

# **Constraints To Growth And Employment: Evidence From The Greater Durban Metropolitan Area**

Richard Devey,  
*School of Development Studies, University of Natal*

Bala Rajaratnam,  
*World Bank*

Imraan Valodia,  
*School of Development Studies, University of Natal*

Myriam Velia,  
*School of Development Studies. University of Natal*

---

THE CHALLENGE OF GROWTH AND POVERTY: THE SOUTH AFRICAN ECONOMY SINCE DEMOCRACY.



T I P S / D P R U F o r u m 2 0 0 3

CONSTRAINTS TO GROWTH AND EMPLOYMENT:  
EVIDENCE FROM THE  
GREATER DURBAN METROPOLITAN AREA

Richard Devey, School of Development Studies, University of Natal  
Bala Rajaratnam, World Bank  
Imraan Valodia, School of Development Studies, University of Natal  
Myriam Velia, School of Development Studies, University of Natal

Paper presented at the ***TIPS AND DPRU FORUM 2003***  
**The Challenge of Growth and Poverty: The South African Economy Since  
Democracy**  
***8 - 10 September 2003, Indaba Hotel, Johannesburg***

NOTE: THIS PAPER IS INCOMPLETE, 'WORK IN PROGRESS'.  
PLEASE DO NOT QUOTE

---

## CONTENT

<b>1</b>	<b>FOREWORD</b> .....	<b>1</b>
<b>2</b>	<b>EXECUTIVE SUMMARY</b> .....	<b>1</b>
<b>3</b>	<b>INTRODUCTION</b> .....	<b>1</b>
3.1	THE STRUCTURE OF THIS REPORT .....	4
3.2	METHODOLOGY AND SPECIFICITIES OF THE GDMA SURVEY.....	5
3.3	A SNAPSHOT OF THE STRUCTURE OF MANUFACTURING IN THE GDMA .....	9
<b>4</b>	<b>CONSTRAINTS TO BUSINESS GROWTH</b> .....	<b>17</b>
4.1	AN OVERALL PRESENTATION OF THE CONSTRAINTS TO GROWTH .....	18
4.2	THE ECONOMIC CONTEXT: HOW IMPORTANT ARE THE CONSTRAINTS TO GROWTH TO THE FIRMS? .....	22
4.3	SOME PRELIMINARY COMMENTS.....	24
<b>5</b>	<b>CRIME AND THEFT</b> .....	<b>24</b>
<b>6</b>	<b>TRADING PROFILE OF GDMA MANUFACTURING FIRMS AND CURRENCY VOLATILITY</b> .....	<b>24</b>
6.1	TRADING PROFILE OF FIRMS.....	24
6.2	EXCHANGE RATE SHOCKS AND EXPORT BEHAVIOUR .....	29
6.3	EXCHANGE RATES AND FORWARD CONTRACTS .....	32
6.4	TRADE POLICY AND BARRIERS TO EXPORT GROWTH .....	35
6.5	GOVERNMENT INDUSTRIAL SUPPORT MEASURES.....	40
<b>7</b>	<b>HIV/AIDS</b> .....	<b>43</b>
<b>8</b>	<b>CORRUPTION</b> .....	<b>43</b>
<b>9</b>	<b>HUMAN RESOURCES AND SKILL ISSUES</b> .....	<b>43</b>
9.1	KEY CHARACTERISTICS OF THE MANUFACTURING WORKFORCE.....	45
9.2	VACANCIES AND RECRUITMENT .....	48
9.3	DEVELOPING HUMAN RESOURCES: PATTERN OF FIRMS' TRAINING.....	53
9.4	CONCLUSION .....	58
<b>10</b>	<b>FINANCIAL CHARACTERISTICS AND INVESTMENT</b> .....	<b>60</b>
10.1	SOURCES OF FINANCE.....	61
10.2	FINANCE AND PRODUCTION EXPANSION.....	63
10.3	THE COST OF CAPITAL/CREDIT .....	63
10.4	THE MISCELLANEOUS DETERMINANTS OF INVESTMENT.....	67
10.5	THE ROLE OF THE AUTHORITIES IN PROMOTING INVESTMENT AND LOCAL ECONOMIC DEVELOPMENT.....	71
10.6	CONCLUSION .....	73
<b>11</b>	<b>LABOUR REGULATIONS AND IMPLICIT COSTS</b> .....	<b>73</b>
11.1	THE ROLE OF LARGE MANUFACTURING FIRMS IN EMPLOYMENT GENERATION....	73
11.2	FIRM RESPONSE TO RECENT LABOUR REGULATIONS.....	74
11.3	LABOUR RELATIONS ENVIRONMENT.....	77

11.4	TEMPORARY WORK AND SUBCONTRACTING.....	80
<b>12</b>	<b>CONCLUSION .....</b>	<b>84</b>
<b>13</b>	<b>REFERENCES.....</b>	<b>84</b>
<b>14</b>	<b>ANNEX.....</b>	<b>86</b>
	<i>The manufacturing sector in KZN.....</i>	<i>86</i>
	<i>Key characteristics of the GDMA firms.....</i>	<i>87</i>
	Start up date .....	87
	Size of firms .....	88
	Parent companies.....	89
	PDI Involvement.....	91
	Outsourcing of production .....	92
	Constraints to growth .....	93
	<i>Employment characteristics.....</i>	<i>95</i>
	<i>Key features of training.....</i>	<i>96</i>

## LIST OF FIGURES

Figure 1. Manufacturing gross domestic product: breakdown across South African regions (2001 Estimates).....	1
Figure 2. Contribution to employment of key manufacturing sectors in the GDMA 3	
Figure 3. Gender distribution of the workforce across manufacturing sectors – GDMA, 2002/2003.....	11
Figure 4. Origin of ownership of firms (n=600) – GDMA, 2002/2003.....	13
Figure 5. Firm ownership structure – GDMA, 2002/2003 .....	14
Figure 6. Index of CEO Rankings on Constraints to Growth (n=600): Total – GDMA, 2002/2003.....	19
Figure 7. Real Gross Output – Durban, 1966 - 1993.....	25
Figure 8. Exchange Rate Volatility.....	30
Figure 9. Responses to Depreciation – GDMA (to the beginning of September 2001).....	31
Figure 10. Responses to Depreciation – GDMA (from mid September 2001) .....	32
Figure 11. Forward contracts on foreign currency exposure, 2001 (exporters and importers, n = 432). .....	33
Figure 12. Comparing response to currency depreciation, up to beginning of September 2001 (all firms, hedged and not hedged) .....	34
Figure 13. Comparing response to currency depreciation, after mid-September 2001 (all firms, hedged and not hedged) .....	34
Figure 14. Firm Rating of Trade Barriers .....	38
Figure 15. Firm Ratings of Barriers to Export Growth (n=340) .....	39
Figure 16. Awareness and Use of DTI Support Measures .....	41
Figure 17. Importance of DTI Support Measures .....	42
Figure 18. Firm Rating of the Costs of DTI Support Measures for Exports .....	43
Figure 19. Distribution of the workforce across work categories – GDMA, 2001 ..	46
Figure 20. Gender distribution of the workforce across work categories – GDMA, 2002/2003.....	47
Figure 21. Racial distribution across work categories – GDMA, 2002/2003.....	48
Figure 22. Channels of recruitment across employment categories – GDMA, 2002/2003.....	50
Figure 23. Degree of difficulty in recruiting across work categories – GDMA, 2002/2003.....	51
Figure 24. Reasons for hiring temporary workers (n=479) – GDMA, 2002/2003..	52
Figure 25. Reasons for outsourcing/subcontracting production (n=141) – GDMA, 2002/2003.....	60
Figure 26. Sources of investment capital by size class – GDMA, 2002/2003 .....	62
Figure 27. Interest rates applying to liabilities: distribution of firms – GDMA, 2001 .....	67
Figure 28. Ratio of non-managerial workers to managers (median ratios).....	74
Figure 29. Employment Responses of Firms to Labour Legislation.....	75
Figure 30. General Response of Firms to Labour Legislation.....	76
Figure 31. Level at Which Collective Agreements are Made .....	78
Figure 32. Use of Temporary Workers and Subcontracting, 2001 .....	81
Figure 33. Reasons for Using Temporary Workers .....	82
Figure 34. Tasks Outsourced by Firms .....	82
Figure 35. Tasks Outsourced by Firms by Firm Size .....	83
Figure 36. Reasons for Subcontracting .....	83

## **Annex Figures**

Annex Figure 1. Year plant started production – GDMA .....	87
Annex Figure 2. Index of CEO Rankings on Constraints to Growth (n=222): Size 50-99 employees .....	93
Annex Figure 3. Index of CEO Ranking on Constraints to Growth (n=177): Size 100-199 employees .....	93
Annex Figure 4. Index of CEO Ranking on Constraints to Growth (n=177): Size 200 + employees.....	94
Annex Figure 5. Preferences towards external training agencies – GDMA, 2002/2003.....	97

## **LIST OF TABLES**

Table 1. Firms surveyed, GDMA weights and universe .....	7
Table 2. Distribution of large manufacturing firms according to size – GDMA 2002/2003.....	9
Table 3. Distribution of full-time employees in firms according to size – GDMA, 2002/2003.....	10
Table 4. Distribution of large manufacturing firms according to activities and sectoral contribution to employment – GDMA, 2002/2003 .....	10
Table 5. Changes in some key employment characteristics – GDMA (1997 to 2001).....	12
Table 6. Distribution of large manufacturing firms according to age – GDMA, 2002/2003.....	12
Table 7. Legal status – GDMA, 2002/2003 .....	15
Table 8. Distribution of firms listed on a stock market according to size (n=600) – GDMA, 2002/2003.....	15
Table 9. Work areas of PDIs employed at management level – GDMA 2002/2003 .....	16
Table 10. Firm status as an exporter/importer and parent company status – GDMA, 2002/2003.....	17
Table 11. Constraints to expansion: variation across firm types .....	20
Table 12. Ranking of Firms Constraints – GDMA, 2002/2003.....	21
Table 13. Firm status with regard to foreign markets – GDMA 2002/2003.....	26
Table 14. Firm Status as Importer and/or Exporter by Sector.....	27
Table 15. Export Orientation of Firms .....	27
Table 16. Export Orientation by Sector.....	28
Table 17. Exports by destination.....	28
Table 18. Exports by Destination and Sector (percentage of firms in sector exporting to various markets).....	29
Table 19. Effect of Lower Tariffs, Reduced Sales due to Foreign Competition.....	35
Table 20. Effect of Lower Tariffs: Lower Input Costs, Percent of Firms .....	35
Table 21. Age of Firm by Export and Import Status .....	36
Table 22. Stock control by Export and Import Status .....	36
Table 23. Expenditure on Training by Export and Import Status .....	37
Table 24. Competitors in Foreign Markets .....	38
Table 25. Skill shortages as a constraint to growth (n=600): distribution according to firm size – GDMA, 2002/2003 .....	44
Table 26. Availability of technical and vocational labour skills as a constraint to	

growth: ranking across sectors– GDMA, 2002/2003 .....	44
Table 27. Experience of workers when recruiting (n=600) – GDMA, 2002/2003..	46
Table 28. Number of vacancies across firm size – GDMA 2002/2003 .....	48
Table 29. Sectoral distribution of vacancies – GDMA, 2002/2003 .....	49
Table 30. Pattern of expenditure on training– GDMA, 2001 .....	54
Table 31. Workers training by categories – GDMA, 2001.....	55
Table 32. Proportion of total workers trained by firms that engage in training – GDMA, 2002/2003.....	56
Table 33. Proportion of workers trained by work categories – GDMA (2001) .....	56
Table 34. Reasons for not training more workers (n=573) .....	57
Table 35. Departures after training– GDMA, 2001 .....	58
Table 36. Reasons for difficulties in financing levels of production (n=114) – GDMA, 2002/2003.....	63
Table 37. Cost of capital/credit as a constraint to growth (n=600): distribution according to firm size – GDMA, 2002/2003.....	64
Table 38. Cost of capital/credit as a constraint to growth: rank by sectors – GDMA, 2002/2003.....	64
Table 39. Channels through which high interest rates (1996 to mid-1999) adversely impacted on firms – GDMA (n=382).....	65
Table 40. Reasons advanced by firms for which high interest rate was not a problem – GDMA (n=201) .....	65
Table 41. Responses by firms adversely affected by high interest rates to the 1998 interest rate hike (n=382) - GDMA .....	66
Table 42. Determinants of an expansion of the scale of operation that would allow an increase in capital investment by 10% in a one year period (n=593) – GDMA, 2002/2003.....	68
Table 43. Determinants of an expansion of the scale of operation that would allow an increase in the workforce by 10% or more (n=595) – GDMA, 2002/2003 .....	69
Table 44. Determinants of an expansion of the scale of operation that would allow an increase in capital investment by 10% in a one year period (n=593) according to firm’s involvement with foreign markets – GDMA.....	70
Table 45. Areas for DMUC contributions to promote investment and local economic development (n=600) – GDMA, 2002/2003 .....	72
Table 46. Areas for central government contributions to promote investment and local economic development in the GDMA, 2002/2003 (n=600) .....	72
Table 47. Average Labour Cost .....	75
Table 48. General Response to Labour Legislation by Firm Size, Percentage of Firms.....	77
Table 49. Number of Unions Firms Deal With.....	78
Table 50. Number of Strikes – GDMA, 2001 .....	79
Table 51. Number of work days lost due to strikes - GDMA, 2001 .....	79
Table 52. Work days lost due to strikes, South Africa .....	79
Table 53. Percent of Firms Retrenching Workers - GDMA, 2001 .....	80
Table 54. Time Taken to Retrench an Entry- level Worker.....	80

### **Annex Tables**

Annex Table 1. The importance of KZN to South Africa .....	86
Annex Table 2. Contribution of industries to KZN gross domestic product (estimates) .....	86
Annex Table 3. The contribution of manufacturing activities in KZN (1996) .....	86

Annex Table 4. Plant start up date: pre- and post 1995, distribution across sectors – GDMA.....	87
Annex Table 5. Size by age of firms – GDMA, 2002/2003 .....	88
Annex Table 6. Size of firms by sector – GDMA, 2002/2003 .....	88
Annex Table 7. Parent company and size – GDMA, 2002/2003 .....	89
Annex Table 8. The role of parent companies in investment decisions: responses according to size – GDMA, 2002/2003 .....	89
Annex Table 9. Sectoral distribution of parent companies – GDMA, 2002/2003 ..	91
Annex Table 10. Size of firm by PDI involvement – GDMA, 2002/2003.....	91
Annex Table 11. Distribution of PDI companies across sectors – GDMA, 2002/2003.....	92
Annex Table 12. Sectoral pattern of production outsourcing/subcontracting – GDMA, 2002/2003 .....	92
Annex Table 13. Structure of manufacturing employment across categories (n=600) – GDMA, 2001.....	95
Annex Table 14. Total number of training programs and of trained workers – GDMA, 2002/2003 .....	96
Annex Table 15. Proportion of GDMA firms involved with training (Percent valid firms n/600) - 2002/2003.....	96

#### **LIST OF ABBREVIATIONS AND ACRONYMS**

AGOA	African Growth and Opportunity Act
BCEA	Basic Conditions of Employment Act (of 1997)
BMR	Bureau of Market Research (at UNISA)
DMUC	Durban Metropolitan Unicity Council
df	Degrees of freedom
DoL	Department of Labour
DTI	Department of Trade and Industry (of South Africa)
EEA	Employment Equity Act (of 1998)
CEO	Chief Executive Officer
GDMA	Greater Durban Metropolitan Area
GEAR	Growth, Employment and Redistribution (macroeconomic framework)
GEIS	General Export Incentive Scheme
GJMA	Greater Johannesburg Metropolitan Area
JSE	Johannesburg Stock Exchange (market)
KZN	KwaZulu-Natal Province
LED	Local Economic Development
LRA	Labour Relations Act (of 1995)
PDIs	Previously Disadvantaged Individuals
SA	South Africa
SARB	South African Reserve Bank
SDA	Skills Development Act (of 1998)
SETA	Sector Education and Training Authorities
SMMEs	Small, medium and micro enterprises
TDCA	Trade and Development Cooperation Agreement (the bilateral free trade area deal between South Africa and the European Union)
UNISA	University of South Africa
WEFA	Wharton Econometrics Forecasting Associates (in fact more

recently DRI-WEFA and currently Global Insight)

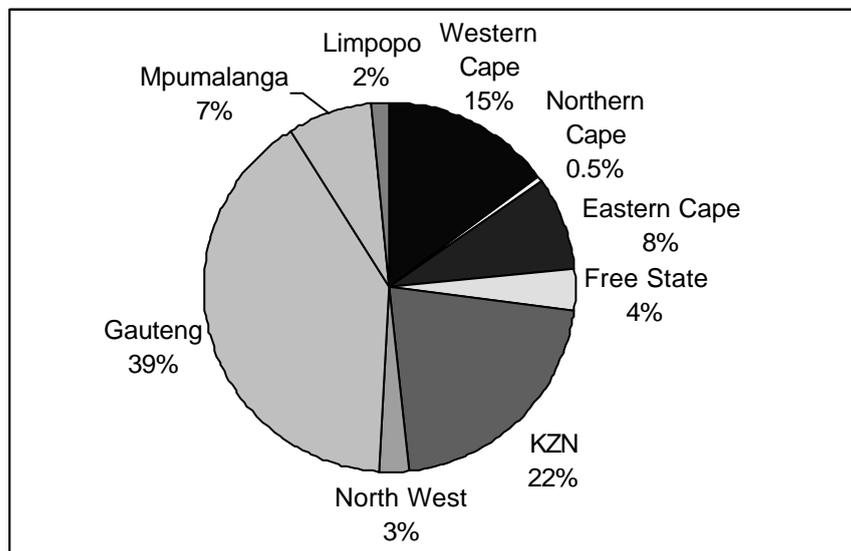
## 1 FOREWORD

## 2 EXECUTIVE SUMMARY

## 3 INTRODUCTION

The province of KwaZulu-Natal (henceforth KZN) is an important contributor to overall national economic performance in South Africa. In 1996, data from the Census of Manufacturing emphasised that KZN ranked second after Gauteng across a series of economic indicators (see for instance Annex Table 1 - part 1, p. 86). Although it is difficult to establish with accuracy how this position has evolved since 1996, WEFA estimates allows one to build on previous information from the 1996 Census of Manufacturing. WEFA data suggests that KZN manufacturing activities have grown but potentially not as rapidly as other South African provinces and thus that the rate of manufacturing expansion might be below the country average (see also Statistics South Africa, 2002, Figure 3, p. 2). Presently, KZN contributes to about 15.5% of South Africa's gross domestic product and, within KZN industries, manufacturing represents 23% of the Province own gross domestic product at market prices (see Annex Table 1 - parts 1 and 2, p. 86). Figure 1 below shows the distribution of South Africa's manufacturing gross domestic product across provinces; manufacturing in KZN contributes 22% of South Africa's manufacturing gross domestic product against 39% for Gauteng.

**Figure 1. Manufacturing gross domestic product: breakdown across South African regions (2001 Estimates)**



Source: Statistics South Africa (2002).

