less than 20 employees, the likelihood of substantial changes in production technology is greater than 40 percent.⁵⁶ Restricting this examination to firms with 100 to 1,000 employees leads to a 60 percent likelihood of introducing

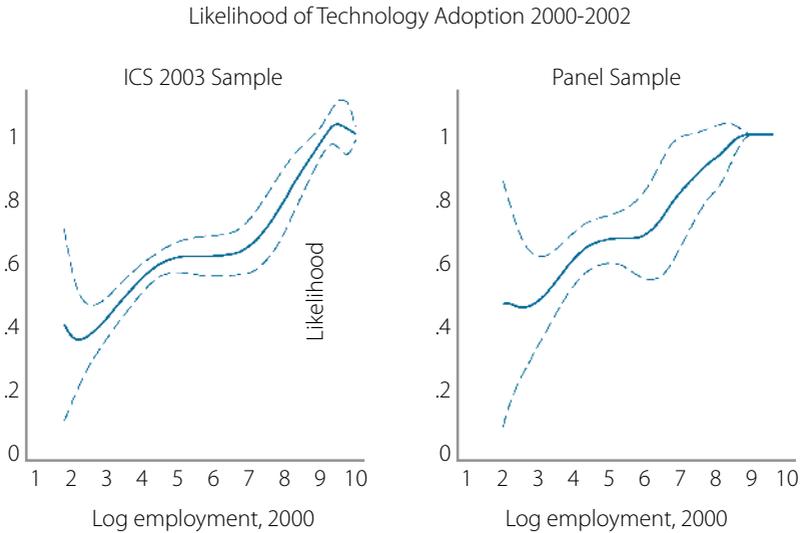
⁵⁶ The open-ended nature of this question warrants caution in the interpretation of these results since it relies on a subjective assessment of what a new technology is.

new technologies, and the likelihood of adopting new technologies rises steeply for firms with more than 2,000 employees.

Adopting new technologies does not necessarily imply any changes in the skill bias of the labor required to optimally operate the new technologies. Using the sample of 230 firms that were surveyed in both 2003 and 2008, we can assess the extent to which the technology adoption documented above is associated with changes in the skill composition of the production workers. Figure 5.2 below shows a plot of changes in the skill composition of production workers between 2003 and 2006 against the log of employment levels in 2000.

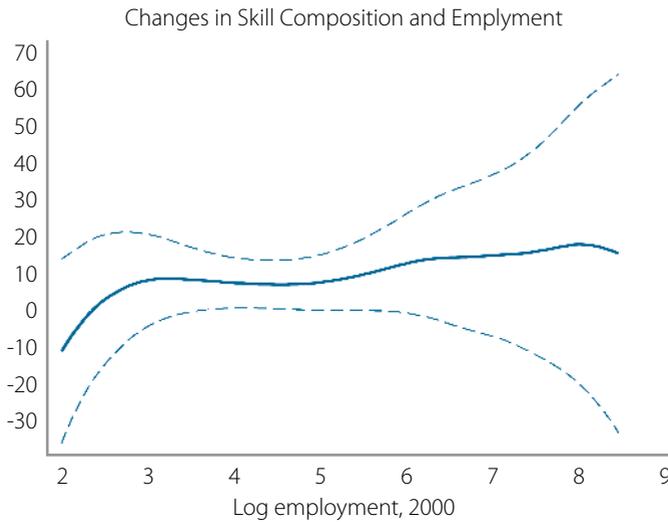
Contrary to the steep positive gradient we would expect to see if technical change is skill biased, figure 5.2 shows a small positive gradient. For a large range of the firm size distribution, the change in skill composition of the production workforce has been uniform, albeit positive. Among firms with employment levels above 100, the estimate rises slowly with employment. In the three years between 2003 and 2006, the share of skilled workers among production workers has increased by nearly 10 percentage points across a large range of the employment distribution. Among the largest firms, the variance in the change in skill composition increases dramatically, indicating a moderate likelihood of large increases and decreases in skill composition. This suggests that at the high end of the employment distribution, changes in production have been both skilled and unskilled biased.

Figure 5.1 : A large number of firms have undertaken significant changes in production technologies



Source: South Africa ICS 2003 | Note: The figure above plots the likelihood that a firm “introduced a new technology that has substantially changed the way the main product is produced” in the three years between 2001 and 2003 against log of employment in 2000 using a non-parametric Fan (1992) locally weighted regression. Bootstrapped 95% confidence intervals are defined by the dashed lines. The panel on the left includes all manufacturing firms surveyed in 2003 while the panel on the right includes only those firms that were observed in both the 2003 and 2008 surveys.

Figure 5.2 : The composition of skilled workers in the production workforce has increased between 2003 and 2006.



Note: The figure above plots the change in the skill composition of the workforce between 2003-2006 against log of employment in 2000 using a non-parametric Fan locally weighted regression. Bootstrapped 95% confidence intervals are defined by the dashed lines. The sample used to generate this figure is restricted to firms surveyed in both 2003 and 2008.

Given the timing and extent of the technological change in the manufacturing sector, it is not surprising that skills shortages were rated as the leading constraint by firms in the first investment climate assessment (Clarke et al. 2007). Bhorat (2007) provides recent sector-level evidence of trends in the skill composition of total employment. While the definition of skilled worker used in his paper differs from that used here, the findings are comparable to those obtained in the analysis above. He finds that in the manufacturing sector alone, employment growth of skilled workers in the 10 years since the end of minority rule is more than 60 percent, compared to just below 14 percent for unskilled workers. His findings for the skilled-unskilled growth gap are considerably larger for other nonagricultural or mining sectors.

The changing structure of labor demand driven by skill-biased technical change and other changes in product markets has a number of implications for human capital development policy, poverty, and employment objectives in South Africa. Long-term initiatives to improve the quality of schooling for the large majority that was neglected under apartheid are well underway. While these initiatives are urgently required, they do not represent a practical avenue for skills development for the typical

or potential worker in South Africa who can no longer access most kinds of formal schooling.⁵⁷ For this group, skills development depends primarily on the availability of training programs both within and outside the workplace. The Joint Initiative on Priority Skills Acquisition (JIPSA), in addition to phase II of the Skills Development Act (SDA) have been tasked with the challenge of raising skills levels outside of the formal education arena. While both of these programs mobilize public support and monitor compliance, skills development is primarily a firm-led activity: firms choose whether to train workers, either through participation in SETA-supported training or in workplace programs financed by the firm directly. In what follows, we focus on the role of workplace programs in raising the skills level of the workforce. We describe the types of firms that provide formal on-the-job training and the types of workers that enroll in training programs. In addition, we appraise the degree of SETAs in supporting on-the-job training.

5.3 SKILLS DEVELOPMENT: ROLE OF FIRMS, WORKER CHARACTERISTICS, AND PUBLIC INSTITUTIONS

Firms can contribute to the lifelong learning objectives envisaged in ASGISA in three ways: providing on-the-job training to employed workers; providing opportunities for learnerships; and through learning by doing. The data on hand allow us to examine the first and third channels. We start this section by outlining the extent to which firms provide formal training and identify firm characteristics associated with the provision of training. Further, we examine the role of Sector Education and Training Associations (SETAs) and evaluate their impact on training provision. We then turn to an examination of worker data on training: namely what areas of training do workers identify as crucial to their productivity, worker attributes associated with training, and the extent of learning by doing.

Table 5.1 shows the proportion of *manufacturing* firms that provide training to their workers and the proportion of production and nonproduction workers that receive that training for a set of comparator countries.⁵⁸ Compared to a set of primarily middle-income economies, the proportion of firms that provide formal training is considerably lower for the sample of South African manufacturing firms surveyed in 2008. Less than half of these firms provide training, compared to more than two-thirds of firms in Brazil, Chile, Thailand, and China. Compared to other economies in Sub-Saharan Africa, South Africa does relatively well.

57 An exception is the adult basic education training (ABET) system, which provides a basic education qualification to participating adults. By mid-2007, there were 2,278 ABET centers in South Africa (<http://www.info.gov.za/aboutsa/education.htm>)

58 It is important to point out that training refers here to all activities construed by the respondent to constitute employee training. As such, this comparison does not distinguish between the quality and duration of training across countries and across firms within a country.

Table 5.1: Proportion of Manufacturing Firms Offering Training

Country	% Firms Offer Training	% Production workers trained	% Non-production workers trained
Senegal 2007	16	-	-
Nigeria 2006	26	58	24
Kenya 2006	41	66	50
Malaysia 2002	42	81	76
South Africa 2008	46	69	41
Poland 2005	48	80	86
Argentina 2006	52	-	-
South Africa 2003	64	45	47
Brazil 2004	67	77	68
Chile 2004	72	34	25
Thailand 2004	76	-	-
China 2003	85	69	63

While the simple comparison between the 2003 and 2008 samples suggests a considerable decline in training, much of the difference is a result of differences in the composition of the samples across the two survey years. To confirm this, we restrict the comparison to the 230 firms that were surveyed in both rounds. Of the firms interviewed in both rounds, 64 percent provided training in 2003, compared to just over 70 percent in 2008. While the 6.4 percentage point difference is not statistically different from zero, it represents a 10 percent increase in the likelihood of providing training in the three years since 2003.

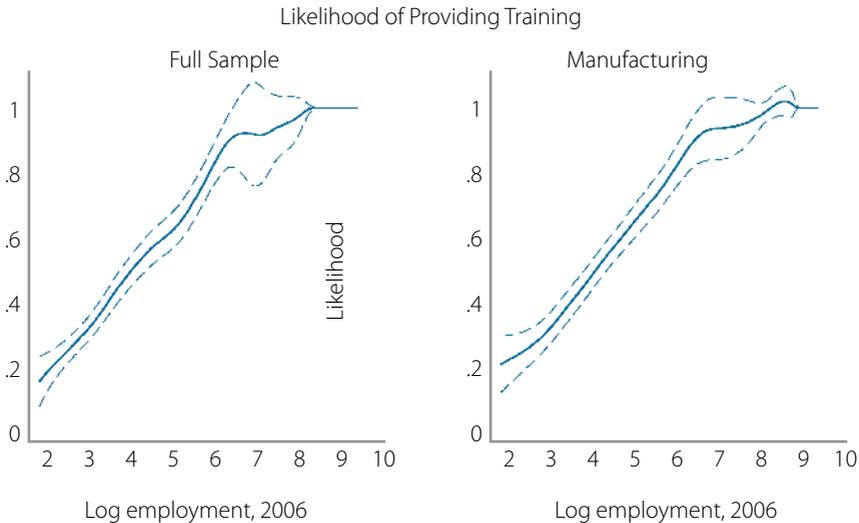
To what extent is the positive trend suggested above a result of the improved performance of public and private initiatives to raise skill levels in South Africa? Before we answer this, we turn first to the correlates of training provision. In the 2003 sample, firms that did not have workplace training programs were asked why they did not provide training: an overwhelming majority cited learning on the job as an adequate substitute for formal training. A large number also suggested that the cost and availability of trainers was an important impediment. Below we outline the firm characteristics that are associated with the provision of training using the sample of firms surveyed in 2008.

Figure 5.3 shows a plot of the likelihood of a firm providing against the log of employment for the full sample and manufacturing sample only (right panel). In both panels, a very sharp positive training-size gradient is evident. More than 65 percent of firms with 200 or more employees are likely to provide formal training to their workers, compared to about 35 percent for firms with 20 to 40 employees. A steep training-firm size gradient suggests a variety of determinants of formal training, such as liquidity constraints, access to training facilities and trainers, the availability of sub-

stitute workers for those undergoing training, and other demand-related attributes. To identify independent correlates of training provision we use regression methods, which are available on request.

While the regression results confirm the firm-size gradient shown in figure 5.3, the effect of size is not as pronounced across the entire range of the size distribution when additional controls are included. Only firms with more than 100 employees have a significantly higher likelihood of providing training. Other things remaining the same, such firms are nearly 30 percentage points more likely to provide training than firms with less than 20 employees. On the other hand, firms with 20 to 99 employees are no more or less likely to provide training than firms with less than 20 employees.