It is important to emphasize the role of the Greater Durban Metropolitan Area (GDMA) as a centre for manufacturing activities within the Province. According to WEFA estimates, the GDMA would account for a little over 60% of KZN gross

geographic value added at basic prices.<sup>1</sup>

As for the manufacturing sectors that have emerged in the GDMA, these have been conditioned by the presence of the important Durban and Richards Bay harbours respectively for sea-borne bulk and container traffic.<sup>2</sup> The GDMA activities, which encompass industries involved with both the processing of imported output and the transformation of basic primary commodities, are organised through strong clusters (for pharmaceutical, textiles, automotive and metal - see Morris, Barnes and Dunne, 2002 and Monitor Company, 2000). Few sectors dominate the GDMA composition of manufacturing activities. Typically petroleum products and products derived from the chemical industry dominate KZN manufacturing activities and contribute the most to provincial *and* to GDMA manufacturing output. Listed in decreasing order of importance manufacturing is in products from the metal, wood, textiles and transport equipment sectors. The aforementioned sectors would have jointly amounted in 1996 to 95% of output and 91% of employment (Annex Table 3, p. 86, which draws data from the 1996 Census of Manufacturing). More recent estimates are provided by Monitor Company (2000); the three most important sectors in terms of their geographic gross contribution to the Durban economy are industrial chemicals (17%), food and food products (13.7%) and paper and paper products (9%). As for employment, this is with 'clothing' and 'food and food products' (Figure 2). Other large employment sectors are 'textiles', 'fabricated metal products', 'paper and paper products' and 'industrial chemicals'.<sup>3</sup>

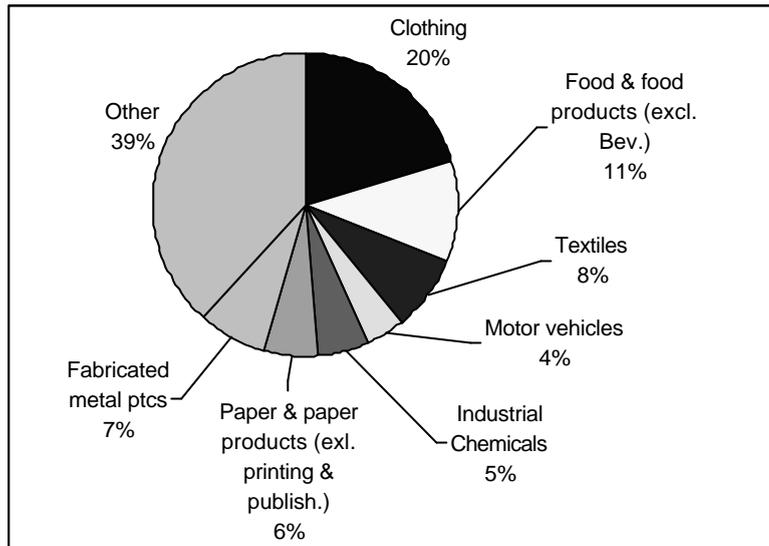
---

<sup>1</sup> That is the sum of geographic compensation of employees, net operating surplus and consumption of fixed capital, taxes on production net of subsidies. The breakdown for 2001 across Magisterial Districts is 42% from Durban, 13% from Pinetown, 4% from Inanda, 0.6% from Chatsworth, 1% from Camperdown, 0.14% from Umbumbulu, and 0.15% from Umlazi. A point to note is that the geographical area defined as the GDMA varies over time.

<sup>2</sup> The Durban harbour is the most important in Africa for container traffic. Details about port activities and of port-related manufacturing activities are provided in a separate report.

<sup>3</sup> Absolute and relative performances vary depending on the measures used for comparison and the source consulted. For instance, HSRC (2002, p. 21) reports that 'paper and paper products', 'non-ferrous metals' and 'food and food products' are the top three sectors in terms of their contribution to KZN manufacturing gross geographic product.

**Figure 2. Contribution to employment of key manufacturing sectors in the GDMA**



Source: Monitor Company (2000, p. 21).

Whilst the Monitor Company report details the contribution of individual manufacturing sectors in the GDMA, one important feature emphasised by the Monitor Company (2000) is that manufacturing, whilst an attractive economic sector is not relatively competitive.<sup>4</sup> Monitor Company (2000) emphasises a difficult local context within which the firms operate. First, the firms are involved with the production of low value added goods. Thus for instance, electrical and non-electrical machinery, motor vehicles and parts, transport equipment would have jointly contributed to only about 10% of Durban's manufacturing gross geographic product over the 1993 to 1999 period.<sup>5</sup> Second, local demand is weak as well as declining. Retail demand in Durban would amount to 9% of the national total. This is possibly fuelled by comparatively low level of income per capita, a relatively high rate of unemployment and of poverty incidence (see also HSRC, 2002). Third, the Report notes an "exaggerated skills deficit, relative to both Johannesburg and Cape Town" (p. 7), and a net outflow of skilled workers to other South African provinces and abroad. The aforementioned issues are undoubtedly compounded by a high incidence of HIV/AIDS.

---

<sup>4</sup> With the objective of identifying the quality of manufacturing expansion in the GDMA, the Trade Monitor Company, in collaboration with Durban Unicity, focused in 2000 on the "long term economic strategy for the city". The Report, which resulted from this work, presented a series of criteria of performance. The first one, *relative competitiveness*, proxies for the relative opportunities associated with a further expansion of individual manufacturing and economic sectors. The second one, *relative attractiveness*, takes into account the developmental importance of the sectors and the impact these sectors would have on the Durban economy if they expanded. The first dimension focuses on indicators of productivity, shares of world export and export propensity. These are used to indicate that there is a potential for a sustained growth. The second dimension taken into account relates to the importance of the sectors for the local economy - growth and size – but takes a qualitative perspective by incorporating job prospects and job quality, i.e. number of jobs and average wages.

<sup>5</sup> Department of Labour (2001b, p. 30) reports somewhat otherwise: "[t]he Industrial Development Corporation suggests that in 1996 up to 77% of industries in KZN were high value adding industries."

The various facets of manufacturing in the GDMA as briefly sketched above set the GDMA large manufacturing firms in a very general context. There is in fact limited consistent information available that would allow GDMA firms to be typologized and thus for an assessment of performance to be drawn.<sup>6</sup> The GDMA large manufacturing firms survey fills many research gaps. First, the survey allows an up-to-date assessment of the current issues facing the firms, the extent to which these matter and the ways in which firms adapt to these. Second, the survey sheds light on how firms select their factors of production and allocate their resources over an immediate, short and medium-term horizon. Third, the survey captures how the firms respond to specific developments at the national and local level. As such the survey is important for an understanding of manufacturing performance. It also allows some areas of policy change to be laid out tailored to the GDMA circumstances.

Having provided a short overview of manufacturing in KZN, this report provides a core amount of details around some of the most salient themes as they are identified by the large GDMA firms themselves. Since there is too vast an amount of material from the questionnaires to incorporate in this report, the focus is largely limited to a basic descriptive analysis. In this introduction we briefly outline in a first main Section (*Section 3.1*) how the report is structured before setting out a methodological introduction to the survey itself (*Section 3.2*). The latter is based on the fieldwork report from the Bureau of Market Research (BMR) at the University of South Africa (UNISA). Attention then shifts to providing a snapshot of the structure of manufacturing in the GDMA (*Section 3.3*).

### 3.1 THE STRUCTURE OF THIS REPORT

This report is structured in such a way as to provide some key details around the main constraints to growth as they are reported by the CEOs. These constraints are exposed in the next chapter of this report (*Chapter 4*) together with the extent to which they matter relatively. As will be shown, the responses are complex insofar as seven broad constraints to manufacturing growth have been identified. These reflect variations, in the list of the top five most important constraints, across firm size groups. This chapter also sets out some main issues and findings as they emerge around each of the major problem areas. As such this chapter acts as a comprehensive executive summary to the report.

Following a main overall presentation, *Chapters 5 to 11* concentrate on detailing each of the main constraints identified. The constraints are analysed roughly in decreasing order of importance since the responses do not always statistically significantly differ from each other.

*Chapter 5* deals with issues related to crime and theft; *Chapter 6* sets out the trading profile of the firms, their international competitors as well as their responses to currency fluctuations. This chapter also explains how the firms respond to various aspects of trade policy as well as to the incentives available to encourage exports. *Chapter 7* connects onto the theme of HIV/AIDS, its impact

---

<sup>6</sup> Whilst the Census of Manufacturing results are due shortly, these will not provide an integrated detailed analysis of determinants of manufacturing performance.

on the manufacturing firms' expansion path and the costs associated with declining productivity and the replacement of employees. *Chapter 8* focuses on the extent of the GDMA firms' relation with government, on the nature of this relation, on areas of government corruption and the scope of this corruption. *Chapter 9* considers the characteristics of firms' employment and the workforce structure across work categories, areas of skill shortages and the methods used by the firms to overcome these. *Chapter 10* focuses on the state of finance of the firms and on related issues. The impact of financial costs and the channels of access to finances are described. This chapter also considers the extent to which the rate of interest affects capital investment decisions. *Chapter 11* deals with the impact of new labour regulations.

### 3.2 METHODOLOGY AND SPECIFICITIES OF THE GDMA SURVEY

The methodology applied for the analysis of the large manufacturing firms survey undertaken in the GDMA between May 2002 and April 2003 follows closely that of the Greater Johannesburg Metropolitan Area (GJMA) survey (see Chandra *et al.*, 2001). However, a difference between the GJMA and the GDMA surveys is that whereas two sets of weights have been applied to the former (so that the results are representative at the national level), this is not the case for the latter. This particular report therefore only deals with the GDMA. As for the overall method of selecting firms for interviews, it is similar across the two surveys. In time, this will allow a complete picture of the constraints to be drawn at the national level.

The following are the main points to note about the methodology followed:

- First, weights have been applied to the manufacturing sectors to allow observations to be applicable to the GDMA rather than to the firms surveyed. Applying weights ensures that the observations from the 225 GDMA firms interviewed across sectors are representative of the GDMA population of firms.<sup>7</sup> The Bureau of Market Research at UNISA consulted a series of sources to draw sampling frames to establish a comprehensive list of firms.<sup>8</sup> Difficulties emerged in this part of the exercise in terms of the classification of firms and for the purpose of stratifying the large firms across size. Consequently, alternative sampling frames were designed from which to gather the sampling quota of firms to interview.<sup>9</sup>

Further adjustments had to be made after fieldwork to take into account relocations and downsizing of firms. These arise from discrepancies between databases and *ex-post* observations. Difficulties of such types appeared for two sectors, 'leather and footwear' and 'iron and steel'. For the

---

<sup>7</sup> Note that some amount of discrepancy arises from rounding that is associated with sectoral weights.

<sup>8</sup> "These included the BMR's Business registers, the South African Chamber of Commerce (SACOB) database, the Unemployment Insurance Fund (UIF) database, the KwaZulu-Natal Tourism database, a port database compiled by Prof Jones (University of Natal) and the Durban Yellow Pages." (Bureau of Market Research, GDMA Field Work Report)

<sup>9</sup> "[E].g. they lacked employment size group classifications, they had a limited number of firms for certain sectors and they showed geographic location problems. In some cases information on firms were outdated (i.e. non-existing or a change in contact details)." (*Ibid.*)

former, downward adjustments to a first set of weights were made for mid to large size firms to take into account an overall real downsizing of 80%. For the latter sector, an adjustment was made to shift a mid- size firm (within the large firm sectoral subset) into the largest group firms. This is because no firm was surveyed in the 'iron and steel' sector that had a number of employees equal to or in excess of 200. Here only the size class, not the number of employees (173), was changed. An analysis by size without a case for this sector would have been unreliable otherwise. The final set of weights was arrived at further following a process of consultation with industry experts. The total frame universe has been tied to 600 final firms through the applications of weights (see Table 1, p.7).

- Second, firms are stratified according to their size and sectors of activities. As defined in the GJMA survey, firms were classified so as to distinguish firms with 50 to 99 employees from those with 100 to 199 employees and those with 200 or more employees. We describe these as either type 1, type 2 or type 3 firms or as size 1, 2 and 3 firms. The GDMA manufacturing sectors covered by the survey are 'food processing and beverages', 'textiles', 'paper and furniture', 'chemical products', 'iron and steel', 'metal products', 'electrical and electronic machinery', 'vehicles and automotive components', 'leather and footwear' and 'non-metallic mineral products'. There was no firm in the GJMA survey in the last two aforementioned sectors.
- Third, the large manufacturing firm survey was composed of eight questionnaires per firm. These covered issues that are 'general', 'production-related', 'financial-related', 'purchase-related', 'human resource-related', 'sales/marketing-related', 'administrative-related' and 'port-related'. The analysis of the latter is integrated in the port report. The questionnaires were designed to allow some cross-checks to be carried out.
- Fourth, weights of 1 and of 0.5 have been applied, whenever specified in this report, to 'major' and to 'moderate' constraints. 0 has been applied to 'not important' or 'not applicable' of this report.
- Fifth, the significance of differences is tested at the five percent level whenever pertinent and possible. The results from Pearson Chi Square tests are typically those reported with the tables.

**Table 1. Firms surveyed, GDMA weights and universe**

Sector	Firms surveyed classified according to size and sector				GDMA weights			Final frame/universe			
	50-99	100-199	200+	Total	50-99	100-199	200+	50-99	100-199	200+	Total
Food processing & bev.	8	7	9	<b>24</b>	2.375	2.571	2.667	19	18	24	<b>61</b>
Textiles	18	15	15	<b>48</b>	2.778	2.867	3.933	50	43	59	<b>152</b>
Paper & furniture	18	9	12	<b>39</b>	1.611	2.889	2.500	29	26	30	<b>85</b>
Chemical products	9	9	10	<b>28</b>	5.556	3.889	3.800	50	35	38	<b>123</b>
Iron and steel	1	3	1*	<b>5</b>	2.000	1.333	2.000	2	4	2	<b>8</b>
Metal p& metal roducts	8	4	4	<b>16</b>	2.875	4.250	2.250	23	17	9	<b>49</b>
Electrical and electronic machinery	9	3	3	<b>15</b>	1.111	4.000	3.000	10	12	9	<b>31</b>
Vehicles & automotive components	5	7	7	<b>19</b>	2.800	1.714	2.143	14	12	15	<b>41</b>
Leather & footwear*	4	1	5	<b>10</b>	2.750	5.000	2.000	11	5	10	<b>26</b>
Non-metallic mineral products	12	5	4	<b>21</b>	1.167	1.000	1.250	14	5	5	<b>24</b>
<b>Total</b>	<b>92</b>	<b>64</b>	<b>69</b>	<b>225</b>				<b>222</b>	<b>177</b>	<b>201</b>	<b>600</b>

Note: \*: see text.

Having stressed some similarities in the methodology and framework applied across the two surveys, it should be emphasised that these are not comparable. In particular, there are a series of *contextual* differences. First, the Durban questionnaire seeks to deal with one important gap in the list of potential constraints facing the firms that was drawn for the GJMA survey; this was set out around the impact of the HIV/AIDS on manufacturing performance as it is an important challenge to the firms and society.<sup>10</sup> Second, activities in Durban are conditioned by the presence of the largest container port in Southern Africa.

Four years separate the GDMA and the GJMA surveys (as these were carried out in 1998 and 2002/2003 respectively). From the perspective of the business sector important changes have occurred over the period; this period saw adjustments with regard to the abolition of specific support measures.<sup>11</sup> However some amount of alternative measures were put in place to encourage the firms to engage with efficiency improvements, to undertake investments and well as to export.<sup>12</sup> Policy changes have been in the area of labour legislation to address historically induced employment disadvantages to specific groups (defined according to race, gender and abilities). In particular, the Employment Equity Act (EEA) and the Skills Development Act were implemented in 1998 and the Skills Development Levies Act in 1999. One of the objectives of the Skills Development Act (SDA) is “to provide an institutional framework to devise and implement national, sector and workplace strategies to develop and improve the skills of the South African workforce; ....”. The levy grant scheme and the national skills fund associated with the Act is managed by Sector Education and Training Authorities (or SETAs). The latter, by playing a role towards the development of ‘a sector skills plan’, seek to influence the skills of the workforce and as such to enhance the demand for labour and the returns to investments in training. Finally, the manufacturing sector had to respond, over the period, to a series of new international challenges. These combine the East Asian crisis and its aftermath as well as the growing exposure of South African firms to international competition.<sup>13</sup> New and more recent (sector specific) opportunities have emerged

---

<sup>10</sup> Although the question of whether KZN has the highest number of individuals affected by the HIV/AIDS virus is still subject to debate, according to Department of Labour (2001b, p. 8), “[a]n analysis by WEFA (SA) found that AIDS is larger among the economically active population for the total population. It is most prevalent among the semi and unskilled.”

<sup>11</sup> In particular the producers of primary goods (notably steel but also paper and primary foods) were important beneficiaries of the General Export Incentive Scheme (GEIS), which was dismantled in 1997.

<sup>12</sup> Some of these are sector specific; for instance the Motor Industry Development Program and the Duty Credit Certificate Scheme apply respectively to the ‘automotive’ and ‘textiles and clothing’ sectors. Others (e.g. the Export Marketing and Investment Assistance Scheme) provide support to research of foreign markets and end-customers (see [www.dti.gov.za/bigbusiness/incentives.htm](http://www.dti.gov.za/bigbusiness/incentives.htm) for a description of some types of support available to business).

<sup>13</sup> South African manufacturing firms appear to have been relatively successful in engaging with foreign markets. Thus, whereas manufacturing export intensity had been relatively stable between 1994 and 1996, it started rising again in 1997. In 2000 and 2001, the export intensity ratio for the manufacturing sector in South Africa was in excess of 34.5% [based on own calculations defining export intensity as the share of exports in total production using DTI data at 2000 constant prices – see also DTI (2001, p. 17)]. .

through two important preferential deals.<sup>14</sup> Yet, in spite of a relatively recent set of trade opportunities for exporting firms, the international milieu has been relatively volatile and adverse (September 11 effects, recession in the US and periods of slow down of international trade). Some of these changes have caused a recent reversal of the depreciation of the Rand (from March 2002).

The change in the R/\$ exchange rate is important for methodological purposes. This is because the main period of sharp exchange rate reversal (in March 2002) occurred a few months before the GDMA fieldwork interviews were initiated.<sup>15</sup> The reversal of the depreciation of the Rand has fundamentally altered the interpretation of whether the exchange rate is a driver or constraint of growth. Yet, the analysis of this specific determinant of performance remains valid as whenever appropriate, questions were asked around the volatility of the currency rather than specifically around exchange rate levels.

### 3.3 A SNAPSHOT OF THE STRUCTURE OF MANUFACTURING IN THE GDMA

Having established some methodological pointers, this section introduces some fundamental aspects of the manufacturing sector in the GDMA. The preliminary indicators presented are the size of the firms, the pattern of employment across class sizes, the GDMA sectoral structure and the contribution of the manufacturing sectors to GDMA employment, the pattern of firms' age structure as well as the firms' ownership characteristics. A brief trading profile of the firms is also given.

? *Size*: The GDMA manufacturing sector is marginally dominated by smaller firms of 50 to 99 employees: type 1 firms account for 37% of GDMA firms (Table 2).

**Table 2. Distribution of large manufacturing firms according to size – GDMA 2002/2003**

Size class	Size (no. of employees)	Frequency (number of firms)	Percent
1	50-99	222	37.0
2	100-199	177	29.5
3	200+	201	33.5
	<b>Total</b>	<b>600</b>	<b>100</b>

? *Employment across size class*: A large proportion of the workforce is with firms of 200 or more employees. These absorb 75.4% of GDMA employees compared to 15.1% with size 2 firms. The remainder of the workforce (9.5%) is with the smaller size 1 firms.

On average, there are 270 full time employees in a GDMA firm although there is a wide variation in the distribution of firms within the size 3 group (Table 3). The

<sup>14</sup> These are the Trade and Development Cooperation Agreement between South Africa and the European Union (the bilateral free trade area deal) and the Africa Growth and Opportunity Act. These deals are well understood by industrial representative organisations and by firm management.

<sup>15</sup> There were signs subsequently that the currency would depreciate again. However the depreciation took another momentum in August 2002 when the interviews were being conducted.

largest GDMA firm with 5679 full time employees is substantially smaller than the largest GJMA firm. Firms of 60 employees occur most frequently in the GDMA.

**Table 3. Distribution of full-time employees in firms according to size – GDMA, 2002/2003**

	No. of employees			
	All firms	50 to 99	100 to 199	200 and above
Mean	270	69	139	608
Median	127	68	130	393
Mode	60	60	120	200
Standard deviation	514.82	14.81	28.88	785.97

? *Distribution across sectors of activities and contribution to employment* The ‘textile’ and ‘chemical’ sectors dominate the GDMA manufacturing structure. About 45% of firms are located in these two sectors. Other important sectors are ‘paper and furniture’ and the ‘food processing and beverages’. These sectors are typically associated with dynamic clusters located in the GDMA.

The top four aforementioned manufacturing sectors account for 70.7% of GDMA employment (Table 4). Also notable is the employment contribution of a small sector, ‘vehicles and automotive components’. This contribution is on par with that of the large chemical products sector. One point to note about the data is that all sectors are equally distributed across various size groups. In other words, no sector is predominantly located in a particular size class (see Annex Table 6, p. 88).

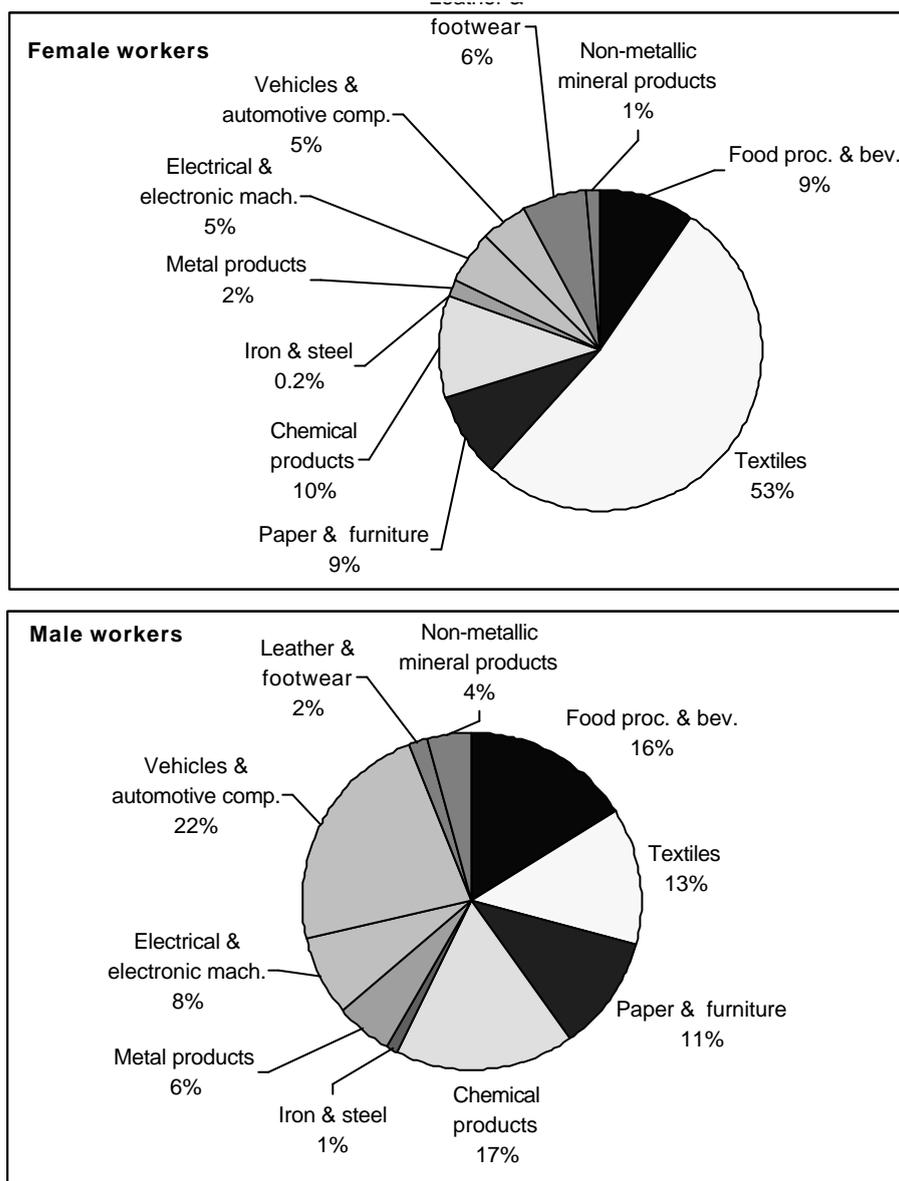
**Table 4. Distribution of large manufacturing firms according to activities and sectoral contribution to employment – GDMA, 2002/2003**

	Frequencies	Distribution of firms (%)	Contribution to employment (%)
Textiles	152	25.3	31.6
Chemical products	123	20.5	14.2
Paper and furniture	85	14.2	13.1
Food processing & beverages	61	10.2	11.8
Metal products	49	8.2	3.5
Vehicles & automotive components	41	6.8	14.1
Electrical and electronic machinery	31	5.2	5.4
Leather and footwear	26	4.3	2.6
Non-metallic mineral products	24	4	3.1
Iron and steel	8	1.3	0.7
<b>Total</b>	<b>600</b>	<b>100</b>	<b>100</b>

Note: The contribution to employment is based on total number of reported full time employees.

There are important variations in the pattern of employment according to gender. Whereas textile firms employ as much as 53% of the GDMA female workforce, ‘vehicles and automotive components and parts’ absorb 22% of male workers (Figure 3).

**Figure 3. Gender distribution of the workforce across manufacturing sectors – GDMA, 2002/2003**



Note: Based on an aggregation of the number of employees across employment categories.

A final key feature of the workforce is with a relatively recent growth of part time employees. On the basis of figures reported for 2001, these workers would total about 8% of the workforce. Focusing on changes over time however, as the average GDMA firm size declined from 1997 to 2001, the ratio of part time to total workers has remained at around 19% (Table 5). In 2001, half the firms that have part time employees employed 20 part time workers.

**Table 5. Changes in some key employment characteristics – GDMA (1997 to 2001)**

	Part time (% of total GDMA employees)	Average number of full time employees per firm	Average part time as % of full time	Number of full time employees (Median)	Number of part time employees (Median)
2001	7.97	266	18.4	118	20
2000	6.52	288	19.1	120	32
1999	5.59	289	19.2	120	30
1998	5.32	308	18.3	120	20
1997	5.88	323	19.4	120	22

Note: the average firm size differs from that reported in Table 2, p. 9 partially because of different rates of responses and partially because the last set of data was for 2002/2003.

? *Age*: The GDMA firms are comparatively old, 70% of them having been established more than 10 years ago and 40% more than 20 years ago (Table 6).<sup>16</sup> 73.2% of firms were set up before 1995. This particular feature of the GDMA firms matters insofar as age is positively related to size (see Annex Table 5, p. 88). In parallel, the firms were taken over by their *present* owner(s) on average 14 to 15 years ago. Yet, some changes are signalled through the fact that changes in ownership (to the current owners) peaked in 1998/1999.<sup>17</sup>

**Table 6. Distribution of large manufacturing firms according to age – GDMA, 2002/2003**

	Frequency	Percent
1-5 years	80	13.4
6-10 years	100	16.6
11-20 years	180	30.1
21-30 years	60	10.0
Over 30 years	180	29.9
<b>Total</b>	<b>600</b>	<b>100</b>

Note: In this report, age and date of establishment refer to the date at which the plant started production at its current location.

In terms of the period during which the firms started their operations, there are important variations across sectors; *all* the firms in ‘iron and steel’ and about 85% of firms in the ‘vehicles and automotive’, ‘chemical products’ and ‘electrical and electronic machinery’ sectors were set up prior to 1995. In contrast, ‘leather and footwear’ and ‘non metallic mineral products’ firms are younger, the firms having been set up subsequently (Annex Table 4, p. 87).<sup>18</sup>

A final point to note is that, across individual years, 1997 was a notable period of firm set up (see Annex Figure 1, p. 87).

? *Ownership and legal structure*: 78.6% of GDMA firms are South African

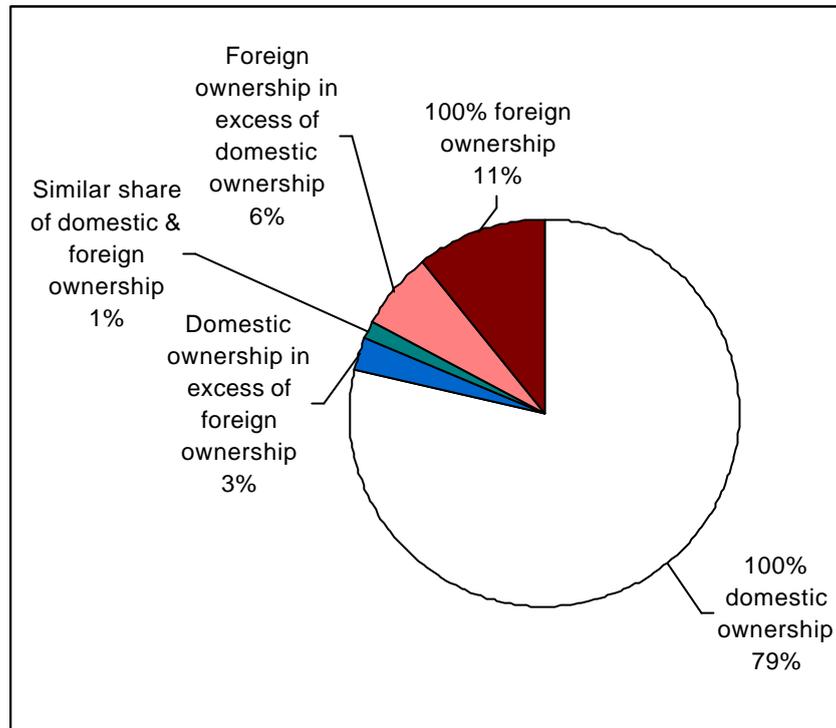
<sup>16</sup> From a different perspective, nearly 87% of the GDMA firms would have experienced the effects of the East Asian crisis.

<sup>17</sup> 6.9% of GDMA firms change to their current owner that year.

<sup>18</sup> In contrast to South Africa for which the oldest firms were also in ‘metal products’, ‘paper and furniture’ and ‘textiles’ (Chandra *et al.*, 2001).

Companies and a further 2.9% of firms are predominantly nationally owned (Figure 4). Amongst the remainder, 10.8% and 6.5% are respectively entirely or predominantly foreign owned.

**Figure 4. Origin of ownership of firms (n=600) – GDMA, 2002/2003**



Over half the firms have no parent company (57.1%). When there is a parent company, it is significantly associated with larger size firms (see Annex Table 7, p. 89). The sectoral distribution of parent companies is complex; the largest number of firms with parent companies are located in the 'chemical' (74% of n=123) and 'food processing and beverages' (63.9% of n=61) sectors. The lowest number is in the textiles (15.8% of n=152) and 'metal and metal products' (30.6% of n=49) sectors (Annex Table 9, p. 91).

When there is a parent company, it is generally located overseas (in 42.4% of the cases from n=257).<sup>19</sup> Only for 17.4% of firms that had a parent company was the parent company located within the Province (14.7% in Durban and 2.7% elsewhere in KZN). Although foreign parent companies from the US dominate in cases over those from the UK (23.3% and 18.7% respectively of n=109), the breakdown is dominated by one region: 62.4% of foreign parent companies are in Europe contrasted to 23.3% in the US, and 13.4% in Australia and Asia combined.

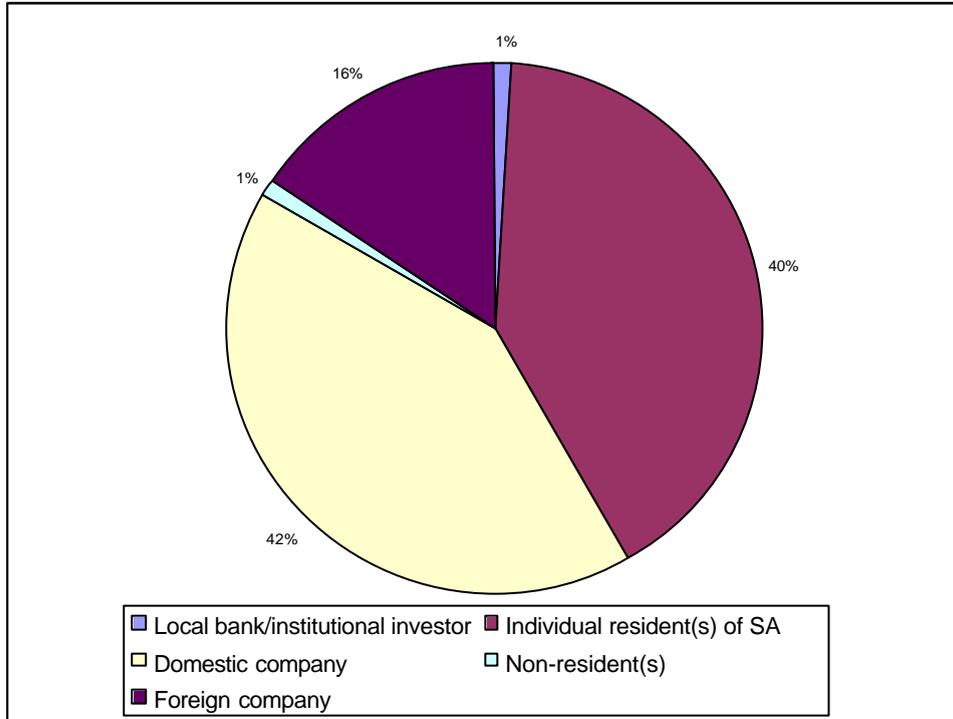
The GDMA firms are privately owned. Setting aside differences in ownership structure across size classes, firms are owned either as a company or by individual South African residents to the level of 82.09% on average across the industry (Figure 5, part 1). However, firms that have reported being owned as a domestic company have 88.65% of such ownership and those that are owned by

<sup>19</sup> In other words, across the manufacturing sector in the GDMA, 18.17% of firms have a parent company *with* headquarters outside South Africa.

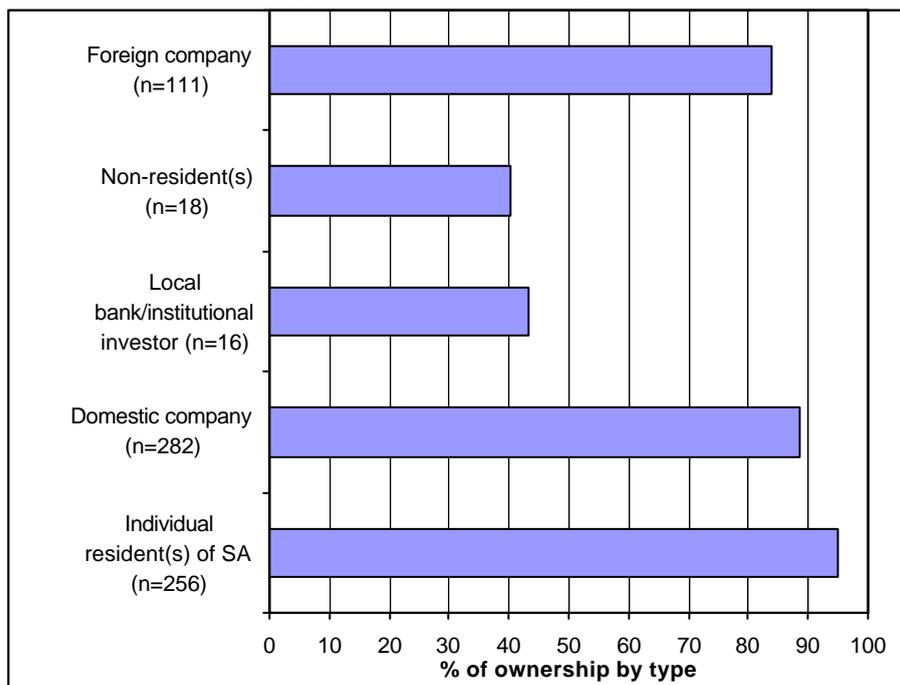
individual residents have 94.85% of such ownership (Figure 5, part 2). Moreover, ownership by individual residents is a relatively more important feature of firm types 1 and 2 than of type 3 firms. As for institutional investors, they have a limited involvement with the manufacturing sector. Ownership by these amounts, on average, to 1.2% of total ownership.

**Figure 5. Firm ownership structure – GDMA, 2002/2003**

Part 1: average value of ownership across all firms



Part 2: average value of ownership for valid cases



The GDMA firms have typically a 'limited' legal status (73.3%, see Table 7). The second most important status is that of close corporation. There are few occurrences of either sole ownership (0.7%) or of partnership (1.1%). Also only 5.8% of the GDMA firms are subsidiaries/divisions.

**Table 7. Legal status – GDMA, 2002/2003**

Status	Frequency	Percent
Sole proprietorship	4	0.7
Partnership	7	1.1
Closed corporation	96	16.0
PTY Limited	440	73.3
Privately held corporation	7	1.1
Publicly traded corporation	12	1.9
Subsidiary/division of larger enterprise	35	5.8
<b>Total</b>	<b>600</b>	<b>100</b>

Only 12.2% of GDMA firms are listed on the Johannesburg stock exchange (JSE) market and the larger firms are those listed (Table 4). An additional 3% of GDMA firms are listed on a foreign stock market. Interestingly, firms that are subsidiaries of a larger enterprise are generally not listed on any stock market (e.g. 71% of the 35 firms that are subsidiaries are not listed).

**Table 8. Distribution of firms listed on a stock market according to size (n=600) – GDMA, 2002/2003**

		50-99	100-199	200+	Total
Listed on a stock market?	JSE				
	Count	4	21	48	<b>73</b>
	% within Size	1.8	11.9	23.9	<b>12.2</b>
	Other stock Market				
	Count	1	10	6	<b>17</b>
	% within Size	0.5	5.7	3.0	<b>2.8</b>
No					
Count	217	145	147	<b>509</b>	
% within Size	97.7	82.4	73.1	<b>85.0</b>	
<b>Total firms</b>		<b>222</b>	<b>176</b>	<b>201</b>	<b>599</b>

Notes:  $\chi^2=59.415$ ,  $df=4$  and  $p=0.000$ .

The GDMA survey contains a fair proportion of firms owned by previously disadvantaged individuals (PDIs). 38.1% of firms in the GDMA are in this category compared to the national figure of 16% for 1998. Moreover full PDI ownership (100%) dominates; of the 229 PDI firms, 153 (66.9%) are *entirely* owned by PDIs. Another feature of firms with PDI involvement is that PDI is, at management level, across a series of activities, beyond a sole role of ownership (Table 9).