Figure 5.3 : Firms with a large workforce are more likely to provide training



Source: South Africa ICS 2007 | Note: The figure above plots the likelihood of providing formal training against log of employment in 2000 using a non-parametric Fan locally weighted regression. Bootstrapped 95% confidence intervals are defined by the dashed lines. The panel on the left includes all formal firms surveyed in 2008 while the panel on the right is restricted to manufacturing firms only.

The regression results also indicate that export status is strongly associated with the likelihood of providing training. A firm that exports is, other things remaining the same, nearly 21 percentage points more likely than a nonexporter to provide training. Foreign ownership and the schooling composition of the workforce do not exert any independent effects on the likelihood of workplace training programs.

Four other firm characteristics are found to be strongly associated with the provision of training. First, the extent to which a firm's workforce is unionized is positively associated with the provision of on-the-job training. Other things being equal, a 10 percentage point increase in the degree of unionization is associated with an increase of 2 percentage points in the likelihood of training provision. While it is possible that the extent of unionization is higher in firms with the liquidity to support training, this result suggests the possible role of workplace bargaining arrangements that support skills development.

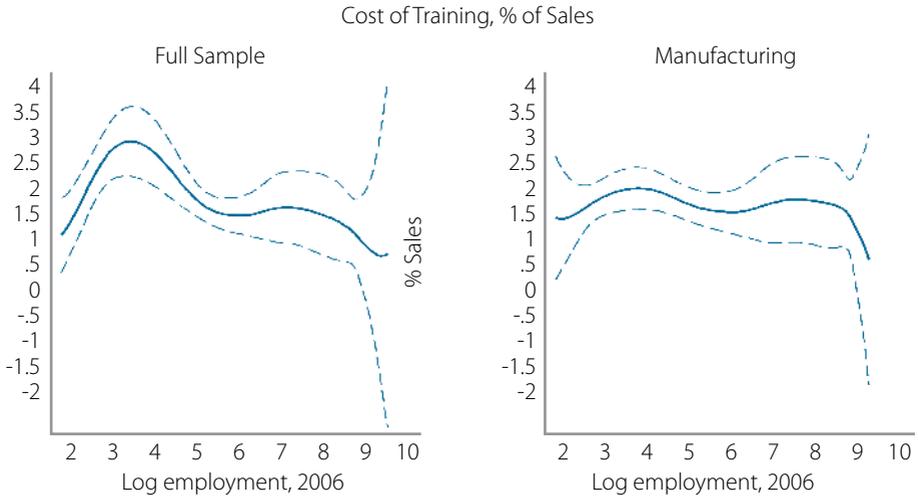
Second, firms that participate in HIV-prevention and treatment activities are about 20 percentage points more likely to provide training than other similar firms that do not have workplace HIV programs. Previous work in this area (see Ramachandran, Shah, and Turner 2005) has suggested that skill-intensive firms are more likely to engage in interventions designed to preserve human capital. The result is consistent with a complementarity between skills development and health preserving activities at the firm level.

Third, firms with high capacity utilization are less likely to provide training. A 10 percentage point increase in capacity utilization reduces the likelihood of providing training by about 2 percentage points. This is consistent with the fact that training removes workers from the production line and is consequently more costly if there is high capacity utilization.

Finally, firms whose accounts are audited by independent firms are nearly 30 percentage points more likely to provide training. While this result potentially captures differences in firm quality not captured by size, export, and ownership status as a proxy for access to external credit, the use of external auditors suggests the possibility that the cost of training or liquidity constraints are impediments to training provision.

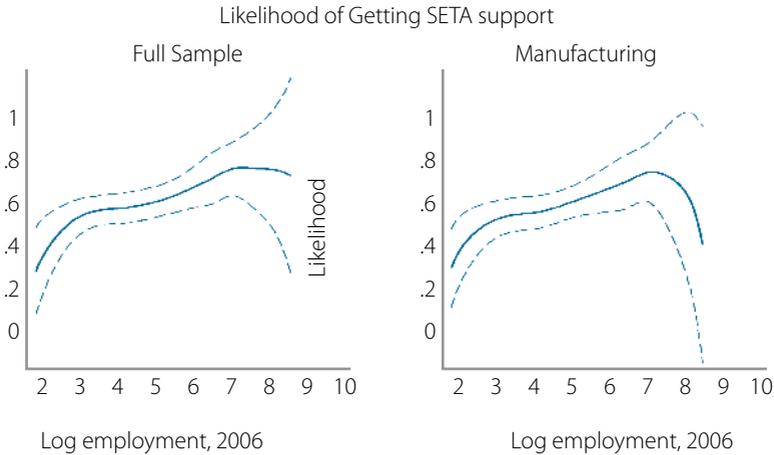
We explore the link between liquidity constraints and training by estimating the relationship between firm size and the cost of training programs as a percentage of total sales. It is important to bear in mind that this relationship is only defined for those firms that provide training and might not be informative for firms that do not provide training. While the cost of training as a share of sales shows a discernible negative gradient among all formal firms, it is much less pronounced among manufacturing firms.⁵⁹ For manufacturing firms, the cost of workplace training programs appears uniform across the employment distribution, at about 1.8 percent of total sales. This is considerably higher than the amount stipulated by the Skills Development Act (SDA) and suggests that for many firms with liquidity problems, the provision of training is prohibitively costly.

⁵⁹ It is important to point out again that the data on hand is unable to distinguish between the quality and coverage of training programs across firms. As such, differences in the efficiency of spending on and the scope of training likely confound the actual distribution with that shown above.

Figure 5.4 : The cost of training is uniform across the employment distribution

Source: South Africa ICS 2007 | Note: The figure above plots the cost of providing formal training as a % of sales against log of employment in 2006 using a non-parametric Fan locally weighted regression. Bootstrapped 95% confidence intervals are defined by the dashed lines. The panel on the left includes all formal firms surveyed in 2008 while the panel on the right is restricted to manufacturing firms only.

While the government acknowledges the need for on-the-job training as a means to support high worker productivity and address the adverse skills effects of apartheid, documentation of the effectiveness of public interventions has been sparse (Marock et. al. 2008). In part, this is because despite the government's objectives and incentive structures, the choice to provide on-the-job training is a decision that firms take. The SDA stipulates a levy scheme that provides incentives for firms to provide their workers with training and is managed by sectoral institutions called SETAs. Every firm must pay 0.5 percent of its wage bill and can claim half of this levy if its training programs are compliant with SDA requirements. However, for this incentive to work well, SETAs must be able to effectively evaluate workplace training programs and remit funds where workplace programs are compliant.

Figure 5.5 : A Majority of Training Firms Report Receiving Support from SETAs

Source: South Africa ICS 2007 | Note: The figure above plots the likelihood of receiving support from SETA against log of employment in 2006 using a non-parametric Fan locally weighted regression. Bootstrapped 95% confidence intervals are defined by the dashed lines. The panel on the left includes all formal firms that provide on-the-job training while the panel on the right restricts the sample to manufacturing firms only.

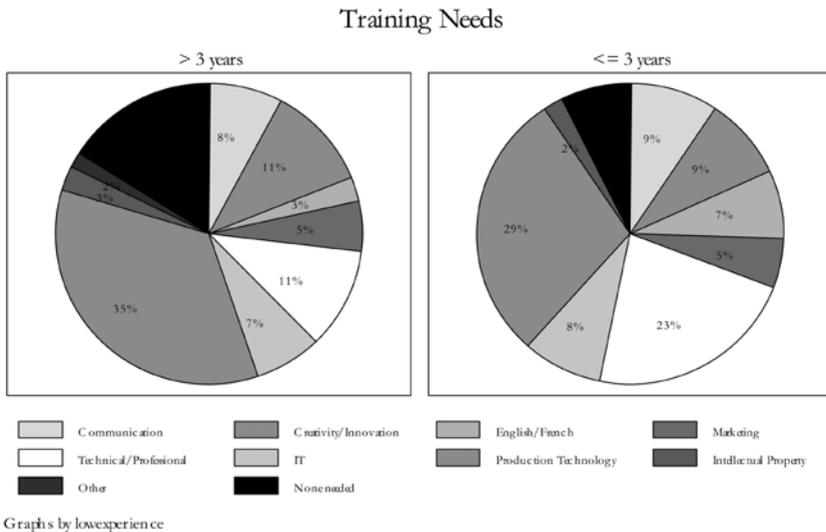
While perceptions of SETA performance were very poor in the early years, both the level of collaboration and appreciation of SETAs have improved considerably. Figure 5.5 shows that across the size distribution, a majority of firms with workplace training programs report working closely with SETAs. Overall, more than one-third of the firms that provide training report receiving some support from SETAs, and a little more than two out of every five firms training their workers reported that SETAs were effective. While we have no comparable data for the 2003 sample, recent evidence suggests considerable improvement in SETA effectiveness in supporting skills development in South Africa (Marock et al. 2008).

Using regression techniques, we further investigate the characteristics of firms that report obtaining SETA support. Few firm characteristics are associated with the receipt of SETA support. This is consistent with the absence of any active selection or targeting of SETA support. For instance, while figure 5.5 suggests a moderate firm size gradient, controlling for other firm characteristics suggests that a firm with less than 20 employees is just as likely as a firm with more than 100 employees to receive SETA support. Only those firms that have HIV/AIDS workplace programs are more likely than others to receive SETA support. The effect is quite large, suggesting more than a 20 percentage point differential in the likelihood of SETA support.

While the absence of targeting of SETA activity is a desirable policy objective, the results above suggest that small and medium firms face significant constraints in the provision of training programs. Differences in size, export status, and degree of unionization suggest a considerable training gap between large firms (with more than 100 employees) and small- and medium-sized firms. Well-targeted programs that encourage these firms to establish workplace training programs will go a long way in supporting a lifetime of learning for workers in these firms.

While government support and firm-level demand for training are important ingredients for skills development, worker demand for training and their attributes are also important. We begin by outlining the training needs identified by workers and then discuss the attributes of workers most closely associated with enrollment in training programs. Both of these aspects inform policy makers on the types of training that require public support and the likely constraints that skills development practitioners will face.

Figure 5.6 : Production Technology is the Most Frequently Cited Area of Training Required To Improve Worker Productivity



The figure uses worker data from the 2008 survey. The right panel is restricted to employees with less than 3 years of working experience while the left panel shows the distribution for more experienced workers.

Workers were asked what skills they required to make them more productive employees. Figure 5.6 shows the distribution of responses across a number of different areas by the level of worker experience. Across both categories of worker experience, a large fraction of workers state that training in production technology would improve their productivity. Of those workers with more than three years of experience, 35 percent report that improved skills in production technologies would improve their productivity, compared to 29 percent of less experienced workers. Differences between the two types of workers are found in those reporting they do not need any training, with more experienced workers about twice as likely as less experienced workers to report they do not need further training. On the contrary less experienced workers are twice as likely as more experienced ones to report the need for technical or professional certification to improve their productivity. Only about 8 percent of workers report they need further training in information technologies (IT). Other notable areas of training needs include language skills and design.

Next we turn to identifying the worker attributes that are associated with on-the-job training. This is important in order to identify complementary interventions that support skills development in South Africa. We rely once again on worker responses on whether they have received training and how it was financed. We control for measures of human capital such as schooling, experience, and worker tenure, as well as union membership, full-time status, occupational categories, and race. We run two specifications to account for invalid inferences that stem from worker-firm matching: our first specification includes controls for firm characteristics, while our second specification controls for both observed and unobserved firm fixed effects.

We separately determine the correlates of three definitions of training: having received any training throughout the worker's career, currently receiving training (irrespective of how it is financed); and currently receiving on-the-job training financed by the firm.⁶⁰ The likelihood of receiving any training throughout a worker's career is influenced by all the human capital measures. All other things equal, an extra year of schooling increases the likelihood of career training by nearly 2 percentage points. Similarly, increasing worker tenure by a year increases the likelihood of receiving career training by nearly 4 percentage points. The relationship between experience and career training is nonlinear, starting out negative and then becoming positive. Unlike the effects for education and tenure, when we control for observable and unobservable firm fixed effects, the experience effect is not significant.