**Table 9. Work areas of PDIs employed at management level – GDMA 2002/2003**

Category	Percent of Responses	Percent of Cases
General manager	15.9	75.0
Production	17.6	83.4
Human Resources	16.9	80.0
Finance	17.4	82.2
Marketing	15.3	72.5
Only ownership	2.5	11.7
On the Board	14.0	66.2
Other	0.5	2.4
<b>Total*</b>	<b>1082</b>	<b>229</b>

Notes:

- Responses relate to multiple responses (i.e. more than one option was offered to the respondents).
- The percent of cases correspond to the total responses divided by the number of responding firms and thus gives the percentage of firms for which an individual component of a question matters.
- \*: relates to the sum of all multiple responses and to the total number of firms for which the question applied.

There are several features to the pattern of PDI firms in the GDMA. First, the majority (51.3%) of PDI firms were established before 1995 with the first cases of PDI involvement reported for 1941.<sup>20</sup> Although this pattern relates to the presence of a large local Indian entrepreneurial base, the involvement of PDIs with business has evolved over time. Political changes and the provision of specific incentives both appear to have had some impact on new PDI firm set up; for instance, 13 new PDI involvements (5.7% of all wholly or partly-owned PDI) occurred in 1993. Another expansion of PDI took place between 1998 and 2000, after the authorities gave some advantages to such firms in tender procedures. However, within the subset of PDI firms, a peak in the number of PDI cases occurred in 2000 when 7.3% of the operating plants with PDI involvement (at that date *or subsequently*) were set up.<sup>21</sup> Generally, 1997 saw an expansion of *both* PDI and non-PDI plants, raising the possibility that firms foresaw specific opportunities arising in that period. Second, PDI ownership is independent of firm size (Annex Table 10, p. 91). Third, there are important sectoral variations in the distribution of PDIs. PDI ownership was primarily located in the 'leather and footwear' and 'textiles' sectors (39.3% of n=229). The sectors with the lowest reports of PDI ownership (relatively to non-PDI) were 'iron and steel', 'vehicles and automotive components' and 'metal products' (Annex Table 11, p. 92).<sup>22</sup>

? *Involvement with foreign markets:* The GDMA firms are well engaged with foreign markets; 56.6% export and 66.5% import goods and services. However, there are differences across firm sizes insofar as there is a greater proportion of

<sup>20</sup> There are significant differences in terms of the data at which PDIs became part/owner relative to the firm's date of establishment:  $\chi^2=30.922$ ,  $df=1$ ,  $p<0.05$  (computed for a 2 by 2 matrix).

<sup>21</sup> The date at which PDI started does not always coincide with the start up date of the firm's operation. The fact that 17 respondents reported PDI involvement prior to the plant starting date might reflect a different date of company set up and PDI at the company rather than at the plant level.

<sup>22</sup> Few firms are however located in the 'iron and steel' sector. Sectoral differences are highlighted through  $\chi^2=48.215$ ,  $df=9$  and  $p<0.05$ .

size 3 firms involved as exporter and importer (**Error! Reference source not found.**, p. **Error! Bookmark not defined.**). Also, typically size 1 firms are both neither exporter nor importer. Whilst a discussion of the degree of import and export orientation is provided subsequently in *Chapter 6* together with a detailed trading profile of the firms, there are sectoral variations of the firms' involvement with foreign markets: three sectors emerge as engaged with both exporting and importing and three as neither exporting nor importing. The 'iron and steel', 'electrical and electronic machinery' and 'chemical products' fall in the former group whereas 'leather and footwear', 'textiles' and 'metal products' fall in the later. Another specific aspect of the firms' engagement with foreign markets is that firms which have an international dimension are linked to a parent company. In particular, the existence of a parent company is a feature of firms that 'export and import' and of firms that 'export only' (Table 10).

**Table 10. Firm status as an exporter/importer and parent company status – GDMA, 2002/2003**

		Exporter only	Exporter & importer	Importer only	Neither exports nor imports	Total
Parent company?	Yes					
	Count	23	188	31	16	<b>258</b>
	% within answer	8.9	72.9	12.0	6.2	<b>100</b>
	% within firm status	67.6	61.4	33.3	9.5	<b>42.9</b>
	No					
	Count	11	118	62	152	<b>343</b>
	% within answer	3.2	34.4	18.1	44.3	<b>100</b>
	% within firm status	32.4	38.6	66.7	90.5	<b>57.1</b>
<b>Total firms</b>		<b>34</b>	<b>306</b>	<b>93</b>	<b>168</b>	<b>601</b>

Note: significant difference are signalled through  $\chi^2=131.281$ ,  $df=3$  and  $p=0.000$ .

#### 4 CONSTRAINTS TO BUSINESS GROWTH

This chapter sets out the main constraints to growth as expressed by GDMA CEOs. Whilst a specific questionnaire was designed for CEOs to provide feedback on the relative importance of a series of main constraints, explanations of the relative position have also been drawn from other questionnaires addressed to the relevant managers and/or CEOs. Although the results of these questionnaires are detailed in subsequent chapters, this chapter presents an in-depth summary of various key findings.

This chapter is structured as follows. First, we provide a general overview of the main areas of constraints to growth (*Section 4.1*).<sup>23</sup> A second section (*Section 4.2*) contextualises the responses by describing the expectations firms have

<sup>23</sup> Although the major and moderate constraints were combined in the analysis for the purpose of emphasising problem areas, the contribution of major and moderate problems to the constraint index is not always even. Therefore the highest ranked *major* constraints are also reported in what follows.

towards the overall economic performance. What is also set out in this Section is whether the firms feel they are in a position to grow, that is whether the general set of constraints is surmountable from the perspective of the firms. In this section we also set out a discussion of the cost/expenditure structure of the GDMA firms. Again, this is for the purpose of framing, in financial terms, the importance of various determinants of production. A third section (*Section 4.3*) finally presents some key observations around the various issues which have been reported by the CEOs.

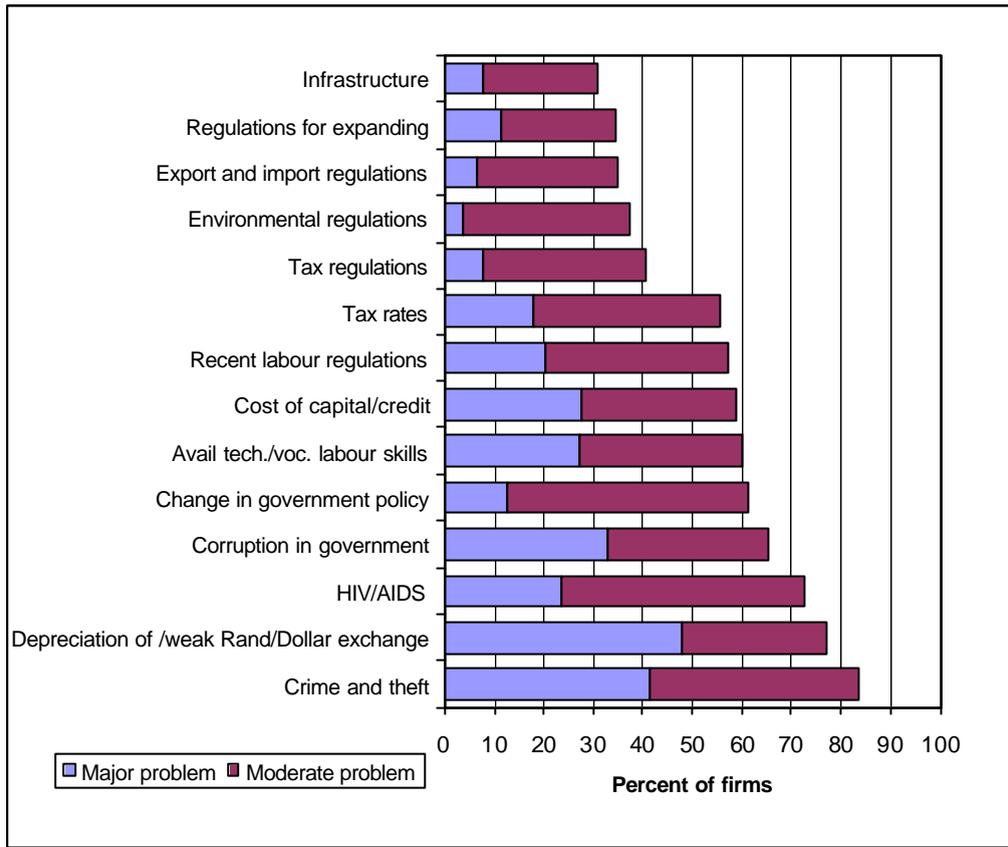
#### 4.1 AN OVERALL PRESENTATION OF THE CONSTRAINTS TO GROWTH

For the GDMA firms overall, the top five constraints to expansion were crime and theft (for 83.3% of firms), currency volatility (77.2%), HIV/AIDS (72.5%), corruption in government (65.3%) and changes in government policy (61.4%) (Figure 6). The latter is a complex determinant of expansion; the changes refer to a redirection of local and national socio-economic priorities.

Some of the top ranked 'combined' constraints differ from those obtained through the GJMA survey. In the latter, the top five constraints were crime and theft, *cost of capital and credit*, depreciation of or weak Rand, *recent labour regulations* and corruption in government. By and large, the firms' position towards the main factors of production in the GDMA is distinct from that noted for the GJMA/South Africa. HIV/AIDS was not included as a factor of constraint in the GJMA survey and changes in government policy was ranked eighth.

The top five *major* problems were currency volatility (48.0%), crime and theft (41.4%), corruption in government (33.0%), cost of capital and credit (27.7%) and availability of labour (27.3%).

**Figure 6. Index of CEO Rankings on Constraints to Growth (n=600): Total – GDMA, 2002/2003**



Notes: The above excludes information from 16 companies (2.7% of firms) specifying constraints 'other' than those listed above. The initial focus on the depreciation of the currency as reported above has been broadened to include issues of currency volatility.

There are almost systematic significant differences the extent to which the constraints vary across firm size. The information, summarised in Table 11, points out that rather than firms responding in a similar way, there are in fact distinctive manufacturing dynamics and determinants of performance at hand. Corruption in government is an important exception to this. These are detailed in the relevant parts of this report.

**Table 11. Constraints to expansion: variation across firm types**

Potential obstacle	Significant firm class differences?	
	Yes	No
Regulations for expanding your current business and/or starting a new business		X
Export and Import regulations/procedures		X
Availability of technical/vocational labour skills	X	
Recent labour regulations (LRA, BCEA, EEA, Skills Act)	X	
Tax regulations	X	
Tax rates	X	
Infrastructure provision and quality (roads, electricity, water etc.)	X	
Change in government policies	X	
Cost of capital/credit	X	
Currency volatility	X	
Environmental regulations	X	
HIV/AIDS	X	
Crime and theft	X	
Corruption in government		X

Note: Based on tests of the significance of differences which are discussed at greater length in the relevant chapters of this report.

Focusing on individual firm sizes, the following factors – summarised in Table 12 for ease of discussion – affect expansion:<sup>24</sup>

- A somewhat distinct set of combined constraints affects the smaller firms (size 51-99); crime and theft (87.3%) and currency volatility (77.2%) were the top rated constraints. Tax rates was the third ranked constraint (70.0%), suggesting that these firms are particular vulnerable to production cost determinants. Change of government policy (68.9%) and cost of capital and credit (68.9%) were tied as fourth ranked constraints. HIV/AIDS was the seventh ranked constraint of these smaller firms. A different ranking emerges through the major constraints; currency volatility (51.4%), crime and theft (48.6%), *corruption in government* (41.0%), cost of capital/credit (37.8%) and *recent labour regulations* (28.8%) had the highest ranks. Labour flexibility is a greater determinant of growth in the smaller than in the other size firms. Tax rates (27.8%) and HIV/AIDS (23.0%) were sixth and seventh ranked major constraints respectively (Annex Figure 2, p. 93). The change in position of the tax rates is to be interpreted as indicative of a polarised set of responses around this particular variable.
- The top five constraints of mid-sized firms (size 100-199) mirrored the

<sup>24</sup> In order to specify the proportion of firms for which the constraints matter, the discussion which follows takes 'combined' as simply aggregating 'major' and 'moderate'.

trend observed for the sample except for the fifth ranked constraint: crime and theft (81.9%), currency volatility (71.7%), HIV/AIDS (70.6%), corruption in government (67.2%) and recent labour regulations (62.7%). Major constraints for mid-sized firms vary slightly from the combined major and moderate constraints: crime and theft (41.8%), currency volatility (38.4%), corruption in government (31.6%), *available labour skills* (29.9%) and *cost of capital/credit* (28.2%) are the five most frequently reported major constraints. HIV/AIDS (23.7%) and recent labour regulations (17.5%) were sixth and seventh ranked major constraints respectively (Annex Figure 3, p. 93).

- For the largest firms (size 200+), HIV/AIDS (84.1%), crime and theft (80.2%), depreciation of or weak Rand (80.1%), availability of labour skills (70.1%) and corruption in government (62.7%) were the five highest ranked constraints. While the factors constituting major constraints for largest firms were the same as those making up the combined factors, the ordering was different. Currency volatility (52.7%), availability of labour skills (34.8%), crime and theft (33.2%), corruption in government (25.4%) and HIV/AIDS (23.9%) were rated as the five major constraints for the largest firms (Annex Figure 4, p. 94).

**Table 12. Ranking of Firms Constraints – GDMA, 2002/2003**

<b>All firms Major</b>	<b>Small firms Major</b>	<b>Medium size firms Major</b>	<b>Large firms major</b>
Currency volatility Crime & theft Corruption Cost of Capital/credit Skilled Labour	Currency volatility Crime & theft Corruption Cost of Capital/credit Labour Regulations	Crime & theft Currency volatility Corruption Skilled Labour Cost of Capital/credit	Currency volatility Skilled Labour Crime & theft Corruption HIV/AIDS
<b>All Firms Combined (no weight)</b>	<b>Small firms Combined (no weight)</b>	<b>Medium size firms Combined (no weight)</b>	<b>Large firms Combined (no weight)</b>
Crime & theft Currency volatility HIV/AIDS Corruption Changes in Government Policy	Crime & theft Currency volatility Tax rates Changes in Government Policy Cost of Capital/credit	Crime & theft Currency volatility HIV/AIDS Corruption Labour Regulations	HIV/AIDS Crime & theft Currency volatility Skilled Labour Corruption
<b>All Firms Combined (with weights)</b>	<b>Small firms Combined (with weights)</b>	<b>Medium size firms Combined (with weights)</b>	<b>Large firms Combined (with weights)</b>
Currency volatility Crime & theft Corruption HIV/AIDS Skilled Labour	Crime & theft Currency volatility Corruption Cost of capital/credit Tax rates	Crime & theft Currency volatility Corruption HIV/AIDS Cost of capital/credit	Currency volatility Crime and theft HIV/AIDS Skilled Labour Corruption

Similar types of questions emerge with regard to differences across firm types of the perceived key constraints to growth. Thus, for instance, while HIV/AIDS registers as a top five combined constraint for the sample and for mid and largest sized firms, it is only rated as a top five major constraint for the largest firms. Are these to be explained by variations in the qualitative characteristics of the workforce across firm size? Alternatively, is it instead the perception of management of HIV/AIDS as a problem area which varies? Similar questions can be raised around skill shortages constraints which are more important to type 2 and type 3 firms. In contrast, type 1 firms appear relatively more vulnerable to financial determinants of performance.

In terms of the factors that are perceived as less adverse to firms' growth, various areas of regulations – on expansion, on international trading, on conforming to environmental requirements as well as on taxes – have a relatively low position. The state of the infrastructure (level and quality of provision) was reported as having a very low adverse impact on growth although larger firms were more prone to report this factor as a *major* problem area than other firms. Smaller firms reported this as a marginally more important *combined* (major and moderate) constraint than other firms.<sup>25</sup> Whilst the state of infrastructure was not seen as a notable constraint to growth, this was reported as an important area of improvement for the Durban Metropolitan Unicity Council (henceforth DMUC) in its contribution to investment and to local economic development. This was the second most important factor reported in the responses for size 3 firms (45.9% of the responses with n=201) as an area in which the DMUC should make contributions.

#### 4.2 THE ECONOMIC CONTEXT: HOW IMPORTANT ARE THE CONSTRAINTS TO GROWTH TO THE FIRMS?

Having set out the importance of individual constraints to manufacturing expansion, we touch, in this section upon the firms' perception of the economic context. This discussion, which bears on contextualising the responses of the CEOs, can be more broadly interpreted to indicate the capacity of the firms to overcome structural economic obstacles. The firms' expectations are set out over the immediate future *and* over a one year period (a year following the interviews). We label these two periods as the very immediate and immediate future.

A fair proportion of firms expressed optimism towards the overall economic performance. 39.3% expected the economy to grow and another 18.3% saw no change to the overall economic performance in the very immediate future.<sup>26</sup> These expectations were maintained beyond the more immediate time horizon as 57.1% foresaw either an improvement or no change in a one-year period. However, the fact that the firms operate in a relatively uncertain context is evidenced by the observation that a relatively large number of CEOs commented

---

<sup>25</sup> Differences across firm type are signalled through  $\chi^2=18.055$ ,  $df=4$  and  $p=0.001$ .

<sup>26</sup> The figures which follow are with n=600. Some of the responses however include two cases in which the respondents could not anticipate the change because their firm had been taken over too recently (in 2002).

that they could not make any form of assessment (26.9% for the very immediate future, the figure reaching a third for the immediate future). Only 15% of firms reported that they expected the economy to deteriorate in the very immediate future. The latter figure dropped to 10% for the one year forecast.<sup>27</sup>

In spite of a relatively large number of respondents experiencing difficulties in setting out how the economic context was set to evolve, the CEOs were relatively confident in their anticipation of an expanding customers base. Notably, the firms perceived their sales prospects to be good; 70.2% and 66.1% saw an increase of their annual sales in the very immediate and longer time horizon respectively.<sup>28</sup> There are several explanations for this. Growing sales can, for instance, be caused by the firms seeking to increase their unit prices in order to pass increasing production costs onto their customers. This argument finds some validity in the observation that 68.5% and 58.5% of firms reported foreseeing inflation to continue – the proportion of ‘do not know’ responses increasing from 20.7% to 24.6%. Nevertheless the fact that 72.6% and 67.7% of firms reported that they foresaw an increase in *their* average prices respectively in the very immediate and immediate future, indicates that there could be other factors at play; the firms might show confidence in their capacity to either maintain or expand their customers’ base on the basis of product improvement. Alternatively, the firms see themselves to be (increasingly) competitive. Here whether the firms anticipated the depreciation of the currency to continue and/or foresaw a fall in the rate of interest matters.

In fact, whereas the firms reported a continued pattern of appreciation they did not systematically anticipate a clear-cut pattern of interest rate decline. Against 48% and 43.5% of firms expecting a very immediate to immediate decline in the interest rate,<sup>29</sup> the view towards exchange rate trends was more polarised. As many as 63.1% and 50.4% of firms anticipated a continuing improvement of the Rand/US\$ exchange rate in the very immediate to immediate future.

---

<sup>27</sup> It is interesting to note that PDI firms had less optimistic expectations about the economic performance than other firms. For instance, for purpose of comparison, 32.9% of PDI firms expected the economy to grow in the very immediate future compared to 43.2% of non-PDI-firms. Similar percentages of each type of firms expect the economy to grow in the immediate future (34.9% of PDI and 44.9% non-PDI respectively).

<sup>28</sup> A small proportion of sales is destined to the public sector (from type 1 and type 2 firms particularly). On average, across the GDMA, 5.3% of sales was reported to be to government in 2000 and 2001. The figure for type 3 firms was 1.4%. However, focusing solely on firms that had customers in the public sector, the figure rises to 19.4% of sales. This is noting that nearly 30% of GDMA firms had some involvement with the public sector (27.3% in 2000 and 27.7% in 2001). A point to note in the distribution of orders from the public sector is that large orders apply to ‘fewer’ firms of the type 2 category; against 50% of the manufacturing firms that produce for the public sector contributing 5% of their sale to government, the figure is 10% for type 2 firms, 5% for type 1 firms and 3% for type 3 firms.

<sup>29</sup> This was expressed in relation to a benchmark interest rate figure of 14% for the 1<sup>st</sup> of February 2002. Worsening (rise) of the interest rate was anticipated by 25.1% and 18.1% of respondents over the very immediate to immediate horizon. However, if worsening is taken more broadly to encompass anticipation of a rise or of no change, then this was anticipated by more than a third of respondents (35.3% & 37.8% for the immediate to very immediate future). Yet, generally there was greater confidence in commenting on interest rate changes than on the overall economic performance.

Unravelling the reasons why firms anticipate that the price of their goods will increase is a complex task for which the questionnaire is not well suited. Nevertheless, the fact that the more recent context (2000/2001) was one of expansion might have shaped the pattern of expectations of the overall economic performance. Economic expansion is signalled through the fact that 79.6% of firms (n=600 including 6.3% of no response) reported that they experienced an increase in their profit. In this group, 19.5% reported an increase in excess of 50%. Only 1.2% experienced difficulties in the form of a profit turning into a loss. Focusing on sectors in which profit increased (at least temporarily) signals a strong overall performance. In contrast, zooming onto firms in difficulties (66 firms) highlights difficulties in 'textiles' (22 of the 66 firms).<sup>30</sup> A relatively strong performance was noted in the 'electrical and electronic machinery', in 'chemical products' and in 'leather and footwear'.<sup>31</sup>

## NEXT IS A SECTION ON COST STRUCTURE & LABOUR / K-INTENSIVE SECTORS

### 4.3 SOME PRELIMINARY COMMENTS

THIS PART REQUIRES A SUMMARY OF ALL THE KEY ISSUES BY EVERYBODY.

## 5 CRIME AND THEFT

## 6 TRADING PROFILE OF GDMA MANUFACTURING FIRMS AND CURRENCY VOLATILITY

### 6.1 TRADING PROFILE OF FIRMS

The industrial development of Durban has been based largely on its status as the primary port of South Africa and on a policy of import-substitution (see Valodia, 1999). Before the First World War, Durban was largely a town that functioned as a port centre, with related commercial activities. The initial Maydon Wharf reclamation scheme was undertaken to provide a large bulk storage facility thereby entrenching Durban's port city character. Initial attempts by the city's authorities to develop an industrial base in the city were not immediately successful. In 1927, the city's attempts to develop, for industrial use, the Congella area proved to be difficult even though the land was offered to potential

---

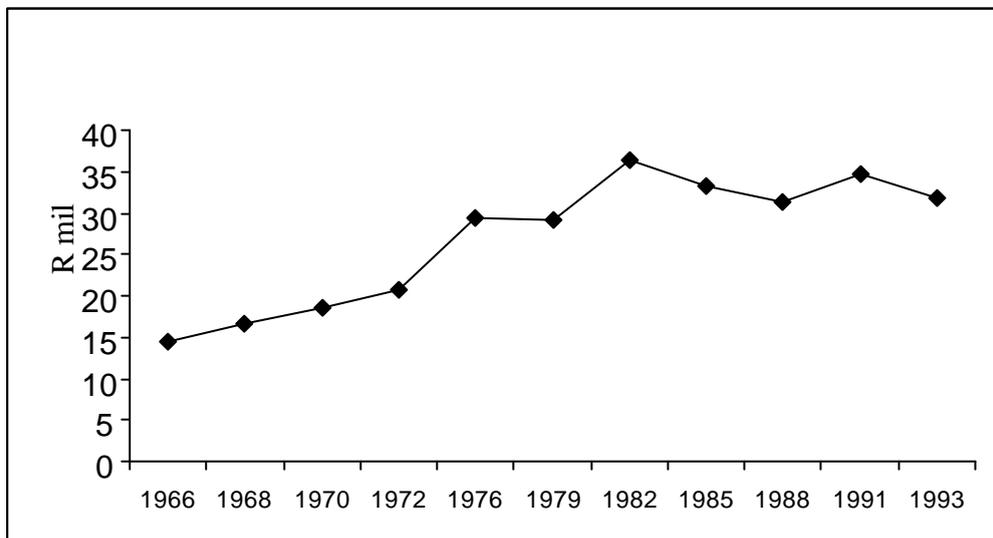
<sup>30</sup> Yet whilst 14.5% of firms in textiles experienced losses against an average figure of 11%, the difference is *not* statistically significant at 5% ( $\chi^2=2.086$ ,  $df=2$  and  $p=0.352$  combining reports of no change of profit with reports of increased profit). Two points are to be noted with regard the approach taken in the description of profit levels. First, we have set aside the question of the direction in which the loss has changed - increase of decrease - between 2000 and 2001. Second, there are important variations in the rate of response across sectors about profit level and direction of change.

<sup>31</sup> The performance of the latter is likely however to be substantially influenced by the situation of 'vehicles and automotive components' because valuable leather products (seat covers) are destined to car manufacturers.

industrialists on very favourable terms (Katzen, 1961). Thereafter however, and particularly after the second World War manufacturing industry grew rapidly in Durban. For example, land used for manufacturing purposes in Durban grew from 692.5 acres to 1135 acres between 1949 and 1954 (Katzen, 1961). During this period, the industrial areas of Mobeni, Amanzimtoti, Jacobs and the Northern areas grew rapidly. This rapid growth in Durban fostered industrial development in the adjacent areas of Pinetown and New Germany.

Figure 7 shows output growth in the GDMA manufacturing industry over the period 1966 to 1993. The figure shows that the period 1966 to 1972 saw the industrial economy of the GDMA growing at a high rate. This growth was most pronounced in the textiles, clothing, chemicals, fabricated metals and motor vehicles industries, classic import-substituting industries (see Valodia, 1999). Industrial development in the city stagnated in the 1980s and early 1990s.

**Figure 7. Real Gross Output – Durban, 1966 - 1993**



Source: Valodia, 1999.

The 1990s saw a fundamental change in the orientation of industrial policy in South Africa – from a policy of import substitution to one that sought to integrate the South African economy into the globe. How did Durban firms respond to this change in policy? Have Durban firms responded to this change in incentives by re-orientating their activities toward the export market? Table 13 below shows Durban's firms integration into international trade. The majority of firms (72.1%) are involved in international trade – either as exporters, importers or both. Most firms that are involved in international trade (56.6% of all Durban firms) are involved in both exporting and importing, with a very small percentage of firms (5.6%) engaged in international trade on the export side only. A larger percentage of firms, 15.5%, are engaged in trade on the import side only.

The information presented in Table 13 suggests that there is a strong relationship between firm size and international trade. More than half of firms not engaged in international trade in any way are small firms. At the opposite extreme almost half of the firms that are involved in both importing and exporting are large firms, employing more than 200 workers. 41% of smaller firms (class size 50-99) do not

engage in any way in international trade. This figures decreases to 31% and 10% for medium sized firms (size class 100-199) and larger firms (size class 200+), respectively. Larger firms in the GDMA seem therefore to have been more successful at incorporating their activities in the international economy.

**Table 13. Firm status with regard to foreign markets – GDMA 2002/2003**

**Firm status as exporter and/or importer \* SIZE Crosstabulation**

			SIZE			Total
			50-99	100-199	200+	
Firm status as exporter and/or importer	Exporter only	Count	17	11	6	34
		% within Firm status as exporter and/or importer	50.0%	32.4%	17.6%	100.0%
		% within SIZE	7.7%	6.2%	3.0%	5.7%
	Exporter and import	Count	86	73	148	307
		% within Firm status as exporter and/or importer	28.0%	23.8%	48.2%	100.0%
		% within SIZE	38.7%	41.2%	73.3%	51.1%
	Importer only	Count	28	38	27	93
		% within Firm status as exporter and/or importer	30.1%	40.9%	29.0%	100.0%
		% within SIZE	12.6%	21.5%	13.4%	15.5%
Neither exports nor imports	Count	91	55	21	167	
	% within Firm status as exporter and/or importer	54.5%	32.9%	12.6%	100.0%	
	% within SIZE	41.0%	31.1%	10.4%	27.8%	
Total	Count	222	177	202	601	
	% within Firm status as exporter and/or importer	36.9%	29.5%	33.6%	100.0%	
	% within SIZE	100.0%	100.0%	100.0%	100.0%	

Note: Statistically significant association between size and trade ( $\chi^2=76.15$ ,  $df=6$ ,  $p<0.05$ ).

Table 14 shows GDMA firms engagement with the international economy by sector. A large percentage of firms in the 'Iron and Steel' (87.5%), 'Electrical and Electronic machinery' (87.1%) and 'Chemicals' (74%) sectors are engaged in international trade, as importers and exporters. Other sectors with a large percentage of firms involved in international trade, as both importers and exporters, are the 'Vehicles' (57.1%), 'Food' (55%), 'Non-metallic minerals' (52.2%), 'Paper' (49.4%) and 'Metal products' (40.8%) sectors. Over half of the firms in the Leather Sector (55.5%) are focused exclusively on the domestic economy. A large percentage of firms in the Textiles (44.7%) and Metal products (42.9%) are also focused exclusively on the domestic economy.

**Table 14. Firm Status as Importer and/or Exporter by Sector**

Firm status as exporter and/or importer \* SECTOR Crosstabulation

		SECTOR										Total
		Food processing and average	Textile	Paper and furniture	Chemical products	Metal and steel	Metal products	Electrical and electronic machinery	Automotive components	Leather and footwear	Non-metallic mineral products	
Firm status as exporter and importer	Exporter on Count			10	9		8		3		3	33
	% within Firm exporter and importer			30.3%	27.3%		24.2%		9.1%		9.1%	100.0%
	% within SECTOR			11.8%	7.3%		6.3%		7.1%		13.0%	5.5%
Exporter on Count	Exporter on Count	33	48	42	91	7	20	27	24	4	12	308
	% within Firm exporter and importer	10.7%	5.6%	13.6%	29.5%	2.3%	6.5%	8.8%	7.8%	1.3%	3.9%	100.0%
	% within SECTOR	55.0%	1.6%	49.4%	74.0%	87.5%	10.8%	87.1%	57.1%	14.8%	52.2%	11.3%
Importer on Count	Importer on Count	10	36	18	12			2	3	8	4	93
	% within Firm exporter and importer	10.8%	8.7%	19.4%	12.9%			2.2%	3.2%	8.6%	4.3%	100.0%
	% within SECTOR	16.7%	3.7%	21.2%	9.8%			6.5%	7.1%	29.6%	17.4%	5.5%
Neither exports nor imports	Neither exports nor imports Count	17	68	15	11	1	21	2	12	15	4	166
	% within Firm exporter and importer	10.2%	1.0%	9.0%	6.6%	.6%	2.7%	1.2%	7.2%	9.0%	2.4%	100.0%
	% within SECTOR	28.3%	4.7%	17.6%	8.9%	12.5%	12.9%	6.5%	28.6%	55.6%	17.4%	27.7%
Total	Count	60	152	85	123	8	49	31	42	27	23	600
	% within Firm exporter and importer	10.0%	5.3%	14.2%	20.5%	1.3%	8.2%	5.2%	7.0%	4.5%	3.8%	100.0%
	% within SECTOR	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Note: Statistically significant association between sector and trade ( $\chi^2=157.167$ ,  $df=27$ ,  $p<0.05$ ) but 35% of cells have an expected count less than 5 and minimum expected count is 0.44 so not valid to use statistic.

Table 15 measures the extent of export orientation by measuring the percentage of annual sales that are exported. Most firms that do export (39.4%) export less than 10% of their sales. On average exporting firms exported 20.1% of the annual sales. However, as the table shows there is wide dispersion around this average. A small percentage of firms, 17.8%, export 40% or more of their sales.

**Table 15. Export Orientation of Firms**

Percentage Exported	No. of Firms	Percent of Exporting Firms
<10	135	39.4
10 -19	82	15.7
20 – 39	54	15.7
40 – 59	30	8.7
60 – 99	28	8.2
100	3	0.9
<b>Missing cases</b>	<b>11</b>	<b>3.2</b>
<b>Total</b>	<b>343</b>	<b>100</b>

Table 16 below shows that there are large differences in the level of export orientation by sector. Firms in 'Leather and footwear', an industry that has faced high levels of import competition, are the most export oriented with the average firm exporting 60% of sales. Firms in 'Food' appear to be focused primarily on the domestic market.

**Table 16. Export Orientation by Sector**

SECTOR	Mean	N	Std. Deviation
Food processing & bev.	11.39	33	16.352
Textiles	26.21	48	25.308
Paper and furniture	14.57	52	24.368
Chemical products	18.47	95	11.577
Iron and steel	19.10	7	23.265
Metal products	16.78	28	20.514
Electrical and electronic mach.	22.87	27	21.527
Vehicles & automotive components	29.91	26	31.314
Leather and footwear	60.00	4	.000
Non-metallic mineral products	24.95	10	30.681
Total	20.10	328	21.841

Table 17 shows the destination of exports from Durban firms. SADC is the main market for Durban firms, with 73.5% of firms exporting to that market. This makes up 56.6% of total exports of Durban firms.

**Table 17. Exports by destination**

	Firms exporting to specified destination (%)	Average percent of exports sold to the specified destination (2001)
SADC	73.5	56.6
Rest of Africa	36.0	22.9
Western Europe	45.9	43.8
Central/East Europe	9.1	43.2
Asia	25.5	22.1
Australasia	23.8	33.8
North America	20.8	34.2
Rest of Americas	7.3	18.7

Note: since firms export to more than one market the percentages do not add to 100%.

Table 18 shows that the SADC market is the focus of the activities of firms in all but two sectors of GDMA manufacturing. Most 'Textiles' firms export to the Western European and North American markets. 77% of firms in 'Vehicles' export to Western Europe.

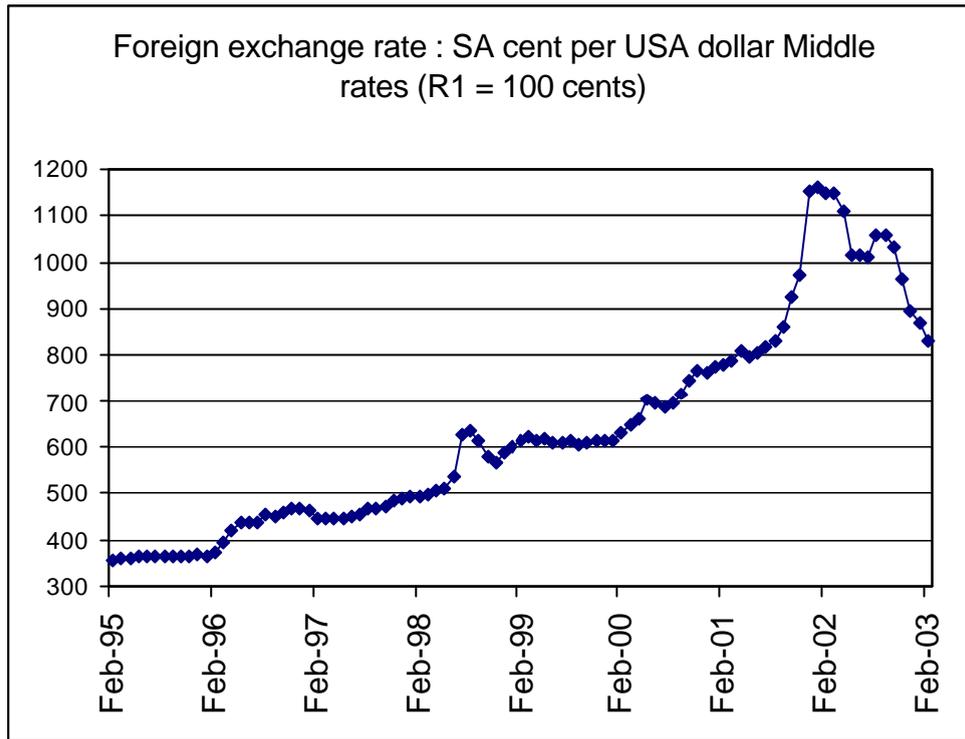
**Table 18. Exports by Destination and Sector (percentage of firms in sector exporting to various markets)**

	Food processing & beverages	Textiles	Paper & furniture	Chemical products	Iron & steel	Metal products	Electrical & electronic machinery	Vehicles & automotive components	Leather & footwear	Non-metallic mineral products
SADC	76.5	36.2	63.5	92.1	100.0	78.6	65.4	70.4	100.0	86.7
Rest Africa	23.5	14.6	36.5	48.5		53.6	19.2	46.2	50.0	40.0
West Europe	23.5	68.8	46.2	36.0	16.7	46.4	42.3	77.8	50.0	43.8
Central/East Europe	8.8	22.9	3.8			7.4	34.6		50.0	13.3
Asia	39.4	14.6	9.6	36.0		10.7	46.2	25.9	50.0	18.8
Australia	39.4	22.9	26.9	18.8	50.0	25.9	15.4	30.8	50.0	
North America	23.5	63.8	19.2	7.9	16.7	7.4		23.1	50.0	25.0
Rest of Americas			15.4	7.9			14.8	15.4		6.7

## 6.2 EXCHANGE RATE SHOCKS AND EXPORT BEHAVIOUR

The reintegration of the South African economy into global markets has not only allowed firms to increase their exports, it has also had the effect of increasing competition and the volatility of the South African economy. An important aspect of this volatility has been fluctuations in the exchange rate which, as outlined earlier, was seen as an important constraint to growth by CEOs of GDMA firms. This volatility in the exchange rate is shown in Figure 8. The fieldwork for the GDMA survey was conducted over the period May 2002 to April 2003, just after a period of major depreciation of the Rand and during a period when the Rand was appreciating. We know, from the analysis of CEO's responses to the constraints to growth, that this volatility is a key constraint to firm growth. We explore here how firms responded to fluctuations in the exchange rate. As Figure 8 shows, the third quarter of 2001 marked a steep depreciation in the value of the Rand. Firms were asked to explain their response to this depreciation for the period up to September 2001, when the Rand was depreciating steadily and was valued at around 8 to the US dollar, and for the period from mid-September when the Rand was depreciating steeply and was valued at around 10 to the US dollar. Unfortunately, we are unable to assess the response of firms after February 2002, when the Rand began appreciating.