Another attribute that exerts a strong effect on career training is union membership. A union worker is nearly 25 percentage points more likely than a nonunion worker

⁶⁰ Details of the findings are available on request.

to have received career training. This is consistent with the finding above that firms with higher unionization rates are more likely to have workplace training programs. The result from the specification that controls for both observed and unobserved fixed effects suggests workplace bargaining arrangements do not spill over to nonunionized workers.

Finally, we find that nonwhite workers are less likely than white workers to have received career on-the-job training. The effect is particularly pronounced for workers of African and Asian descent. A worker from either of these categories, other things remaining the same, is nearly 20 percentage points less likely to have received career training than an otherwise similar white worker.

The relationships above are altered slightly when we focus on the attributes of employees *currently* receiving training. While education and tenure remain strongly associated with enrollment in an on-going training program, the strength of the relationships is considerably weaker for education, but stronger for worker tenure. An additional year of schooling is associated with a 1.4 percentage point increase in the likelihood of current training, while an additional year of tenure increases the likelihood of current training by 11 percentage points. Union membership continues to exert a strong positive influence on current training, with union members nearly 25 percentage points more likely than nonmembers to receive current training.

The results on racial training gaps for career training are turned on their head when we focus on current training. Colored and African workers are now about 10 percentage points more likely to receive *current* training than white workers. This suggests that the results on lifetime training reflect in part the legacies of apartheid. Among the firm characteristics that exert a strong association are export status (which is positive as in the firm-level estimations above) and foreign ownership status (which is negative). Surprisingly, firm size is not associated with the likelihood of a worker currently receiving training.

Finally, we examine the attributes associated with receiving *firm-financed* current training. The difference from the discussion above is that we now exclude enrollment in self-financed training programs. As such, the results obtained above do not necessarily reflect firm-level policies in the allocation of skills development opportunities. However, despite the refinement, we find that both education and tenure continue to be strongly associated with firm-financed current training. An extra year of schooling increases the chances of being enrolled in a firm-financed training program by nearly 1 percentage point, while an extra year on the job increases the likelihood of enrollment by nearly 10 percentage points. Union membership remains strongly

associated, albeit with a smaller effect on training. The union training gap is only 10 percentage points for *current* firm-financed training. Finally, colored and African workers are more likely than white workers to receive firm-financed training, suggesting that if anything, firm-level skills development policies discriminate *positively* in favor of nonwhite workers.

The analysis above provides two insights that might be useful for policy makers to consider as they implement JIPSA and ASGISA. First, union membership at both the firm and worker levels appears to exert a strong influence on whether workers receive training. While the association does not confirm any causal relationship, it suggests that workplace bargaining arrangements increase the likelihood that firms will invest in members' skills. An alternative explanation arises from the fact that worker tenure is considerably higher for union workers than for nonunion workers. The concern that firms cannot recoup the costs incurred for training as a result of turnover is considerably less important for union members, who are relatively *more* attached to their firms.

5.4 CONCLUSION

Using data from the 2003 and 2008 Enterprise Surveys, this chapter has explored changes in the composition of the labor force, the demand for training (at the firm and worker levels), and wage-setting behavior in South Africa. The chapter finds some evidence of broad-based change in the composition of the manufacturing workforce. In particular, we find that the share of skilled workers appears to have increased by about 10 percentage points between 2003 and 2008. This finding has implications for the employment generation objectives of government and, crucially, skills development strategies.

Our findings on the prevalence of training in South African firms suggest that little has changed between 2003 and 2008. The firms that provided training in the last survey continue to provide training, while few of those that did not provide training in 2003 do so today. We find very strong effects of firm size, export status, and rate of unionization on training. We also find that firms engaged in HIV prevention and treatment activities are considerably more likely to provide training. The finding on firm size in particular has implications for the role of SETAs. Moreover, we find a strong positive gradient with firm size of the likelihood of receiving SETA support. Since a majority of the newly employed is likely to work in small and young firms, the skills development opportunities for these workers are likely to be thin. Better targeted programs for firms with less than 100 employees will be necessary to meet the objectives of a lifetime of learning.

CHAPTER 6

Small Business Access to Finance

6.1 INTRODUCTION

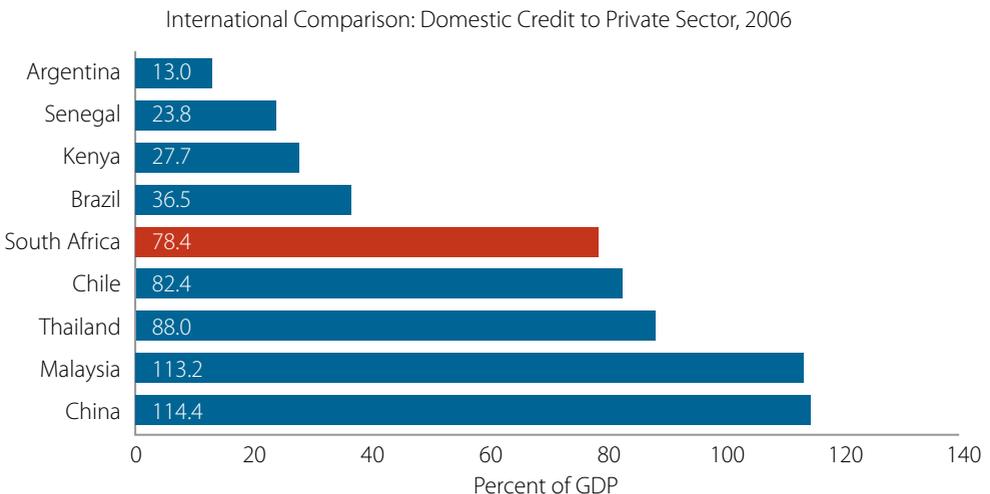
Although it does not seem to be much of a problem for midsize and large formal sector firms, access to credit is rated as a serious obstacle to business growth by nearly a third of micro and small enterprise owners in the 2008 survey. This is similar to the picture the first assessment painted based on the 2003 survey. In both years, access to finance topped the list of reported obstacles to growth by micro and small enterprises. It also appears to affect black-owned and Asian-owned micro and small businesses more than white-owned ones, according to both surveys.

This chapter provides an overview of differences between groups of firms defined by size, age, industry and the ethnicity of business owners in terms of hard indicators of use and cost of credit. These indicators are more reliable and more practical measures of access gaps than group differences in ratings of perceived access or lack of it. To the extent that there are real differences between groups of firms in terms of access to finance on any of the indicators, it is likely that the differences reflect misallocation of capital which costs society in terms of forgone employment and forgone productivity lost jobs and lost productivity along the lines discussed in chapter 3. Getting a reliable measure of access gaps helps get some sense of those losses.

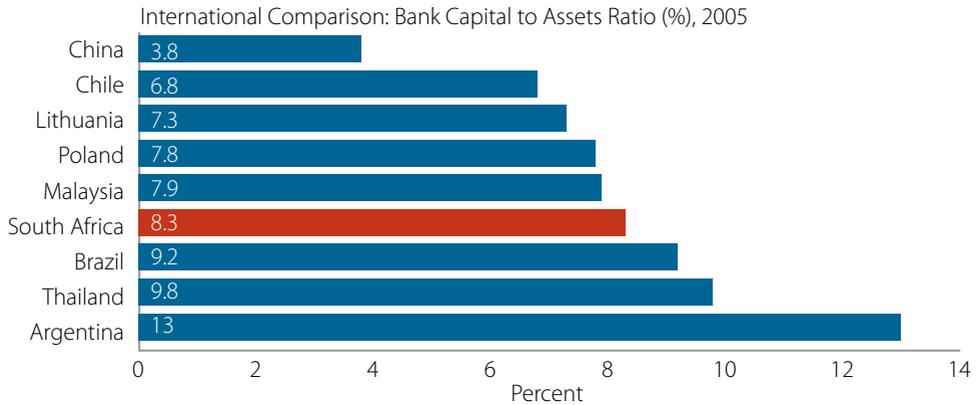
6.2 ACCESS TO FINANCE IN INTERNATIONAL PERSPECTIVE

South Africa has a well-developed financial market for its peer group. For example, one key indicator of financial development, namely, the ratio of domestic credit to GDP, stands at 78 percent of GDP, which is on par with those for the better performing in the peer group, though significantly lower than those of Malaysia and China (figure 6.1). Though quite concentrated, the banking industry is also fairly competitive.⁶¹ It is also comparatively healthy, with a relatively high capital to assets ratio of 8.3, and low and declining nonperforming loans, which stand at a commendable 3 percent or less (figure 6.2). It is not therefore surprising that access to finance does not appear to be a major policy problem as far as the formal economy is concerned. Thus, only 14 percent of firms in the 2008 South Africa Enterprise Survey sample reported access to financing as a major or severe obstacle, which is also similar to the results of 2003 survey. In the earlier survey, fewer than 20 percent of firms rated access as a major or severe obstacle.

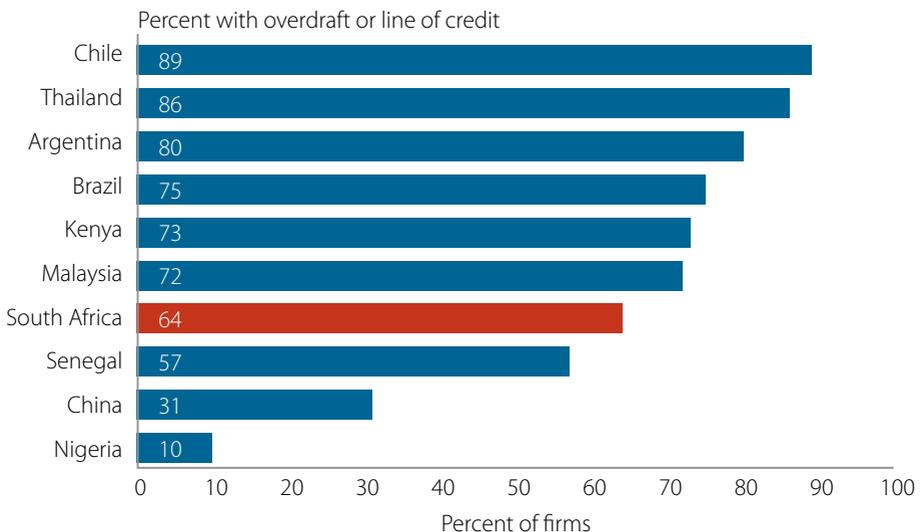
Figure 6.1 : Bank Credit to Private Sector in South Africa and Comparison Countries.



61 At the end of December 2005, 34 banks, including 15 branches of foreign banks and two mutual banks, were registered with the Office of the Registrar of Banks. Furthermore, 47 foreign banks had authorized representative offices in South Africa. However, four major banks dominated the South African banking sector: Amalgamated Banks of South Africa (Absa) Bank Limited, which is internationally owned; the Standard Bank of South Africa Limited; FirstRand Bank Limited; and Nedbank Limited. These banks maintain extensive branch networks across all nine provinces, and by the end of December 2005, they constituted 83.8 percent of the total assets (about R1.7 billion) of the banking sector.