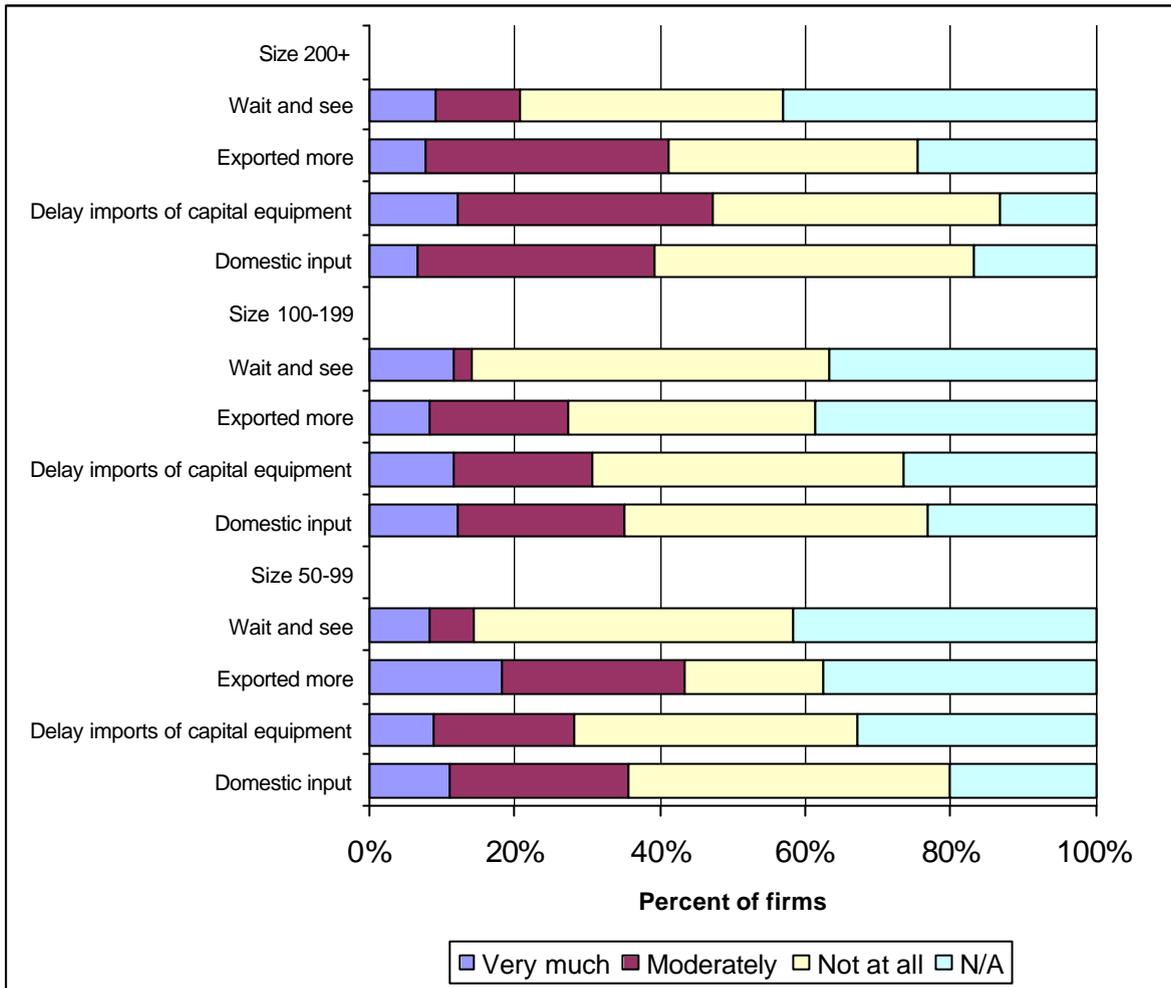
**Figure 8. Exchange Rate Volatility**



Source: South African Reserve Bank.

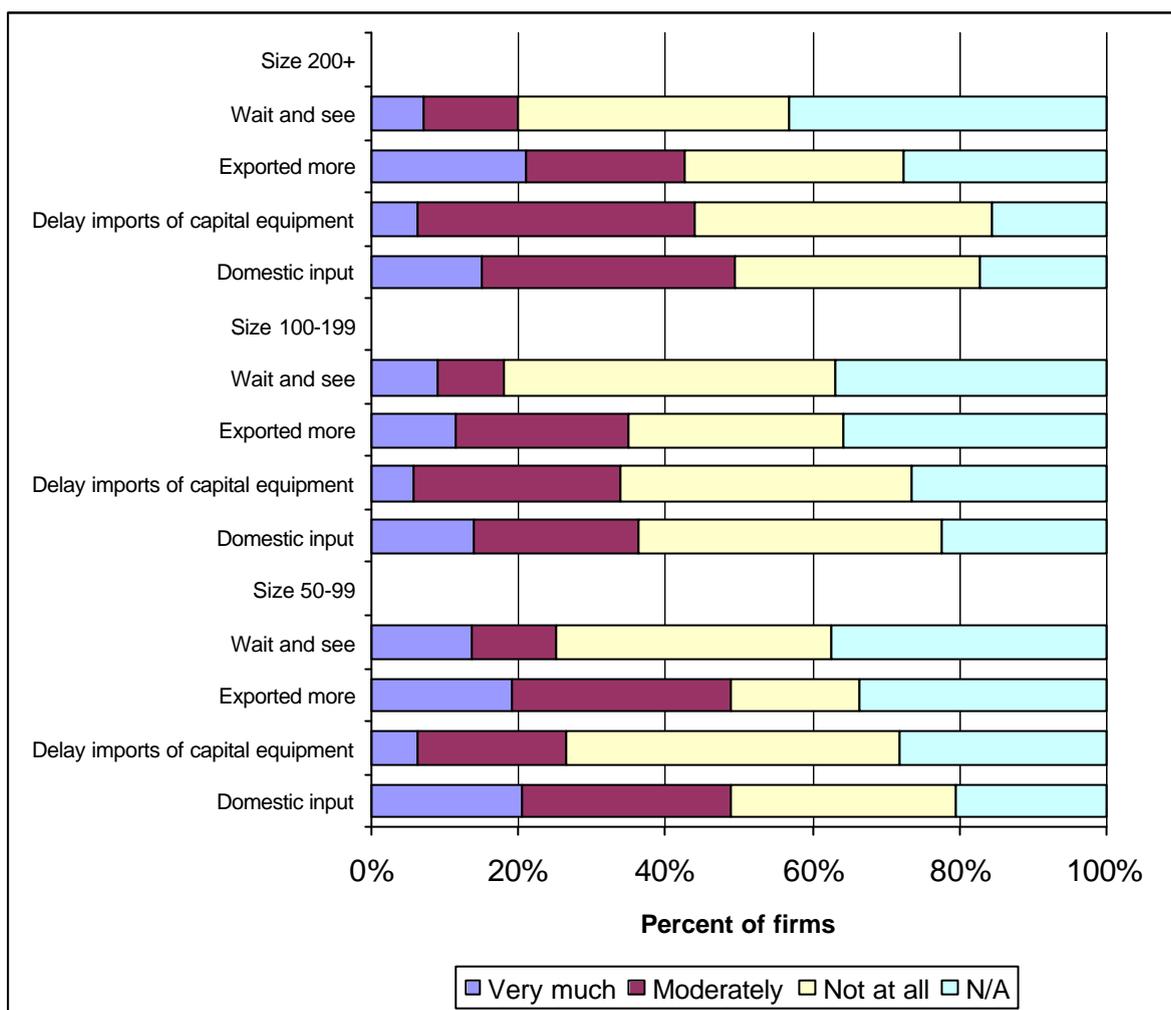
Firms responded to the depreciation of the Rand in four ways: they did nothing (wait and see), they exported more, they delayed their purchase of imported capital goods, they substituted domestic inputs for imports. Surprisingly, in the period prior to September 2001, smaller firms were able to export more than larger firms, even though larger firms are more export oriented. A significant proportion (just over 20%) of large (class size 3) firms adopted a cautious 'wait and see' approach, suggesting that although exports did grow, the export response to the depreciation was muted, particularly for larger firms. It may be possible that larger firms were unable to expand their production to fully exploit the new export opportunities because expanding their production depended on imports of machinery, which as Figure 9 shows were curtailed in response to the depreciating currency. On a positive note, the depreciation may have offered small firms an important entry opportunity into export markets.

**Figure 9. Responses to Depreciation – GDMA (to the beginning of September 2001)**



During the period of rapid depreciation, after mid-September 2001, smaller firms were again able to grow their exports more extensively than larger firms. During this period, however, a larger proportion of small firms adopted a cautious approach. Unlike the GDMA, *large* firms in the GJMA rather than smaller firms were most able to increase their exports when the currency depreciated.

**Figure 10. Responses to Depreciation – GDMA (from mid September 2001)**

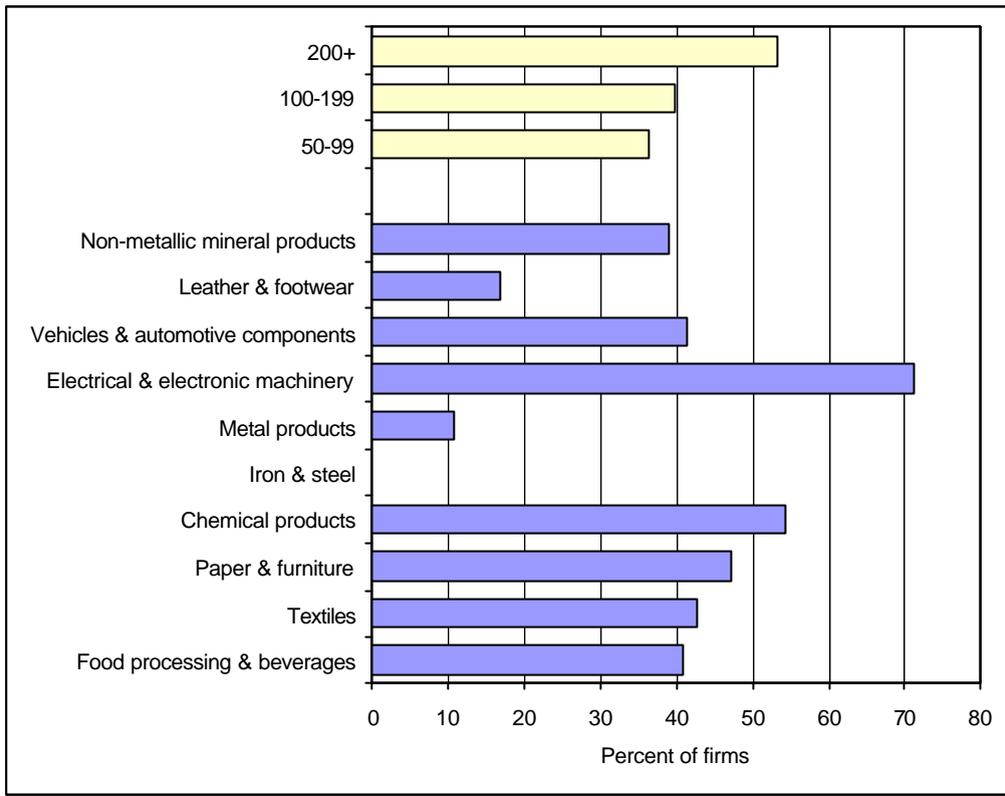


### 6.3 EXCHANGE RATES AND FORWARD CONTRACTS

Given that CEO's reported that exchange rate volatility is a critical barrier to firm growth, and the evidence above that, in response to a depreciation in the currency large numbers of firms adopted a 'wait and see' approach and did not fully exploit the export opportunities available, it is important to investigate how firms in the GDMA managed the currency risks arising out of international transactions.

As we would expect, firm size is an important factor explaining hedging. Figure 11 below shows that 53% of larger firms purchased forward cover, whilst 39% and 36% of medium sized and smaller firms respectively purchased forward cover. Industrial sector is also, as the Figure shows, an important factor in firm's hedging behaviour. 72% of importers and exporters in the machinery industry, where unit costs of imports and exports are likely to be high and therefore currency risk is likely to be high, purchased forward cover to reduce their risk. A significant proportion of firms in the chemicals, textiles, food, vehicles and minerals products sectors purchased forward cover. None of the firms in the iron and steel sector, and a small number of firms in metal products manufacturing hedged their currency exposure.

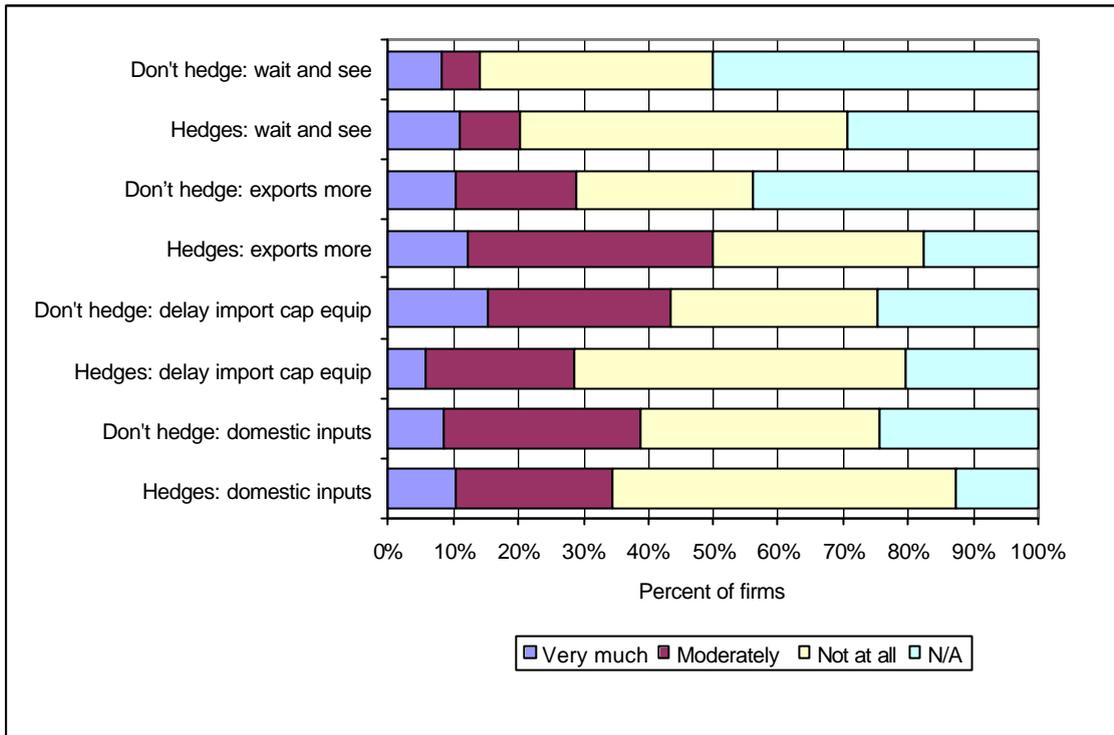
**Figure 11. Forward contracts on foreign currency exposure, 2001 (exporters and importers, n = 432).**



Note: Associations between sector and size and hedging through forward contracts is statistically significant ( $\chi^2=35.91$ ,  $df=9$ ,  $p<0.05$  and  $\chi^2=10.23$ ,  $df=2$ ,  $p<0.05$ , respectively).

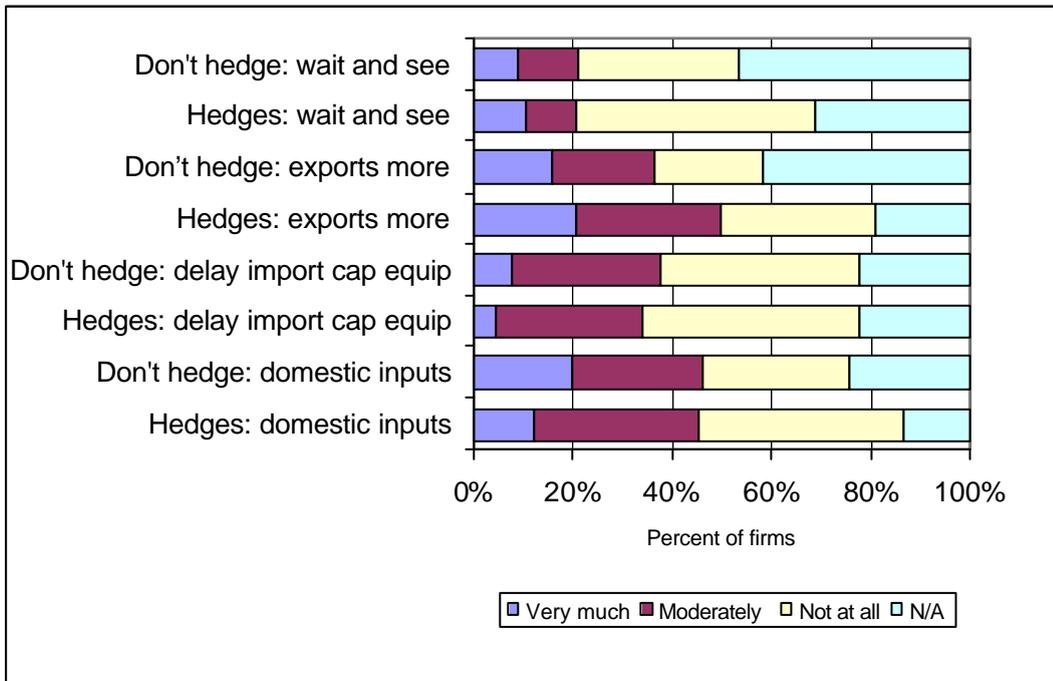
Since hedging through forward cover reduces the foreign exchange risks that exporter and importers face, it is important to investigate whether firms that hedged against risk behave differently from firms that did not. Figure 12 and Figure 13 examine whether hedged firms adopted different strategies for period up to the beginning of September 2001 and for the period after mid-September 2001.

**Figure 12. Comparing response to currency depreciation, up to beginning of September 2001 (all firms, hedged and not hedged)**



For both episodes, firms that were hedged behaved less cautiously and were able to export more. Firms that were hedged were less inclined to delay imports of important capital equipment or to import substitute.

**Figure 13. Comparing response to currency depreciation, after mid-September 2001 (all firms, hedged and not hedged)**



#### 6.4 TRADE POLICY AND BARRIERS TO EXPORT GROWTH

Although the country has undergone a process of rapid trade liberalisation – protection levels have fallen and quantitative restrictions on trade have largely been removed – the South African economy is still characterised by relatively high levels of protection (see Cassim, Onyango and Van Seventer, 2002). During this period of liberalisation, export incentives have also been eliminated, thereby reducing the incentive for firms to export. This is probably one of the reasons why large numbers of firms in the GDMA remain focussed exclusively on the domestic market.

The trade liberalisation process affects firms in a number of ways. On the one hand lower tariffs have the effect of increasing foreign competition in the domestic market. Table 19 shows that this effect was felt significantly by only 12.3% of GDMA firms, and moderately by 26.1% of firms. It is interesting to note that medium sized firms were most significantly affected by foreign competition, and that large firms were more significantly affected than small firms. In total, 47% of firms did not feel that tariff liberalisation negatively affected their sales. There were important sectoral differences in how lower tariffs affected firms' sales. In 'Leather', 55.5% of firms sales was negatively affected by increased foreign competition as a result of lower tariffs. Other sectors where large numbers of firms (above 40%) were negatively affected are 'Vehicles' (47.8% of firms), 'Textiles' (43.9%), 'Machinery' (42%) and 'Paper' (40.7%) her hand, firms benefit from lower input costs, thereby allowing them to compete more effectively.

**Table 19. Effect of Lower Tariffs, Reduced Sales due to Foreign Competition**

EFFECT	Percent of Firms in size classes and total			TOTAL
	50-99	100-199	200+	
Significant	7.8	19.0	11.3	<b>12.3</b>
Moderate	33.0	23.0	23.2	<b>26.1</b>
Little	20.0	9.0	14.4	<b>14.6</b>
None	39.1	49.0	51.2	<b>47.0</b>
<b>TOTAL</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Reduced levels of tariff protection can have a positive impact by reducing the cost of inputs. Table 20 illustrates that just 10.1% of firms perceived a significant reduction in input costs as a result of lower tariffs. Medium sized firms, where most were negatively affected by lower tariffs, experienced the most significant positive effect.

**Table 20. Effect of Lower Tariffs: Lower Input Costs, Percent of Firms**

EFFECT	Percent of firms in size classes and total			TOTAL
	50-99	100-199	200+	
Significant	12.2	13.6	6.5	<b>10.1</b>
Moderate	20.0	27.2	29.8	<b>26.2</b>
Little	14.8	14.6	13.1	<b>14.0</b>
None	53.0	44.7	50.6	<b>49.7</b>
<b>TOTAL</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

The motivation for trade liberalisation and export growth is based not only on the

argument that lower tariffs foster competition and reduce lower input costs, but also on the argument that exports generate learning and dynamism among firms, thereby improving productivity.<sup>32</sup> In order to explore this issue for GDMA firms we investigate whether exporting firms are younger than non-exporting firms (dynamism), whether exporting firms are more efficient at managing their stock levels, and whether exporting firms spend more on training their workers.

Table 21 shows the average age of firms in the GDMA by their import and export status. Firms that are focussed exclusively on the domestic market are, on average, younger than firms that engage in international trade. Firms that are involved in both exports and imports tend to be the oldest firms in the GDMA. The differences in firm age are statistically significant.<sup>33</sup>

**Table 21. Age of Firm by Export and Import Status**

Type of Firm	No of Firms	Mean Age of Firm
Exporter Only	34	20.9
Exporter and Importer	308	27.3
Importer Only	94	21.4
Neither Importer nor Exporter	164	15.7
<b>Total</b>	<b>600</b>	<b>22.8</b>

Table 22 examines whether there are any differences in the way that firms manage their stocks, depending on their import and export status. Firms that both import and export hold a product, on average, in their inventory for 45.9 days. This is higher than firms that only import (34.1), only export (28.7) or neither import not export (16.1). These differences are statistically significant.<sup>34</sup>

**Table 22. Stock control by Export and Import Status**

Type of Firm	No of Firms	Mean number of days a product is held in stock
Exporter Only	29	28.7
Exporter and Importer	287	45.9
Importer Only	81	34.1
Neither Importer nor Exporter	149	16.1
<b>Total</b>	<b>546</b>	<b>35.1</b>

Table 23 shows that firms that are both exporters and importers spend substantially more on training that all other firms. Firms that neither export nor

<sup>32</sup> Although this argument is often made, its lacks empirical verification (see Clerides, Lach and Tybout, 1998).

<sup>33</sup> The analysis of variance test is significant at the 5% level (the F-statistic = 14.6). The post-hoc Tamhane tests shows a statistically significant difference between firms that are exporters and importers, and importers and firms that neither export nor import.

<sup>34</sup> The analysis of variance is significant at the 5% level (F statistics = 15.2). The post-hoc Tamhane test shows that firms that are exporters and importers are significantly different from firms that only export and firms that neither export nor import. Firms that neither export nor import are significantly different from all other classes of firms.

import spend the least on training. These differences are statistically significant.<sup>35</sup>

**Table 23. Expenditure on Training by Export and Import Status**

Type of Firm	No of Firms	Mean total expenditure on training, R 000
Exporter Only	14	263.6
Exporter and Importer	223	822.3
Importer Only	51	100.9
Neither Importer nor Exporter	92	59.3
<b>Total</b>	<b>380</b>	<b>520.0</b>

Table 21 to Table 23 suggest that firms that both export and import stand out as a group compared to other firms, especially firms that do neither exporting nor importing. Firms that both export and import tend to be older, they tend to hold a product in stock for a longer period of time, and they tend to spending more on training. The evidence on whether exporting (and exporting and importing firms) are more dynamic and productive is therefore mixed. Caution must, however, be exercised in making any conclusions based on these data. There may be good reasons for firms that both export and import to hold products in stock for longer periods of time (they may produce more complex products) and for these firms to be older (it may be that more experienced firms do better in the international market).

Table 24 shows the top 5 competitors that GDMA firms face in foreign markets. The number in brackets indicates the number GDMA firms that compete with foreign in these markets. As expected, in the SADC market, most firms compete with South African firms. The second most important source of competition in SADC is Mauritius. This is probably due to the prominence of textiles manufacture in both GDMA and Mauritius. In the rest of Africa, South African firms, US firms, and firms from Botswana, Mauritius, Namibia, Germany and the Far East are the source of competition. In other foreign markets, local firms in each market are the main source of competition. It is interesting to note that in all developed country markets, China is a source of competition for GDMA firms, though this is not the main source of competition. GJMA firms, in contract to GDMA firms, did not perceive that they were competing with Chinese firms in the major developed country markets.

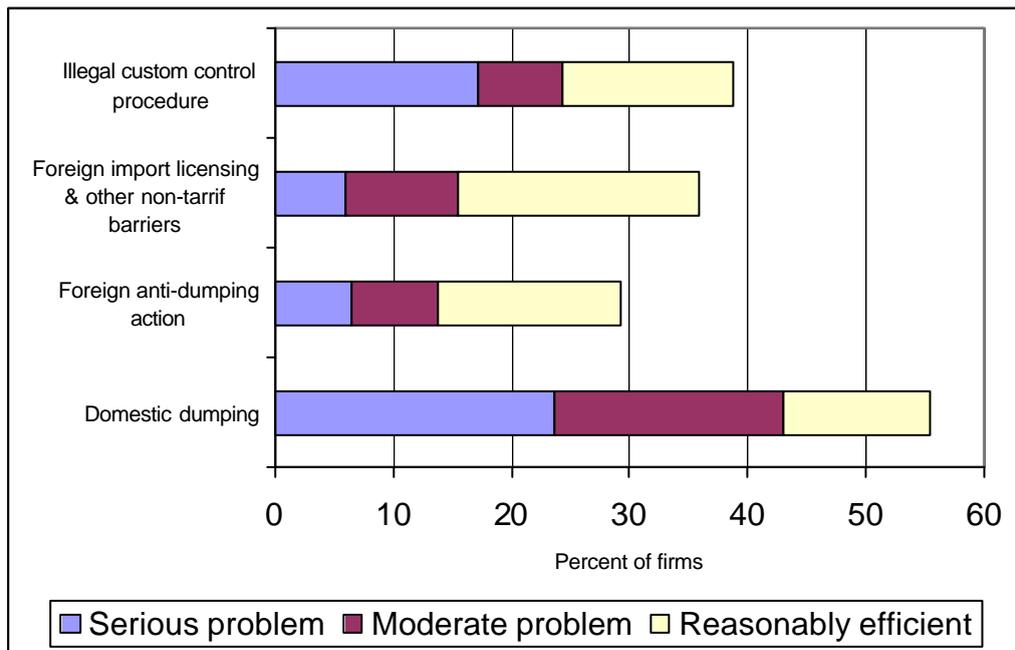
<sup>35</sup> The analysis of variance is significant at the 5% level (F statistics =8.4). The post-hoc Tamhane test shows that firms that are exporters and importers are significantly different from all other classes of firms.

**Table 24. Competitors in Foreign Markets**

Market	Competitor 1	Competitor 2	Competitor 3	Competitor 4	Competitor 5
SADC	South Africa (76)	Mauritius (18)	Germany (14)	United States (8)	China (7)
Rest of Africa	South Africa (13)	United States (11)	Botswana/ Germany/ Mauritius/ Namibia/ Far East (6)		
Western Europe	United Kingdom (57)	France (24)	Germany (20)	China (10)	Turkey (8)
Eastern Europe	United Kingdom (8)	Rest of world (4)	Brazil/ China (3)	United States (1)	
Asia	China (20)	India (16)	Indonesia/ Japan (10)	Germany (8)	
Australasia	Australia (34)	India/ New Zealand (6)	China/ Pakistan (4)		
North America	United States (38)	China/ India/ United Kingdom (4)	Canada (3)		
Rest of Americas	Brazil (5)	Rest of world (4)	-		

Figure 14 below shows the domestic dumping by foreign firms is a problem affecting 43% of GDMA firms. Illegal customs control procedures is also a significant problem for firms. A large number of firms also reported being constrained by non-tariff barriers in foreign markets and, to a lesser extent, by foreign dumping actions (which affected their exports).

**Figure 14. Firm Rating of Trade Barriers**

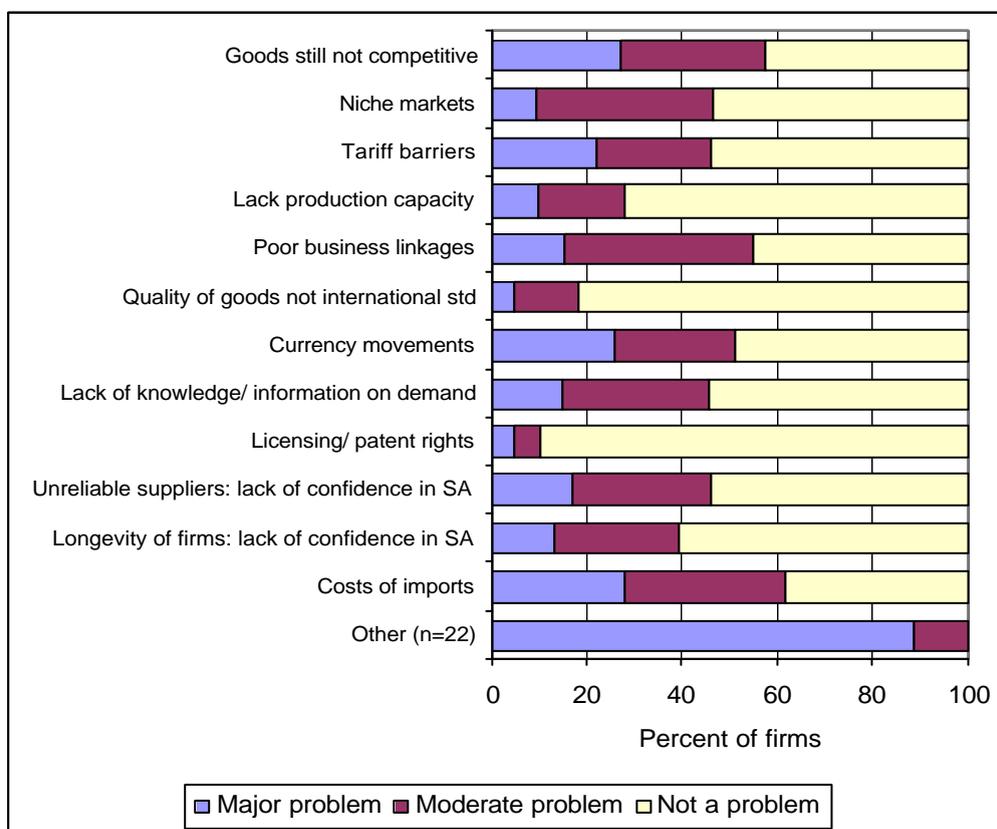


Note: Exporters only.

Firm responses to these trade barriers differed in important ways by sector. Domestic dumping by foreign firms was a problem for 62% of firms in 'Leather' and 'Textiles' and was also a problem, though to a lesser extent, for firms in 'Iron and Steel', 'Chemicals' and 'Paper'. Dumping actions in foreign markets mainly affected firms in 'Iron and Steel', Non metallic Minerals', 'Chemicals' and 'Food'. Foreign import licensing was a problem for 38% of firms in 'Food', 37% of firms in 'Iron and Steel', 26% in 'Machinery' and 25% in 'Chemicals'. Illegal custom control measures posed a problem for 35% of 'Machinery' firms, 33% of 'Textiles' and 'Food' firms, 28% of 'Chemicals' firms and 27% of 'Leather' firms.

Figure 15 below illustrates firms' perceptions of the reasons why they were unable to increase their exports (despite the depreciation in the Rand). The most important barrier to increased exports is the high cost of imports. This suggests, and is confirmed by our earlier evidence, that exports among GDMA firms are linked closely to imports. This is an important policy issue, since it suggests that the export response to depreciating currency is likely to be limited in the GDMA. Policies aimed at increasing exports will have to address the underlying competitiveness of firms. 58% of firms reported that the products were not competitive in international markets, despite the currency depreciation. Other important barriers to export growth are inadequate business linkages, the fact that the currency depreciation may not have benefited GDMA firms in the particular export markets in which they operate, high tariff barriers in foreign markets, a lack of confidence in South African firms in foreign markets, the fact that firms exported to niche markets where demand was not price sensitive, and a lack of knowledge on demand for goods in the export market.

**Figure 15. Firm Ratings of Barriers to Export Growth (n=340)**



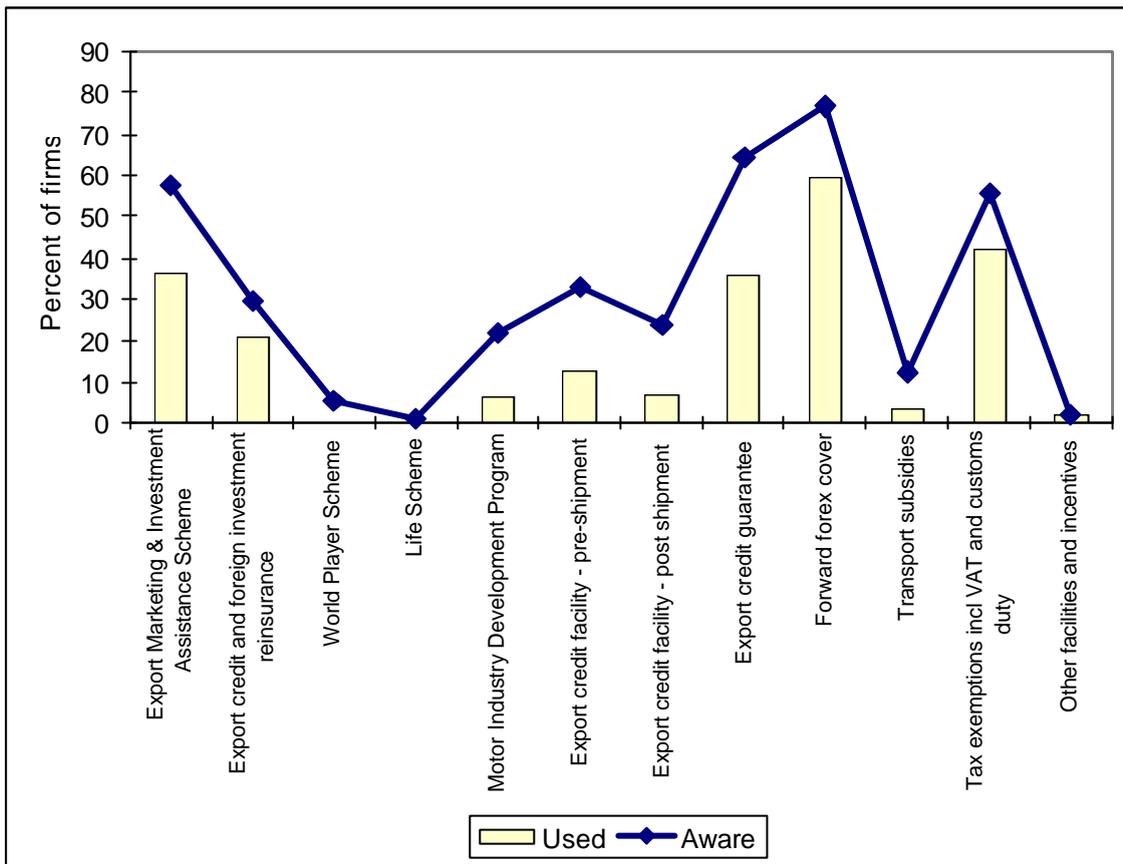
Size of firm is an important factor in the way that firms perceived these barriers to export growth. With respect to all of the barriers in Figure 15, except currency movements and quality standards, the largest firms are more likely not to be constrained by the particular barrier. These differences are all statistically significant. The differences by firm size for currency movements are not significant. Small firms, in particular, have difficulties producing to international standards.

## 6.5 GOVERNMENT INDUSTRIAL SUPPORT MEASURES

Through the DTI, government offers a number of special incentive programmes aimed at assisting firms to compete internationally and to increase the level of exports. In particular, it offers a wide range of support measures, some of which are designed specifically to address some of the issues highlighted as constraints to export growth by GDMA firms. The Export Marketing and Investment Assistance (EMIA) scheme, for example, is designed to assist firms by supporting the costs of developing new export markets, and to build new business linkages.

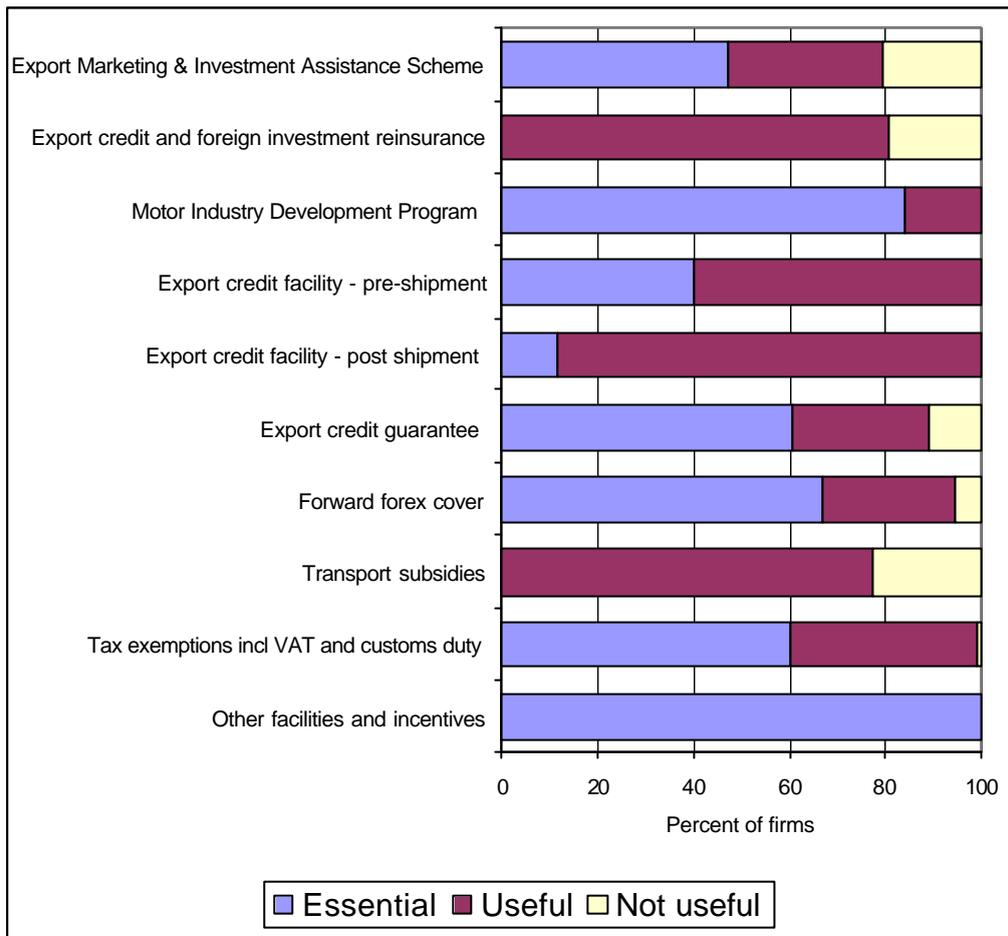
Figure 16 reports on firms usage and awareness of the various government support measures, and Figure 17 reports on the importance of these to firms. There is a clear relationship between firms awareness of the programmes and their usage of thereof. It is evident that both the awareness and usage of the support measures is low in the GDMA. The most extensively used programmes were those linked to the price of traded goods: the forward forex cover, tax exemptions and export credit guarantee schemes. 37% of firms used the EMIA scheme. Surprisingly, the World Player Scheme, aimed at improving the competitiveness of the textile, clothing, footwear and motor vehicle sectors, is only used by 6% of firms, even though these sectors are well represented in the GDMA.