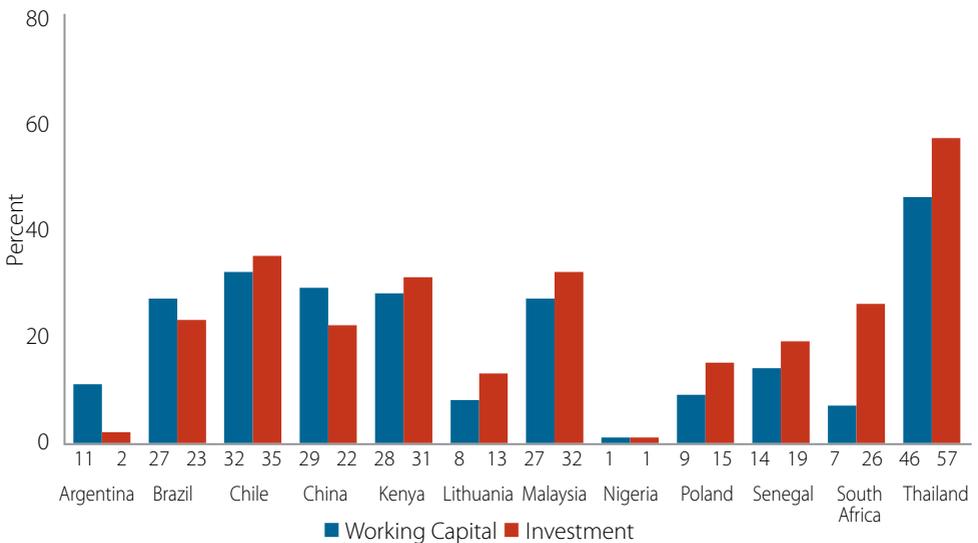
Figure 6.2 : Bank Nonperforming Loans in South Africa and Comparison Countries

However, South Africa does not seem to do as well on objective indicators of access. Excluding microenterprises, 64 percent of all manufacturing enterprises in South Africa make use of at least one credit product (such as an overdraft, line of credit, or loan), which is better than China, but worse than other middle-income comparators. These results are also very comparable to those reported in 2003 survey, in which about 70 percent of firms reported using overdraft facilities.

Figure 6.3 : Cross-Country Comparison of Credit Products Use

External finance is used by firms to finance their working capital purchases (inventories, accounts receivables) and investment into productive assets (property, plant, and equipment). Two commonly used measures of the quality of access are percent of bank finance used by firms to pay for their working capital and investment. South Africa scores about average based on these two indicators. On average, bank finance covers only about 7 percent of firms' working capital needs, and 26 percent of investment needs. Bank finance for investment is about average for the peer group: similar ratios are observed in Brazil (23 percent), China (22 percent), and Chile (35 percent). In terms of bank finance for investment, there appears to be slight improvement since the 2003 survey, when the average was reported to be 17 percent.

Figure 6.4 : Cross-Country Comparison of Sources of Funds for working capital and Investment



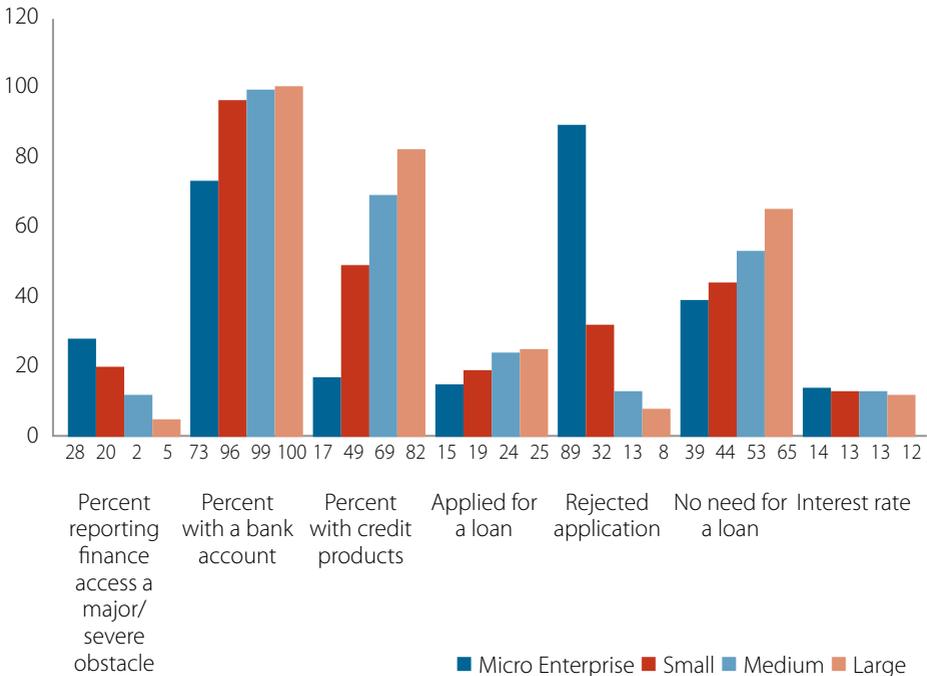
Source: World Bank Enterprise Survey

6.3 EFFECT OF SIZE ON ACCESS TO CREDIT

In South Africa, as in the other countries, access to credit is significantly more difficult for microenterprises than for small enterprises and significantly more difficult for small enterprises than for large enterprises (figure 6.5). Microenterprises are more likely to report that access to finance is one of the top three obstacles, are less likely

to have a bank account, and less likely to have access to any of the credit products (loans, overdrafts, or lines of credit). Among microenterprises, only 17 percent have any of the credit products, compared with 49 percent of small, 69 percent of medium, and 82 percent of large firms. Microenterprises are less likely to apply for loans, partly because they have very high rejection rates, at 89 percent, compared with 32 percent for small enterprises, 13 percent for medium, and 8 percent for large.⁶² Regarding demand for loans, microenterprises are less likely to state they have “no need for a loan” as a reason for not applying for one. This reason is stated by 39 percent of microenterprises, compared to 44 percent of small enterprises, 53 percent of medium, and 65 percent of large. This suggests micro and small enterprises have more demand for loans, but less ability to access them. These results on effect of size on access continue to be significant in a multivariate regression framework that simultaneously considers all relevant firm characteristics (table 6.5).

Figure 6.5 : Comparison of Access Indicators by Firm Size



Source: World Bank Enterprise Survey

62 The sample of microenterprises that applied for loans is very small, with only 18 observations, so the high rejection rate might be due to the small sample. Nevertheless, it is a reason for more investigation.

Excluding microenterprises, small firms have less access than medium and large firms. They are less likely to have any credit products, less likely to apply for loans, but more likely to be rejected for a loan if they apply. Thus, size has an important effect on differences in objective indicators of access even beyond the microenterprise level. The difference in subjective indicators of access mirrors the picture found with objective indicators—28 percent of microenterprises report access as a major or severe obstacle, compared to 20 percent of small, 12 percent of medium, and only 5 percent of large enterprises.

All around the world, SMEs have less access to finance than large firms, and South Africa is no exception. Figure 6.6 reports actual use of credit products—one of the most important indicators of access—separately for SMEs (top panel) and for large firms (bottom panel). Among small and medium enterprises, only 59 percent have any credit products, while among large firms, 82 percent do. This difference is rather large—only two of the comparator countries have a larger gap: Nigeria (with a 28 percent difference between SME and large enterprises) and Senegal (with a 31 percent difference). All other comparator countries have smaller differences. The gap in China is 19 percent, while in Argentina, Thailand, Malaysia, and Brazil, the gaps are between 10 percent and 14 percent.

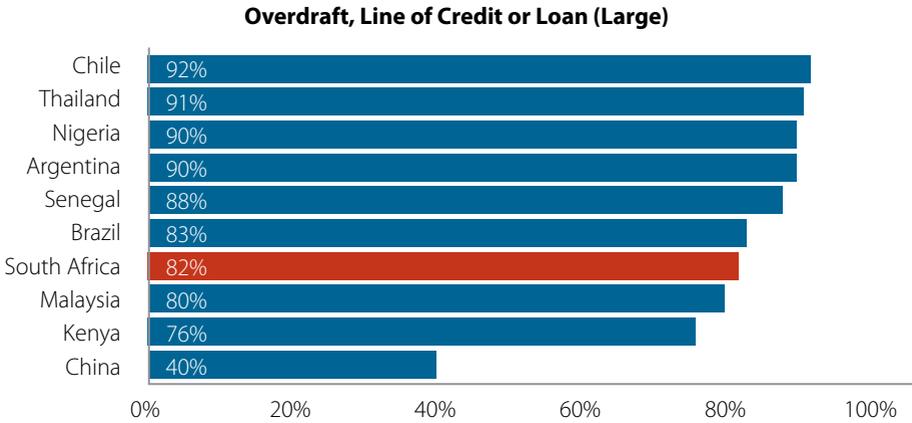
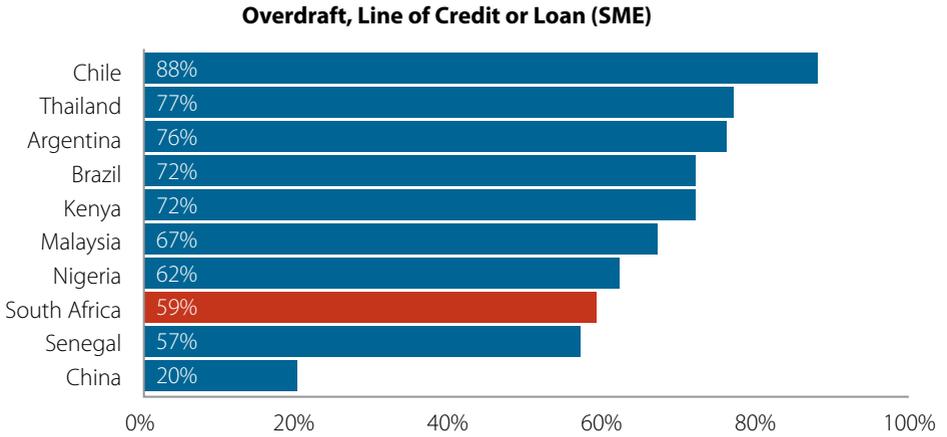
In table 6.5 we report multivariate analysis of determinants of access indicators. Two of the indicators are subjective indicators, namely, whether the firm claims access is one of the top three obstacles, and whether the firm states “no need for loans” as a reason for the lack of a loan application. In addition there are several objective indicators in the table: whether the firm has any credit products (i.e. overdraft, line of credit, or loan), loan applications and rejections, percent of finance for working capital and investment, and interest rate. For comparison, microenterprises are included in the same regression with larger enterprises.

The results are similar to those described above. Microenterprises report higher subjective obstacles, lower use of any credit products, higher probability of being rejected for loans, and less bank capital used for investment and working capital. Small enterprises also report less usage of any credit products and lower usage of bank capital for working capital and investment. Medium enterprises are not very different from large enterprises on any of the access measures. There is a divide in access. As firms reach a certain size (somewhere between medium and large), access becomes easier. The regression results confirm the prior conclusion that micro and small firms are especially disadvantaged in their access to credit.

In almost every country, enterprises rely primarily on retained earnings to finance working capital and investment. This is also the case in South Africa (figure 6.7). However, the same pattern described above is visible here as well—micro and small enterprises have significantly less access to bank finance to finance their working capital and investment. Micro and small enterprises use about 2 percent to 5 percent of bank finance for working capital, compared with 9 percent to 10 percent for medium and large enterprises. The picture is somewhat better for bank finance for investment. All firms use more bank finance for investment purposes, most likely because investment in machinery and equipment provides better collateral than working capital. However, microenterprises are also disadvantaged—they obtain only 5 percent of their investment finance from banks, compared to 17 percent for small, 31 percent for medium, and 26 percent for large firms.

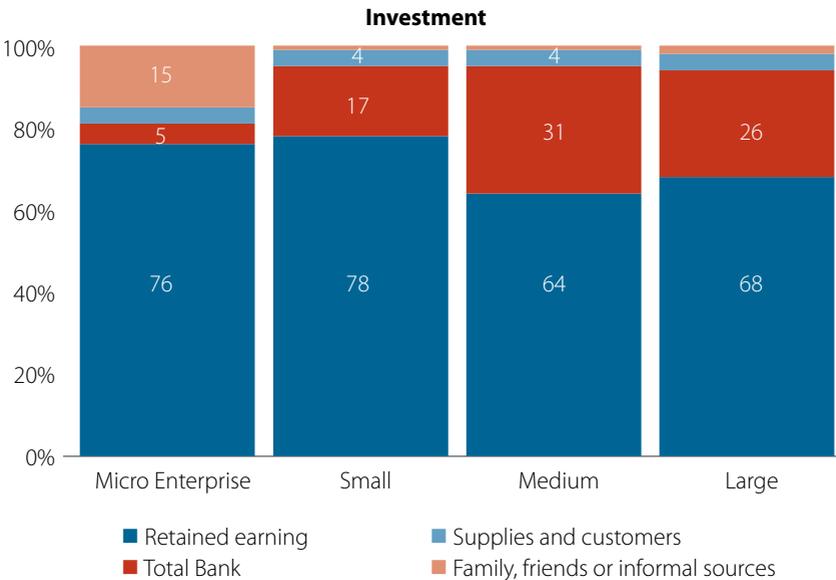
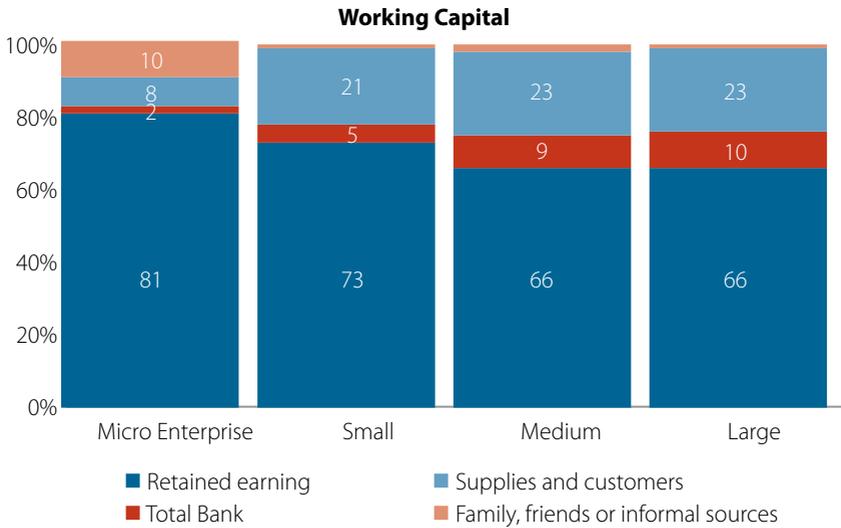
Microenterprises also use less finance from suppliers and customers—they finance 8 percent of working capital, vs. 21 percent to 23 percent for small, medium, and large enterprises. This is because microenterprises rely more heavily on finance from family and friends, financing up to 10 percent of working capital and 15 percent of investment using this informal source of funds, which is not used by firms in other size categories.

Figure 6.6 : Cross Country Comparison of the Difference Between Large firms and SME



Source: World Bank Enterprise Survey

Figure 6.7 : Sources of Finance for Working Capital and Investment by Firm Size



Source: World Bank Enterprise Survey

6.4 CHARACTERISTICS OF LOAN PRODUCTS

In the microenterprise sample, only eight firms have either a loan or line of credit, while in the small, medium and large sample, 292 firms do (table 6.1). Most loans are issued by private commercial banks. For microenterprises, state-owned banks and nonbank financial institutions provide about 40 percent of loans (but the sample is too small to be confident in these numbers). Because the micro sample is so small, we grouped together loans and lines of credit and firms of all sizes in table 6.2, which reports loan characteristics.

Table 6.1: Loan Providers

	<i>Micro Enterprise</i>		<i>SML Enterprise</i>	
	No of Obs.	Percent	No of Obs.	Percent
Type of financial institution				
Private commercial banks	5	62.5	276	94.54
State-owned banks and/or government agency	1	12.5	4	1.37
Non-bank financial institution	2	25	12	4.1
Total	8	100	292	100

Source: World Bank Enterprise Survey

Table 6.2: Loan Characteristics for Formal Firms

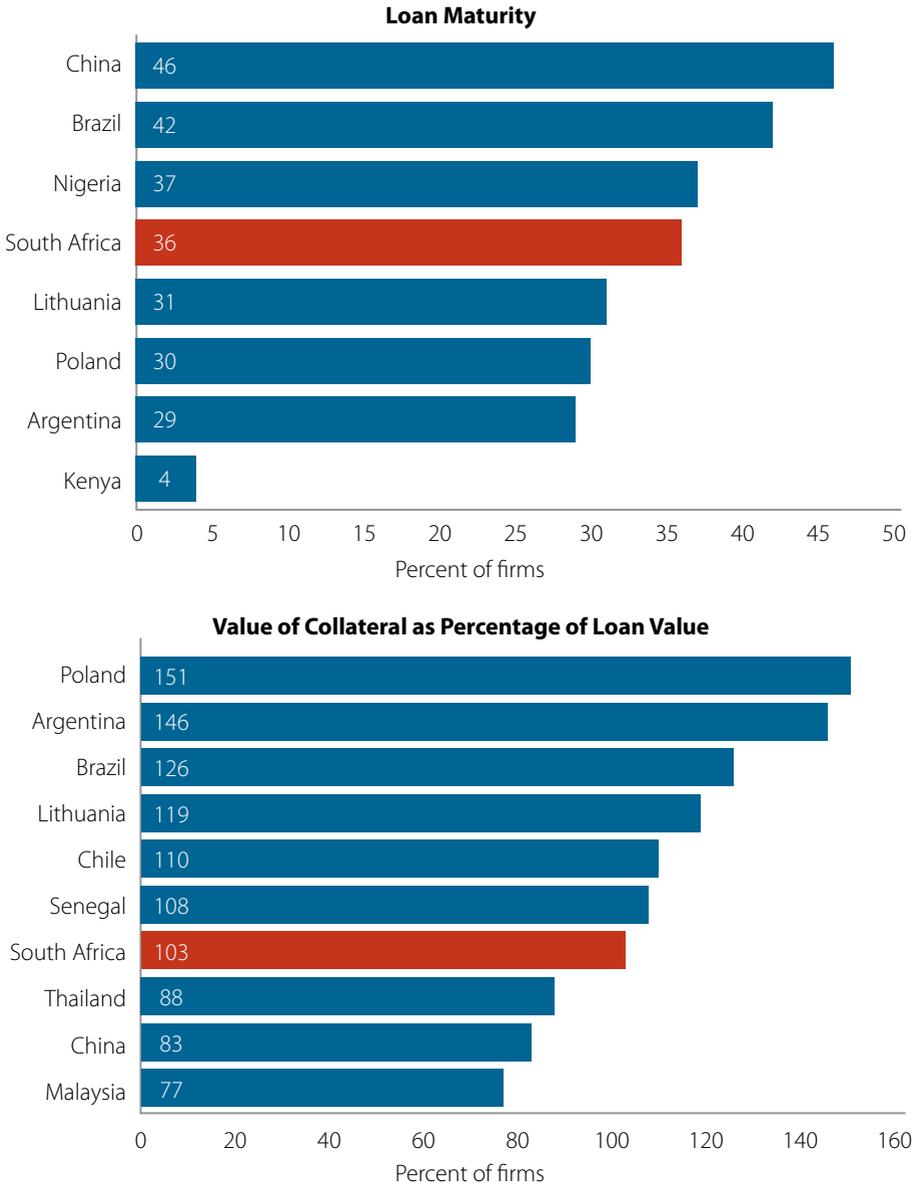
<i>Variable</i>	<i>N</i>	<i>Min</i>	<i>25th Percentile</i>	<i>Median</i>	<i>75th Percentile</i>	<i>Max</i>	<i>Mean</i>	<i>Standard Deviation</i>
Year of Approval	298	1933	2002	2005	2006	2008	2002	9.821881
Amount at the time of approval (millions)	297	0.00	0.15	0.50	3.00	500.00	6	31.60
Amount scaled by assets	222	0.000	0.027	0.094	0.200	71.225	0.86	5.561
Average annual interest rate (%)	299	2.00	11.00	12.00	14.00	37.00	13	3.56
Total duration in months	290	1	12	24	54	240	35	32.087
Collateral as a percentage of loan amount	207	10	80	100	110	600	106	67.37142

Source: World Bank Enterprise Survey

About half of the loans were obtained in 2005 or after, with the earliest loan reported in 1933 (this must have been renewed on an ongoing basis). The majority of the loans are fairly short term. The median loan has a two-year maturity, while three-quarters of the loans have less than five years for maturity.

The average loan maturity is about three years, which is about average relative to comparator countries (figure 6.8). However, some firms were able to obtain longer maturity loans, with a maximum of 20 years—two firms reported 20-year loans and 10 firms reported 10-year loans. These are mostly medium and large firms.

Figure 6.8 : Cross Country Comparison of Loan Maturity and Collateral to Value Ratios



The size of loans varies from about 500 South African Rand to 500 million Rand, with the median of about a half million Rand. As a fraction of the estimated current value of the firm's fixed assets, the median loan is only about 9 percent, which indicates low leverage, but there are 13 firms with high loan to asset values—in excess of 100 percent, which might be a case of overleveraging.⁶³ The average interest rate is about 13 percent, but there is considerable variation, with rates as low as 2 percent and as high as 37 percent.

Most firms (about 70 percent) have to post collateral to secure loans. Most firms (close to 60 percent) use more than one type of collateral. Three types of collateral are very common—land and buildings, machinery and equipment, and personal assets—and at least one of these types is used by about 50 percent of all firms that use collateral. Movable asset collateral (such as receivables and inventories) is slightly less common; however 44 percent of all firms use this type, which indicates a certain degree of sophistication of financial markets, expected of a middle-income country such as South Africa. However, there is variation by size—personal assets are used predominantly by small firms (80 percent of small firms vs. 38 percent of large firms), while movable assets are used more by larger firms (57 percent of large firms vs. 38 percent of small firms). Increasing access to movable asset collateral would be beneficial for smaller firms.

The collateral to loan values are fairly reasonable—the median is 100 percent, meaning the loan is the same value as the collateral, and the average is 106 percent. These values compare favorably with comparator countries, most of which require higher collateral to value ratios (figure 6.8). However, a few firms are required to post more collateral, reaching as high as 600 percent (but only eight firms post over 200 percent collateral to value).

Next we consider the reasons for application rejections and reasons for lack of loan applications (table 6.3). Unacceptable collateral is often cited by smaller firms—31 percent of micro and 39 percent of small firms cite this reason for loan application rejections, and insufficient profitability is cited by firms in all size categories. Problems with credit history or a credit report is given as a reason by about 10 percent of firms, which indicates that credit bureaus are effective in limiting access to firms with poor histories.

63 These highly leveraged firms are pushing the mean to 86 percent, but the mean is misleading, since most firms have quite low leverage. When these 13 highly leveraged firms are removed from the sample, the mean loan to asset ratio is only 13 percent, which is quite low.

Table 6.3: Reasons for Applications Rejections and Lack of Loan Applications*Panel A: Reasons for Application Rejections*

Reason	Micro Enterprise	SML Enterprise		
		Small	Medium	Large
Collateral or cosigners unacceptable	31%	39%	20%	0%
Insufficient profitability	25%	17%	20%	33%
Problems with credit history/report	13%	11%	10%	0%
Incompleteness of loan application	6%	17%	40%	33%
Concerns about level of debt already incurred	0%	0%	10%	0%
Other objections	25%	17%	0%	33%
Total	100%	100%	100%	100%
Sample Size	16	18	10	3

Panel B: Reasons for Lack of Loan Application

Reason	Micro Enterprise	SML Enterprise		
		Small	Medium	Large
No need for a loan	46%	54%	72%	87%
Application procedures are complicated	18%	14%	6%	4%
Interest rates are not favorable	6%	16%	13%	4%
Collateral requirement are unattainable	5%	5%	2%	1%
Size of loan and maturity are insufficient	1%	2%	0%	0%
Did not think it would be approved	17%	7%	4%	1%
Other	8%	3%	4%	3%
Total	100%	100%	100%	100%
Sample Size	102	307	278	147

The next two most important reasons why microenterprises apply for loans are that their perception that application procedures are too complicated—reported by 18% of respondents—and expectations that loans would not be approved—reported by 17 percent. These reasons are less important for larger firms. Unfavorable interest rates are cited as a deterrent by 16 percent of small and 13 percent of medium firms, but not as often by microenterprises or large firms.

Table 6.4 shows that, after controlling for other firm characteristics, firms with African owners are not less likely to use credit products, and are even more likely to use bank finance for working capital, even though they report more subjective obstacles. The reason may partially be explained by their larger demand for loans—i.e. they are less likely to say “no need for loan” as a reason for the lack of a loan application. However, this is also a subjective indicator and we cannot rule out the possibility that firms with African owners have different perceptions of

difficulties with access, while in reality they may have access that is similar to that of other firms.

Exporters have significantly more credit product usage and they report lower subjective access obstacles. Foreign firms report lower subjective obstacles as well, although not significant differences in actual usage of credit products.

Two additional variables of particular interest in table 6.4 are whether the firm has an external auditor and whether the firm owns land. The external audit makes the firm's financial statements more reliable and thus reduces the information asymmetry between the firm and financial institutions, and thus should improve a firm's access to finance. In addition, land could be used as collateral and should also be associated with increased access. Firms with external auditor reports are more likely to use credit products, less likely to be rejected, and less likely to state access as one of the top three obstacles (again, after controlling for firm size), while owning land is not significantly related to access.

Table 6.4: Regression Analysis of Access in South Africa

<i>Dependent Variable: (1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>	<i>(7)</i>	<i>(8)</i>	
<i>Access is one of top 3 obstacles</i>	<i>Any credit product</i>	<i>Applied for loans</i>	<i>Rejected</i>	<i>"No need for loans"</i>	<i>Bank finance for working capital</i>	<i>Bank finance for investment</i>	<i>Annual Interest Rate</i>	
Firm Age: 1-5yrs	-0.02 [0.61]	-0.15 [0.00]***	-0.01 [0.84]	0.06 [0.40]	-0.06 [0.20]	-0.07 [0.29]	2.91 [0.35]	[0.00]***
Firm Age: 6-10 yrs	0 [0.91]	-0.09 [0.03]**	-0.02 [0.56]	0.18 [0.02]**	-0.01 [0.87]	-0.06 [0.30]	-0.07 [0.29]	[0.88]
Firm Size: micro	0.16 [0.03]**	-0.46 [0.00]***	-0.07 [0.23]	0.86 [0.00]***	-0.06 [0.44]	-0.58 [0.00]***	1.27 [0.00]***	[0.49]
Firm Size: small	0.04 [0.42]	-0.18 [0.00]***	-0.07 [0.11]	0.07 [0.50]	-0.08 [0.16]	-0.24 [0.00]***	0.21 [0.00]***	[0.71]
Firm Size: medium	0.02 [0.60]	0 [0.11]	0 [0.95]	0.02 [0.79]	-0.05 [0.35]	-0.05 [0.44]	0.29 [0.59]	[0.48]
LLC	0.04 [0.20]	0 [1.00]	-0.01 [0.61]	0.03 [0.52]	0.08 [0.03]**	-0.01 [0.82]	-0.61 [0.72]	[0.19]
Foreign	-0.08 [0.04]**	-0.05 [0.34]	-0.01 [0.85]	0.22 [0.07]*	0.09 [0.07]*	-0.09 [0.17]	0.64 [0.00]***	[0.42]
Exporter	-0.08 [0.02]**	0.16 [0.00]***	0.01 [0.86]	-0.16 [0.01]**	0 [0.97]	0.02 [0.69]	0.16 [0.17]	[0.74]
Female owner	0.02 [0.53]	0.01 [0.76]	0.02 [0.51]	-0.06 [0.33]	0.03 [0.48]	-0.03 [0.49]	-0.42 [0.84]	[0.40]
African owner	0.11 [0.00]***	0 [0.92]	0.02 [0.46]	0.01 [0.88]	-0.15 [0.00]***	0.09 [0.09]*	0.72 [0.30]	[0.16]
Auditor	-0.2 [0.00]***	0.11 [0.01]***	-0.02 [0.50]	-0.19 [0.01]***	0.27 [0.00]***	0.02 [0.69]	-0.64 [0.54]	[0.48]
Own land	-0.03 [0.31]	0.02 [0.66]	-0.01 [0.80]	-0.03 [0.62]	-0.04 [0.29]	0.03 [0.57]	0.05 [0.43]	[0.91]
Industry:								
Manufacturing	0.09 [0.03]**	0.05 [0.33]	-0.02 [0.54]	-0.07 [0.28]	-0.16 [0.00]***	-0.06 [0.39]	1.63 [0.48]	[0.01]**
Industry: Services	-0.03 [0.61]	-0.01 [0.84]	-0.08 [0.08]*	-0.12 [0.06]*	0.02 [0.81]	-0.07 [0.40]	0.26 [0.44]	[0.70]
Region: Durban	-0.08 [0.12]	0.03 [0.66]	-0.1 [0.02]**	0.31 [0.04]**	-0.08 [0.22]	-0.1 [0.22]	1.64 [0.04]**	[0.01]**
Region:								
Johannesburg	0.03 [0.46]	-0.01 [0.79]	-0.1 [0.01]***	0.09 [0.29]	-0.01 [0.89]	-0.09 [0.15]	0.5 [0.42]	[0.31]
Region:								
Port Elizabeth	-0.05 [0.42]	-0.25 [0.00]***	-0.17 [0.00]***	0.23 [0.27]	0.25 [0.00]***	-0.68 [0.00]***	-0.53 [0.02]**	[0.42]
Observations	1037	1037	1037	219	1037	1037	1037	294
R-squared								0.14

Notes: Estimated by probit (columns 1-5), Tobit with lower limit of zero and upper limit of 100 (columns 6-7) and linear regression (column 6). * significant at 10%; ** significant at 5%; *** significant at 1%.

6.5 ROLE OF OTHER FIRM CHARACTERISTICS

Registration and Legal Status

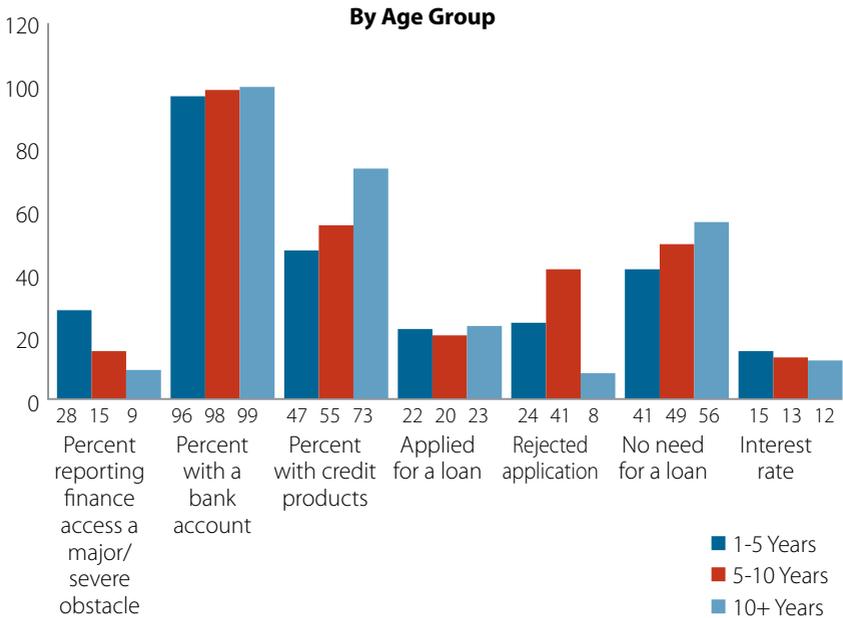
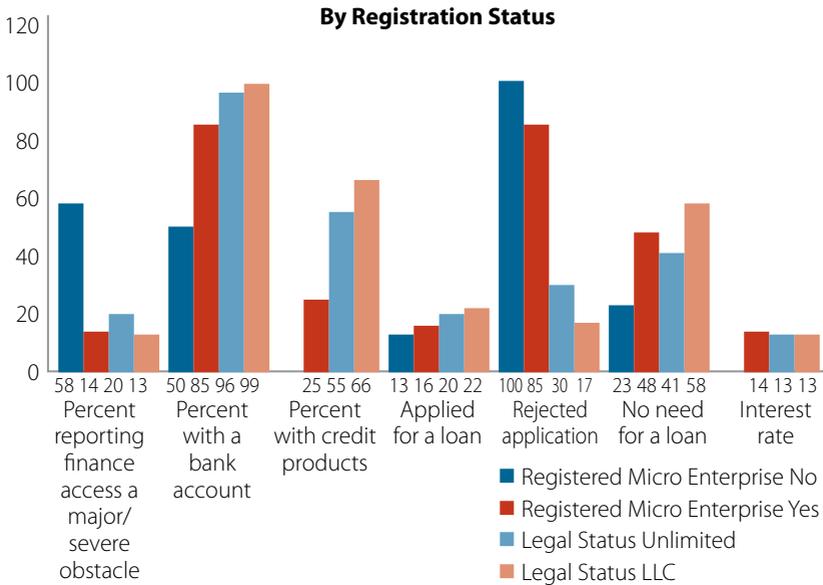
In this section we consider another important aspect of access to credit—the degree of a firm’s formality, measured by registration status for microenterprises and legal status for small, medium, and large firms. We separate limited liability companies (LLCs), from unlimited liability firms, including sole proprietorships and partnerships. Limited liability can be seen as another step toward more formality as it involves further separation of individual ownership and the firm identity.

A subcategory of registered vs. unregistered firms was created based on a firm’s actual registrations within the microenterprise category. Firms are classified as “registered” if they have at least one of the following:

- registered name with the Office of the Registrar or other government institution responsible for approving company names,
- registered with the Office of the Registrar, the local courts, or other government institutions responsible for commercial registration,
- an operating or trade license or are otherwise registered for a general business license with any municipal agency,
- obtained a tax identification number from the tax administration or other agency responsible for tax registration.

In the microenterprise sample, two-thirds of microenterprises (80 out of 120) are registered with at least one of these agencies. The difference between registered and unregistered is very significant with respect to access to credit (figure 6.8). Among unregistered microenterprises, only 50 percent have a bank account, while 85 percent of registered enterprises do. The difference in usage of credit products is even more striking—none of the 40 unregistered enterprises use any credit products, while 25 percent of registered microenterprises do. This is not because unregistered microenterprises do not apply—in fact, 13 percent applied for a loan, but all of these applications were rejected. Registered enterprises are rejected slightly less frequently, but still at a very high rate of 85 percent.

Figure 6.9 : Access Indicators by registration status and age group



Source: World Bank Enterprise Survey

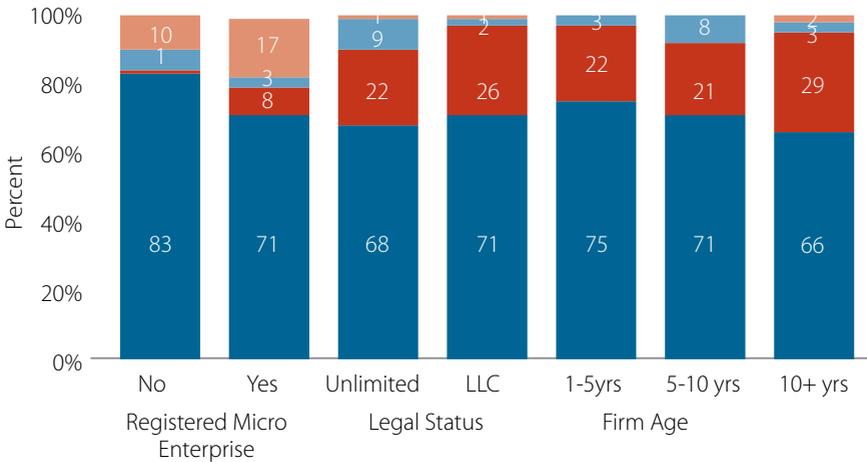
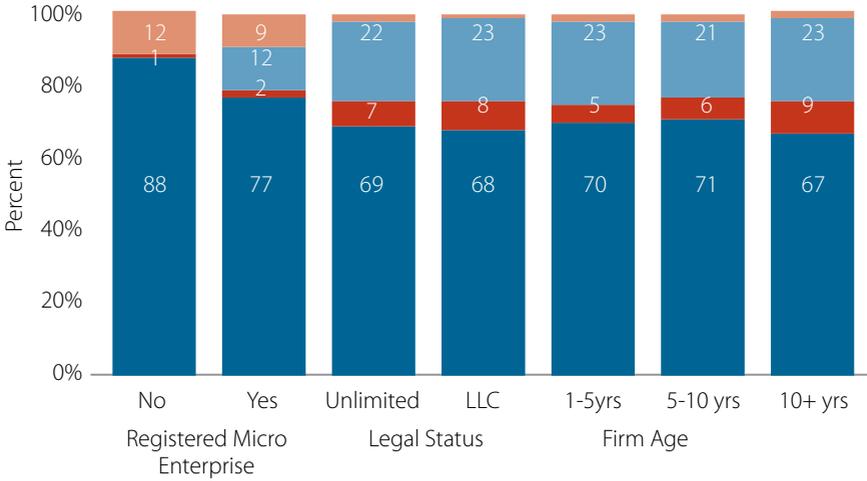
Among SMEs and larger firms LLC status is an important factor for access to credit. Those with limited liability have more usage of credit products (66 percent compared to 55 percent) and lower rejection rates (17 percent vs. 30 percent). LLCs are most likely to state “no need for loan,” which indicates they have the least unmet demand for loans.

In line with objective indicators, the subjective perceptions of access obstacles show a similar picture—unregistered microenterprises are most likely to claim access as a major or severe obstacle (58 percent), while LLCs are least likely (13 percent).

The sources of finance present a similar picture—more formal firms finance a higher percentage of working capital and investment using bank finance (figure 6.10). Interestingly, a similar monotonic relationship holds in access to supplier credit—more formal firms rely more on supplier credit than less formal firms. For example, unregistered microenterprises use no supplier credit, registered use 12 percent, unlimited liability use 22 percent, and LLCs use 23 percent to finance working capital. Therefore, supplier credit cannot be seen as a substitute for bank financing and follows the same pattern—firms that are better able to obtain bank finance appear to also be better able to obtain supplier credit. Unregistered microenterprises appear to be excluded not only from bank credit, but from supplier credit as well. Registration could be seen by trade partners as a signal of higher quality or more serious intentions for the business.⁶⁴ Both registered and unregistered micro enterprises rely heavily their own funds and funds from family and friends.

64 It is important to keep in mind that the demand for bank credit or supplier credit is unobservable, so lack of demand might be a reason for lower usage of both supplier credit and bank credit in less formal enterprises. However, the fact that they are less likely to say “no need for a loan” as a reason for a lack of a loan application suggests that lower demand cannot explain lower access in less formal firms.

Figure 6.10 : Sources of Finance for Registration Status and Age



■ Retained earning
 ■ Total Bank
 ■ Supplies and customers
 ■ Family, friends or informal sources

Source: World Bank Enterprise Survey

6.6 FIRM AGE

It has been widely documented that younger firms without a proven track record experience more severe financing constraints. These firms are more opaque because less information is available about them to the banks and often they are more risky (i.e., more likely to fail). To test whether the age of the firm affects access to credit, the sample is divided into several groups based on their ages: SMLEs that are 5 years old or younger; firms between 6 and 10 years old, and firms that are more than 10 years old.

There is indeed some indication that younger firms have less access to credit products (see figure 6.9): only 47 percent of firms under 5 years old have any credit products, vs. 55 percent of firms in the 6 to 10 year range, and 73 percent for firms over 10 years. The subjective indicators of access mirror this picture and show obstacles declining with the age of the firm.

Firms in the middle age category are more likely to be rejected for loans than both younger and older firms. Younger firms pay slightly higher interest rates: firms under 5 years old pay on average 15 percent, vs. 12 percent to 13 percent for firms older than 5 years. All around the world, younger firms are perceived as riskier, and this higher risk is reflected in higher interest rates. There is not much difference in the sources of finance for working capital and investment for firms in different age groups (figure 6.10).

6.7 SUMMARY AND CONCLUSION

The most significant pattern in the data regarding access to finance is it is more difficult to get credit for microenterprises than for small enterprises, and more difficult for small enterprises than for large enterprises. Microenterprises are less likely to have a bank account and less likely to have access to any of the credit products (loans, overdrafts, or lines of credit). Among microenterprises, only 17 percent have any of the credit products, compared with 49 percent of small, 69 percent of medium, and 82 percent of large firms. Microenterprises are also less likely to apply for loans, partly because they have very high rejection rates, at 89 percent, compared with 32 percent for small enterprises, 13 percent for medium, and 8 percent for large. As far as demand for loans is concerned, microenterprises are less likely to state “no need for a loan” as a reason for not applying for a bank loan, with 39 percent of microenterprises, 44 percent of small, 53 percent of medium, and 65 percent of large businesses stating that reason. When they do get credit, microenterprises tend to pay interest

at a higher rate—at 14 percent compared to 12 percent— although the difference is not statistically significant.

Among microenterprises, unregistered ones have significantly less access to credit than registered ones. None of the unregistered microenterprises use any credit products, while one-quarter of registered microenterprises do. This is not because unregistered microenterprises do not apply—in fact, 13 percent applied for a loan, but all were rejected. The rejection rate is also high among registered microenterprises, at 85 percent. Unregistered microenterprises are excluded from supplier credit as well.

Within the formal sector, small firms have less access than medium and large firms: they are less likely to have any credit products and less likely to apply for loans, but more likely to be rejected for a loan. This is a pattern observed all over the world and is by no means unique to South Africa within its peer group. However, it appears that SMEs in South Africa are more disadvantaged in terms of access to credit compared to their counterparts in the peer group. In South Africa, only 59 percent of SMEs have any credit products, compared to 82 percent of large firms. The difference in the access rates of the two groups of firms is large compared to Argentina, Thailand, Malaysia, and Brazil, for which the gap is in the range of 10 percent to 14 percent.

On the age dimension, newly formed businesses have less access than more established ones, which also is a worldwide phenomenon. For example, only 47 percent of firms that have been in business for less than 5 years have any credit products, compared to 73 percent of firms that have been in business for 10 years or longer. Younger businesses are also more likely to be charged more interest on loans. For example, the average interest rate for those aged less than five years is 15 percent, compared to 12 percent to 13 percent for older firms.

REFERENCES

- Abdi, T., and L. Edwards. "Trade, Technology and Wage Inequality in South Africa." Conference Paper, Development Policy Research Unit, School of Economics and University of Cape Town, Cape Town, 2003.
- Aghion, P., N. Bloom, R. Blundell, R. Griffith, and P. Howitt. "Competition and Innovation: An inverted-U Relationship." *Quarterly Journal of Economics* 120, no. 2 (2005): 701-28.
- Aghion, P., M. Braun, and J. Fedderke (2007). *Competition and Productivity Growth in South Africa* (Center for International Development, Harvard University Working Paper No. 132).
- Aghion, P., J. Fedderke, P. Howitt, C. Kulartne, and N. Viegi (2008). *Testing Creative Destruction in an Open Economy: The Case of South African Manufacturing Industries* (Centre recherche en Economie de Sciences Po, Paris, Working Paper No. 2008-23).
- Alleyne, T., and A. Subramanian (2001). *What does South Africa's Pattern of Trade Say about its Labor Market?* (International Monetary Fund Working Paper WP/01/148).
- Altman, M. "Low Wage Work in South Africa." Paper presented at the IZA/World Bank Conference on Employment and Development, Berlin, Germany, May 2006.
- Altman, M. (2008). *Formal-Informal Economy Linkages* (Human Sciences Research Council (HSRC), Pretoria, Employment Growth and Development Initiative Working Paper).
- Alves, P., and D. Kaplan. "South Africa Declining Export Share: The Developing Country Challenge." *Trade and Industry Monitor*, Vol. 30 (2004).
- Altbeker, A. "Positive Trends: The 2004/05 Crime Statistics." *South Africa Crime Quarterly*, vol.14, (December 2005): 1-10.
- Banerjee, A., S. Galiani, J. Levinsohn, and I. Woodward (2006). "Why Has the Unemployment Risen in the New South Africa?" (Center for International Development, Harvard University Working Paper No. 134).
- Barnes, J., R. Kaplinsky, and M. Morris. "Industrial Policy in Developing Economies: Developing Comparative Advantages in the South African Automobile Sector in South Africa," *TIPS Forum Papers*, Development Policy Research Unit, University of Cape Town, 2003.

- Benjamin, Paul. "Informal Work and Labor Rights in South Africa." Paper presented at the Development Policy Research Unit Conference, School of Economics, University of Cape Town, Cape Town, 2008.
- Bhorat, Haroon. 2008. "Debating Labour Regulation in South Africa: Empirical and Legal Considerations." Mimeo, World Bank, Washington, DC.
- Bhorat, H., C. van der Westhuizen, and S. Goga. 2008. "Analyzing Wage Formation in the South African Labour Market: The Role of Bargaining Councils." Development Policy Research Unit Conference 2008, School of Economics, University of Cape Town, Cape Town.
- Black, P., and N. Rankin. 1998. "On the Cost-increasing Effects of the New Labor Laws in South Africa." *South African Journal of Economics*, vol. 66(4): 453-63.
- Bojetic, Z. and J. Fedderke. 2006. "International Benchmarking of South Africa's Infrastructure Performance," World Bank Policy Research Working Paper No. 3830.
- Brown, K. 2001. "The Determinants of Crime in South Africa." *South African Journal of Economics*, 69 (2): 269-97.
- Bruggemans, C. 2008. "Fixed investment faces uncertain crossroads." First National Bank, Weekly Comment (31 March). www.fnb.co.za/economics/servlet/Economics?ID=3404
- Buchter, K., and C. Rouse. 2001. "Wage Effects of Unions and Industrial Councils in South Africa." Policy Research Paper No. 2520, World Bank, Washington, DC.
- Chabane, N., J. Machaka, N. Molaba, S. Roberts, and M. Taka. 2003. "Ten-year Review: Industrial Structure and Competition Policy." Mimeo, School of Economics and Business Sciences, University of Witwatersrand, Johannesburg.
- Chandra, V., L. Moorty, B. Rajaratnam, K. Schaefer. 2001a. "Constraints to Growth and Employment in South Africa: Statistics from the Large Manufacturing Firm Survey." Informal Discussion Papers on Aspects of the South African Economy, No. 14, Southern Africa Department, World Bank, Washington, DC.
- Chandra, V., L. Moorty, J.P Nganou, B. Rajaratnam, K. Schaefer. 2001b. "Constraints to Growth and Employment in South Africa: Report No.2,: Evidence from the Small, Medium, and Micro Enterprise Firm Survey." World Bank Informal Discussion Papers on Aspects of the South African Economy, No. 15, Southern Africa Department, World Bank, Washington, DC.
- Chen, N., J. Imbs, and A. Scott. 2009. "The Dynamics of Trade and Competition." *Journal of International Economics*, 77 (1): 50-62.
- Cichello, P., C. Almeleh, L. Ncube, and M. Oosthizen. 2006. "Perceived Barriers to Entry into Self-Employment In Khayelitsha, South Africa: Crime, Risk, and Start up Capital Dominate Profit Concerns." Mimeo. .

- Clarke, G., J. Habyarimana, M. Ingram, D. Kaplan, and V. Ramachandran. 2007. *An Assessment of the Investment Climate in South Africa*. Washington, DC: World Bank.
- Department of Trade and Industry, Republic of South Africa. 2005. *Integrated Strategy on the Promotion of Entrepreneurship and Small Enterprises*. Pretoria.
- Edwards, L. 2004. "A Firm Level Analysis of Trade, Technology and Employment in South Africa." *Journal of International Development* 16, pp 45-61.
- Edward, L. 2005. "Has South Africa Liberalized its Trade?" *South African Journal of Economics* 73 (4): 754-75.
- Edwards, L., and P. Alves. 2006. "South Africa's Export Performance: Determinants of Export Supply." *South African Journal of Economics* 74 (3): 473-500.
- Edwards, L., and S. Golub. 2004. "South Africa's International Cost Competitiveness and Exports and Manufacturing." *World Development* 32(8):1264-79.
- Edwards, L., and S. Golub. 2003. "South African Productivity and Capital Accumulation in Manufacturing: An International Comparative Analysis." *South African Journal of Economics* 71 (4): 659-78.
- Edwards, L., and R. Lawrence. 2006. "South African Trade Policy Matters: Trade Performance and Trade Policy." Center for International Development Working Paper No. 135, Harvard University, Cambridge, MA.
- Edwards, L., and T. van de Winkel. 2005. "The Market Disciplining Effects of Trade Liberalization and Regional Import Penetration on Manufacturing in South Africa." *Trade and Industrial Policy Strategies Working Paper No. 1/2005*.
- Essop, H., and D. Yu. 2008. "The South African Informal Sector (1997-2006)." Development Policy Research Unit Conference 2008, School of Economics, University of Cape Town, Cape Town.
- Fedderke, J., C. Kularatne, and M. Mariotti. 2006. "Mark-up Pricing in South African Industry." *Journal of African Economies* 16 (1): 28-69.
- Fedderke, J., and M. Mariotti. 2002. "Changing Labor Market Conditions in South Africa: A Sectoral Analysis of the Period 1970-1977." *South African Journal of Economics* 69 (5): 830-64.
- Fedderke, J., and D. Naumann. 2005. "An Analysis of Industry Concentration in South African Manufacturing, 1972-2001." School of Economics Working Paper Number 26, University of Cape Town, Cape Town.
- Fedderke, J., and A. Romm. 2006. "Growth Impact and Determinants of Foreign Direct Investment into South Africa, 1956-2003." *Journal of Economic Modeling* 23:738-60.

- Fedderke, J., and P. Vaze. 2001. "The Nature of South Africa's Trade Patterns and the Extent of Trade Liberalization During the Course of the 1990s." *South African Journal of Economics* 69 (3): 436-77.
- Fedderke, J., and P. Vaze. 2004. "Response to Rangasamy and Harmse: Trade Liberalization in the 1990s." *South African Journal of Economics* 72 (2): 407-12.
- Fedderke, J., Y. Shin, and P. Vaze. 2003. "Trade, Technology and Wage Inequality in the South African Manufacturing Sector." Mimeo, University of Witwatersrand, Johannesburg.
- Fedderke, J., and G. Szalontai. 2009. "Industry Concentration in South African Manufacturing Industry: Trends and Consequences, 1972-96." *Economic Modeling* 2: 241-50
- Flatters, F., M. Stern. 2008. "Trade and Industry Policy in South Africa", mimeo, October.
- Gelb, A., T. Mengistae, V. Ramachandran, and M. Shah. 2008. "To Formalize or Not to Formalize? Comparisons of Microenterprise Data from Southern and East Africa." Development Policy Research Unit Conference 2008 Paper, University of Cape Town, Cape Town.
- Go, D., M. Kearney, V. Korman, S. Robinson, and K. Theirfelder. 2008. "Wage Subsidy and Labor Market Flexibility in South Africa." Mimeo.
- Harding, T., and J. Rattso. 2005. "The Barrier Model of Productivity Growth: South Africa." Discussion paper No. 425, Research Department, Statistic Norway, Oslo.
- Hartzenberg, T. 2008. "Competition Policy in South Africa: Towards Development?" Paper Presented at the Development Policy Research Unit (University of Cape Town) Conference On the Regulatory Environment and its Impact on Development in South Africa, October, Johannesburg.
- Hausman, R. 2007. "Final recommendations of the international panel on ASGISA" Mimeo.
- Hausman, J., and W. Taylor. 1981. "Panel Data and Unobserved Individual Effects." *Econometrica* 49: 1377-98.
- Hausman, R., and D. Rodrik, and C. Sabel. 2007. "Reconfiguring Industrial Policy: A Framework with an Application to South Africa," Mimeo, August.
- Hausmann, R., and B. Klinger. 2006. "South Africa's Export Predicament." Center for International Development Working Paper No. 129, Harvard University, Cambridge, MA.
- International Labour Organization. 1972. *Employment, Incomes and Equality: A Strategy for Increasing Productive Employment in Kenya*. Geneva, Switzerland: International Labor Organization.

- International Monetary Fund (IMF). 2007. IMF Executive Board Concludes 2007 Article IV Consultation with South Africa. Public Information Notice (PIN) No.07/94. August 6.
- Jenkins, R. 2006. "Globalization and the Labour Market in South Africa." *Journal of International Development* 18: 649-64.
- Jonsson, G., and A. Subramanian. 2001. "Dynamic Gains from Trade: Evidence from South Africa." *IMF Staff Papers* 48(1): 197-224.
- Kaplan, D. 2007. "Industrial Policy in South Africa: Targets, Constraints, and Challenges," *Trade and Industry Monitor*.
- Kaplinsky, R. 1995. "Capital Intensity in South Africa Manufacturing and Unemployment, 1972-90." *World Development* 23 (2): 179-92.
- Kingdon, G., and J. Knight. 2003. "Unemployment in South Africa: The Nature of the Beast." *World Development*, 32(3): 391-408.
- Kingdon, G., and J. Knight. 2007. "Unemployment in South Africa, 1995-2003: Causes, Problems and Policies." *Journal of African Economies*, Advance Access Published August 3, 2007.
- Lewis, J. 2001. "Policies to Promote Growth and Employment in South Africa." Southern Africa Department, Informal Discussion Paper No.16, World Bank, Washington, DC.
- Lee, H., and B. Hoekman. 2007. "Imports, entry and completion law as market discipline." *The World Economy*, 51: 50-62.
- Lewis, J. 2002. "Promoting Growth and Employment in South Africa." *South African Journal of Economics* 70 (4): 726-76.
- Louw, A. 2006. "The Start of a new 'crime wave?' The 2005/06 Official Crime Statistics in Context." *South Africa Crime Quarterly* 18 (December): 1-8.
- Magdruder, J. 2009. "High Unemployment Yet Few Small Firms: The Role of South African Labor Regulations." *Mimeo*, University of California, Berkeley.
- Mahadea, D. 2003. "Employment and Growth in South Africa: Hope or Despair?" *South African Journal of Economics* 71 (1): 21-48.
- Mahdea, Darma. 2008. "The Environmental Context for SMME Entrepreneurship in Kwazulu-Natal." *DPRU Conference 2008*, School of Economics, University of Cape Town, Cape Town, South Africa.
- Masuku, S. 2003. "For Better and for Worse: South African Crime Trends in 2002." *South Africa Crime Quarterly* 3 (March): 17-24.
- Mattes, R. 2006. "Good News and Bad: Public Perceptions of Crime, Corruption, and Government." *South Africa Crime Quarterly* 18 (December): 9-16.

- Moll, P. 1996. "Compulsory Centralization of Collective Bargaining in South Africa." *American Economic Review* 86 (2):326-29.
- Natras, N. 1987. "Street Trading in Transkei—A Struggle against Poverty, Persecution, and Prosecution." *World Development* 15 (7): 861-75.
- Nickell, S. 1996. "Competition and Corporate Performance." *Journal of Political Economy* 104 (4): 724-46.
- OECD (Organization for Economic Co-operation and Development). 2003. *Competition Law and Policy in South Africa—An OECD Peer Review*. Paris: OECD.
- OECD (Organization for Economic Co-operation and Development). 2008. *OECD Economic Surveys: South Africa 2008*. Paris: OECD.
- Olley, S. and A. Pakes. 1996. "The Dynamics of Productivity in the Telecommunications Industry Equipment Industry." *Econometrica* 64 (6):1263-98.
- Pauw, K., and L. Edwards. 2006. "Evaluating the General Equilibrium Effects of a Wage Subsidy Scheme for South Africa." *South African Journal of Economics* 74 (3):324-49.
- Raddatz, C. 2007. "Exchange Rate Volatility and Trade in South Africa." Mimeo, World Bank, Washington, DC.
- Rangasamy, L., and C. Harmse. 2003. "The Extent of Trade Liberalization in the 1990s: Revisited." *South African Journal of Economics* 71 (4): 705-28.
- Rankin, N. 2006. 'The Regulatory Environment and SMMEs: Evidence from South African Firm Level Data', DPRU Working Paper 06/113, Development Policy Research Unit, University of Cape Town.
- Rankin, N., and V. Schoer. 2008. "Exporting, Labor Demand and Wages in South Africa." DPRU Conference Paper, University of Cape Town, Cape Town.
- Republic of South Africa, the Presidency. 2006. 'Accelerated and Shared Growth Initiative-South Africa-A Summary,' Pretoria.
- , Department of Trade and Industry. 2007a. "Industrial Policy Action Plan" Pretoria.
- 2007b. "National Industrial Policy Framework" Pretoria.
- Republic of South Africa, Reserve Bank. 2007. *Quarterly Bulletins*.
- . 2008. *Quarterly Bulletins*.
- . 2009. *Annual Report 2008/09*.
- Roberts, S. 2004. "The Role of Competition Policy in Economic Development: The South African Experience." *Development Southern Africa* 21 (1): 227-43.

- Rodrik, Dani. 2006. "Understanding South Africa's Economic Puzzles." Center for International Development Working Paper, John F. Kennedy School of Government, Harvard University, Cambridge, MA.
- Small Business Project. 2008. "The Impact of Crime on Small Businesses in South Africa,"
- Simon, D., and S. Birch. 1992. "Formalizing the Informal Sector in a Changing South Africa: Small-Scale Manufacturing on Witwatersrand." *World Development* 20 (7):1029-45.
- Skinner, C. 2005. "Constraints to Growth and Employment in Durban: Evidence from the Informal Economy." Research Report No. 65, School of Development Studies, University of KwaZulu- Natal, Durban.
- Stone, Christopher. 2006. "Crime, Justice, and Growth in South Africa: Towards a Plausible Contribution from Criminal Justice to Economic Growth." Center for International Development Working Paper No. 131, Harvard University, Cambridge, MA.
- Thurlow, James. 2006. "Trade Liberalization and Pro-Poor Growth in South Africa." Paper presented at the Development Policy Research Unit (University of Cape Town) Conference on Accelerated and Shared Growth in South Africa: Determinants, Constraints, and Opportunities, Johannesburg, South Africa, October 18-20.
- Valodia, I. 2006. "Formal-Informal Linkages in South Africa: Some Considerations." Employment Growth and Development Initiatives working paper, Human Sciences Research Council (HSRC), Pretoria
- Valodia, I. 2007. "Informal Employment in South Africa," Employment Growth and Development Initiative working paper, Human Sciences Research Council (HSRC), Pretoria.
- Valodia, I., R. Davies, M. Altman, and J. Thurlow. 2007. "Economic Behaviour in South Africa's Informal Economy." Employment growth and Development Initiative working paper, Human Sciences Research Council (HSRC), Pretoria.
- Valodia, I., L. Lebani, and C. Skinner. 2006. "Low Wages and Informal Employment in South Africa." *Transformation: Critical Perspectives in Southern Africa* 60.
- World Bank. 2005. "The Investment Climate for Microenterprises in South Africa." Mimeo, World Bank, Washington, DC.
- World Bank. 2006. "Republic of South Africa: Accelerating Growth and Creating Jobs through Private Sector Development." PSD Policy Note, World Bank, Washington, DC.
- World Bank. 2008. South Africa Country Partnership Strategy, Washington, DC: World Bank