Figure 16. Awareness and Use of DTI Support Measures



Although its use is limited in the GDMA, the Motor Industry Development Programme (MIDP), is deemed by GDMA firms to be most essential for exports. Consistent with their usage, the programmes linked to the price of traded goods: the forward forex cover, tax exemptions and export credit guarantee schemes, and the EMIA are deemed essential for exports.

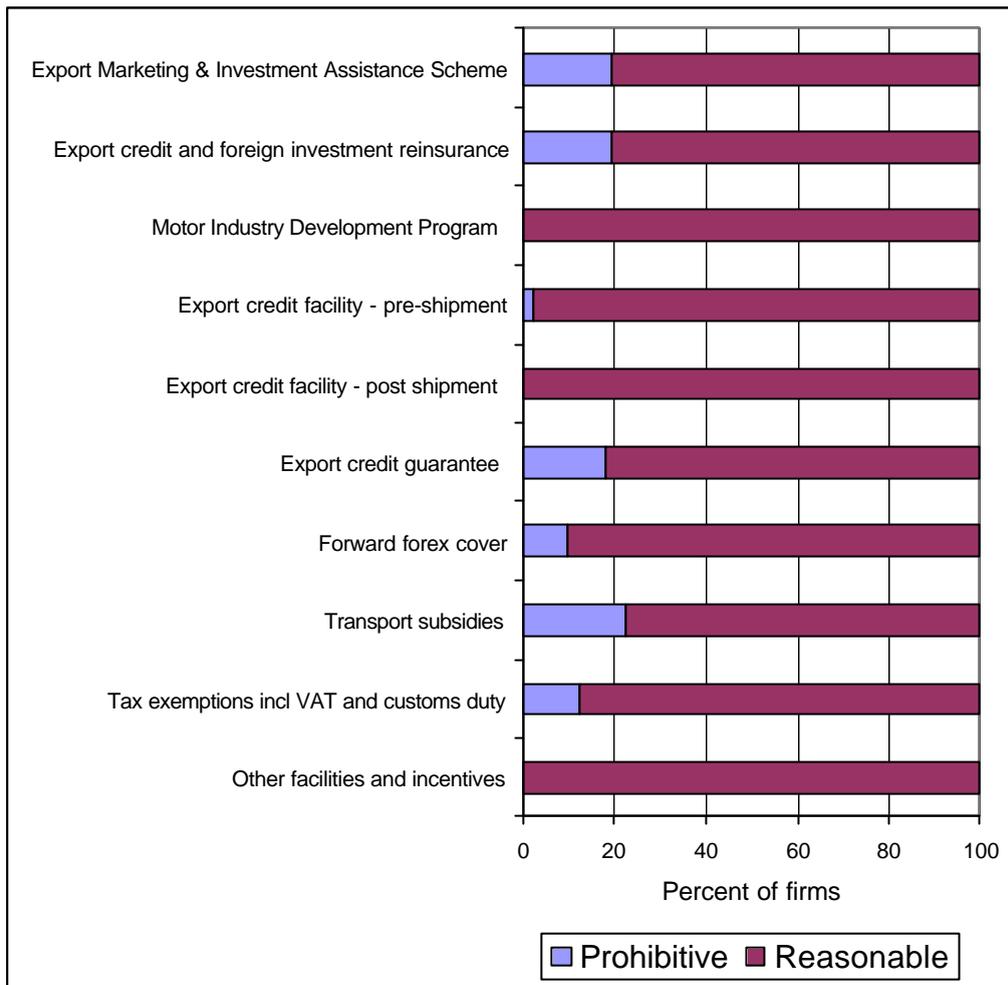
**Figure 17. Importance of DTI Support Measures**



In general, as Figure 18 shows, firms considered the costs<sup>36</sup> of the government support measures to be reasonable. It is interesting to note that the most extensively used programmes, were considered by some firms to be prohibitively expensive, although this was a minority of firms. The MIDP and the pre-shipment credit facility schemes are considered to be most cost effective.

<sup>36</sup> There are costs associated with a number of the DTI schemes. The export credit guarantee scheme, for example, only covers part of firms risk.

**Figure 18. Firm Rating of the Costs of DTI Support Measures for Exports**



## 7 HIV/AIDS

## 8 CORRUPTION

## 9 HUMAN RESOURCES AND SKILL ISSUES

When considering the major constraints to growth, availability of technical and vocational skills were ranked as the fourth and second major constraint to growth by the medium and large firms respectively. More specifically, 'skill shortages' ranks fifth when weighted major and moderate are combined (see last part of Table 12, p. 21). This theme is not a new; this particular constraint to manufacturing expansion ranked six in the GJMA survey. From Table 25, which reports the responses across firm size, it can be observed that skill shortages are perceived as a greater problem for larger firms than for other firm types.

**Table 25. Skill shortages as a constraint to growth (n=600): distribution according to firm size – GDMA, 2002/2003**

		SIZE			Total
		50-99	100-199	200+	
Not a problem/ not applicable	Count	89	90	60	239
	% within SIZE	40.1	50.8	29.9	39.8
Moderate problem	Count	92	34	71	197
	% within SIZE	41.4	19.2	35.3	32.8
Major problem	Count	41	53	70	164
	% within SIZE	18.5	29.9	34.8	27.3
Total	Count	222	177	201	600
	% within SIZE	100	100	100	100

Note: The differences are statistically significant with  $\chi^2=36.771$ ,  $df=4$  and  $p=0.000$ .

Availability of technical and vocational labour skills appears to further vary depending on the sector considered (Table 26); skill shortage is *the* major constraint to growth for the small 'iron and steel' manufacturing sector. It has a very low rank for 'metal products' and 'vehicles and automotive components' after constraints generated by 'changes in government policies'.

**Table 26. Availability of technical and vocational labour skills as a constraint to growth: ranking across sectors– GDMA, 2002/2003**

Above total rank	Similar rank to total	Below total rank
Iron and Steel (1)	Leather & footwear (5)	Food processing & bev. (7)
Electrical and electronic mach. (3)		Paper & furniture (7)
Non-metallic products (3)		Metal products (9)
Textiles (4)		Vehicles & automotive components (9)
Chemical products (4)		

Note: Based on weighted moderate/major responses. The rank of the factor as a constraint to growth amongst the list of constraints for the sector is given in brackets.

Human resource development is a major area of concern for the South African authorities that are focused on issues of how the process of development is to be carried out. It was already one aspect of the Growth, Employment and Redistribution (GEAR) macroeconomic framework to restore confidence in the South African economy. Specific skill gaps have been identified in South Africa through recent surveys; the Human Science Research Council (HSRC), for instance, emphasised an unmet demand for skills from professionals.<sup>37</sup> Areas of skill shortages were documented in a survey of organisations through the difficulties firms had in recruiting engineers, IT specialists and other professionals (i.e. analysts, accountants). There are numerous complex explanations of the shortages. On the demand-side, shortages were, for instance caused by an expansion of sectors of activities intensive in technical skills. Thus, the Department of Labour (2001, p. 34-35) documents the growth in professional, managerial and transport-related occupations between 1970 and 1995. On the supply-side, growing mismatches are created by declining completion and pass

<sup>37</sup> There were variations across sectors of activities with the gap more pronounced in the expanding service sector.

rates in the education system and by emigration. Excessive emigration, observed to be accelerating since 1994, bears disproportionately on the high skill group. According to Department of Labour (2001a, p. 32), “[m]ore than half (54% [in 1997]) of these official emigrants occupied professional, or semi-professional or managerial positions.”

This chapter provides some insights into human development issues. Emphasis in the survey was given to employers’ demand for skills and to their role as providers of skills. As such, the discussion is limited to documenting the difficulties firms face in their recruitment process and the adjustments undertaken to address skill shortages. This chapter starts with a detailed presentation of some salient characteristics of the manufacturing workforce (*Section 9.1*). The discussion then shifts focus onto the pattern of vacancies, some of the main causes for these vacancies and on the preferred methods available to the firms to fill positions (*Section 9.2*). Attention then turns to setting out in which work areas human resource managers report skill shortages. Training, a shorter term strategy available to firms to address skill gaps and to enhance their internal human resources is then described (*Section 9.3*). The key issues and some basic characteristics of manufacturing human resource development in the GDMA are then summarised (*Section 9.4*).

#### 9.1 KEY CHARACTERISTICS OF THE MANUFACTURING WORKFORCE

Human resource managers expressed preferences towards workers within the 25-45 age group and towards workers with previous work experience. Although 43.9% of firms expressed no preference concerning the age of production workers when recruiting, 51.8% reported recruitment in the 25-45 age category (against 3.7% of recruitment taking place in the 16-24 age group and another 0.3% of applicants of 46 years of age or older). The importance of work experience comes through sharply in the responses. Work experience markedly improves the probability of being recruited (Table 27). This is discussed next.

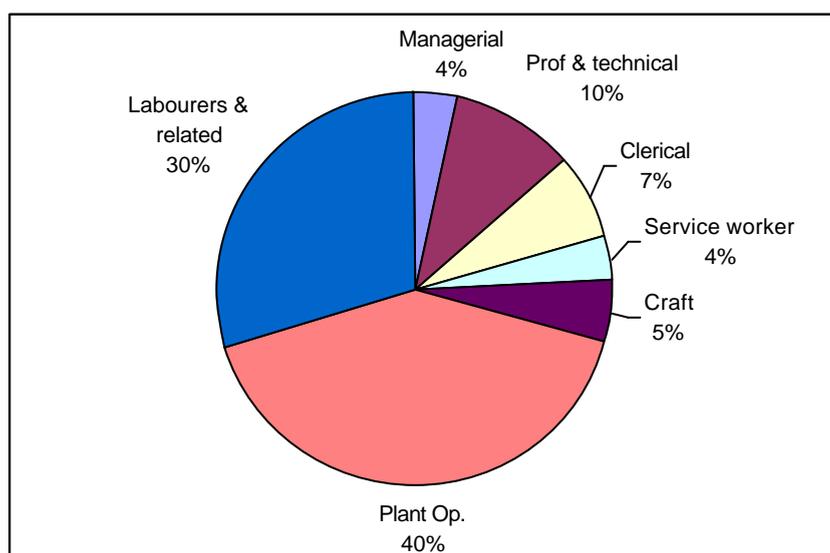
Following the methodology of the GJMA/South Africa survey, as many as 82% of firms in the GDMA recruit applicants that have previous work experience. 45.7% (a figure similar to that for South Africa in 1998) of the recruits have secondary education. 32.4% of firms recruit applicants with *relevant* work experience. Primary education (with or without work experience) and vocational education (in addition to work experience) are the least favoured characteristics. The latter in fact suggests that vocational training is a poor substitute for prior *relevant* work experience. The positions expressed towards candidates with ‘work experience and vocational’ training are quite unlike those expressed for South Africa for which it was the second most preferred category. In the GDMA, only 6% of recruitments with ‘work experience and education’ incorporated a vocational component. This compares to 16.7% of such recruitments incorporating tertiary education.

**Table 27. Experience of workers when recruiting (n=600) – GDMA, 2002/2003**

	Frequencies	Percent
Relevant work experience only	195	32.4
Primary education only	17	2.8
Secondary education only	82	13.7
Tertiary education only	6	0.9
Both work experience and primary education	39	6.4
Both work experience and secondary education	192	32.0
Both work experience and vocational education	18	3.0
Both work experience and tertiary education	50	8.3
Production is outsourced	3	0.4
<b>Total</b>	<b>600</b>	<b>100</b>

The pattern of recruitment discussed above relates to responses for the largest category of production workers in the establishments. Across manufacturing sectors, the GDMA workforce is dominated by two categories; ‘plant, machine operators and assemblers’ and ‘labourers and related occupations’.<sup>38</sup> These account for 70% of the workforce (Figure 19). Whilst an average GDMA firm had 89 plant operators and 66 labourers, numerous work categories are not well represented across the firms. In particular ‘craftsmen and related occupations’ and ‘service workers’ are present in less than half the firms (in 32.4% and 49.6% of firms only - see the last row and the median number of worker per firm in the GDMA across work categories of Annex Table 13, p. 95). Other figures vary depending on the sector considered.

**Figure 19. Distribution of the workforce across work categories – GDMA, 2001**

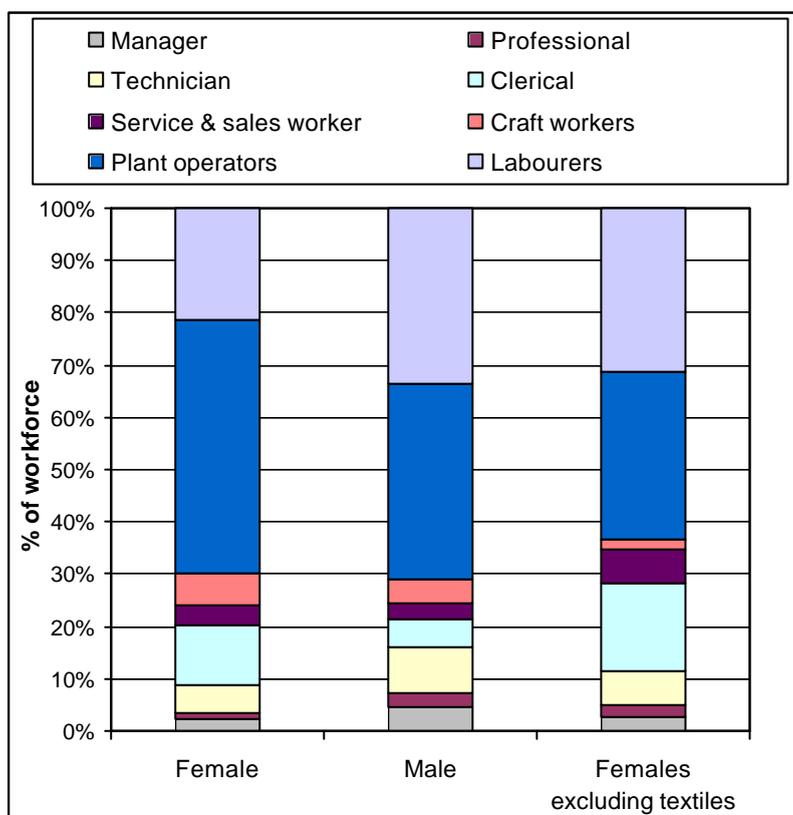


Note: Based on aggregating the total numbers of workers reported by the managers in each of the main work categories

<sup>38</sup> 2001 figures were specifically asked for consistency purposes in some questions. They are reported accordingly.

Human resource managers in 65.3% of firms reported that they were not concerned by the gender composition of their workforce. 19.6% and 14.7% of firms expressed a preference for men and women respectively. Yet, different gender categories are represented in the workforce. Figure 20 shows that although a comparable proportion of male and female workers are similarly represented at the labourer and plant operating level, males dominate the higher skill groups. Females dominate in the semi-skilled clerical category. Excluding the textile sector (which absorbs the bulk of the female workforce – see Figure 3, p. 11), there are comparatively fewer females amongst plant operators and craft-related occupations.

**Figure 20. Gender distribution of the workforce across work categories – GDMA, 2002/2003**

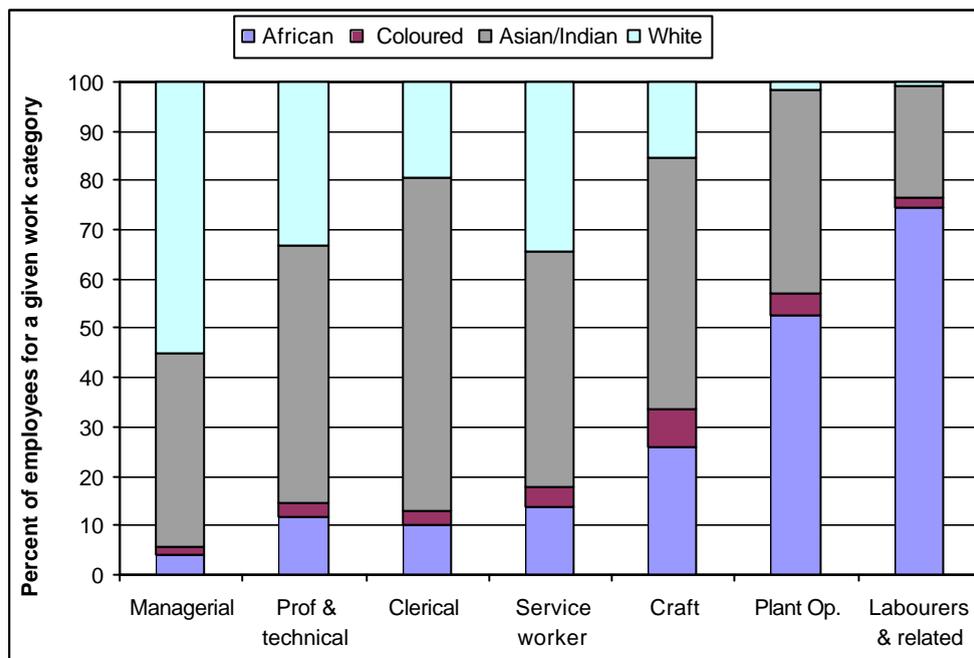


Note: as above.

The racial composition of the GDMA signals a strong Indian/Asian presence across a large number of work categories. This group amounts to between 19% and 68% of the workforce depending on the work category considered. More specifically, Indian/Asian workers dominate the clerical category. Whilst positions at the managerial level are primarily occupied by white workers, their representation in the GDMA is very distinct from that for South Africa (55% in the former compared to nearly 80% for the latter). The Asian presence at the level of 'professional and technical' occupations is also relatively strong (52% contrasted to 33% for the whites whereas the figure for whites was in excess of 70% for South Africa). Another distinctive feature of the racial composition at higher levels of skills is a relatively lower representation of African workers amongst this group than in South Africa (4% and 12% at the managerial and 'professional and

technical' levels respectively). In terms of trends across categories however, white workers occupy, in decreasing order of importance, positions at the managerial, service-related, professional and technical levels. Their presence is negligible in the unskilled work groups. This is a pattern similar to that identified for South Africa. Another similarity is with the fact that African workers are predominantly involved with unskilled work functions (less so in the semi-skilled and high-skill group) as can be observed in Figure 21.

**Figure 21. Racial distribution across work categories – GDMA, 2002/2003**



## 9.2 VACANCIES AND RECRUITMENT

This section starts with an exposition of the number of vacancies in the GDMA. After detailing that there are, in fact, few vacancies available, the channels of recruitment are presented together with the work categories in which managers find recruiting difficult. Given the large number of work categories considered, the discussion then returns to explanations of the vacancies but focuses on work categories for which recruitment is more difficult.

Few GDMA firms had vacant positions at the time of the interviews. In 2002/2003, 71.9% of firms reported no vacancy and another 6.4% reported one vacant post only. 91.1% of GDMA firms had between zero and five vacancies. The pattern however varies notably across firm types and size 3 firms had an average of nine vacancies (Table 28). Yet at least 50% of firms in each of the firm size group had no vacancies.

**Table 28. Number of vacancies across firm size – GDMA 2002/2003**

SIZE	Frequencies	Mean	Median	Sum
50-99	222	0.4	0	89
100-199	177	1.1	0	189
200+	201	9.1	0	1821
<b>Total</b>	<b>600</b>	<b>3.5</b>	<b>0</b>	<b>2098</b>

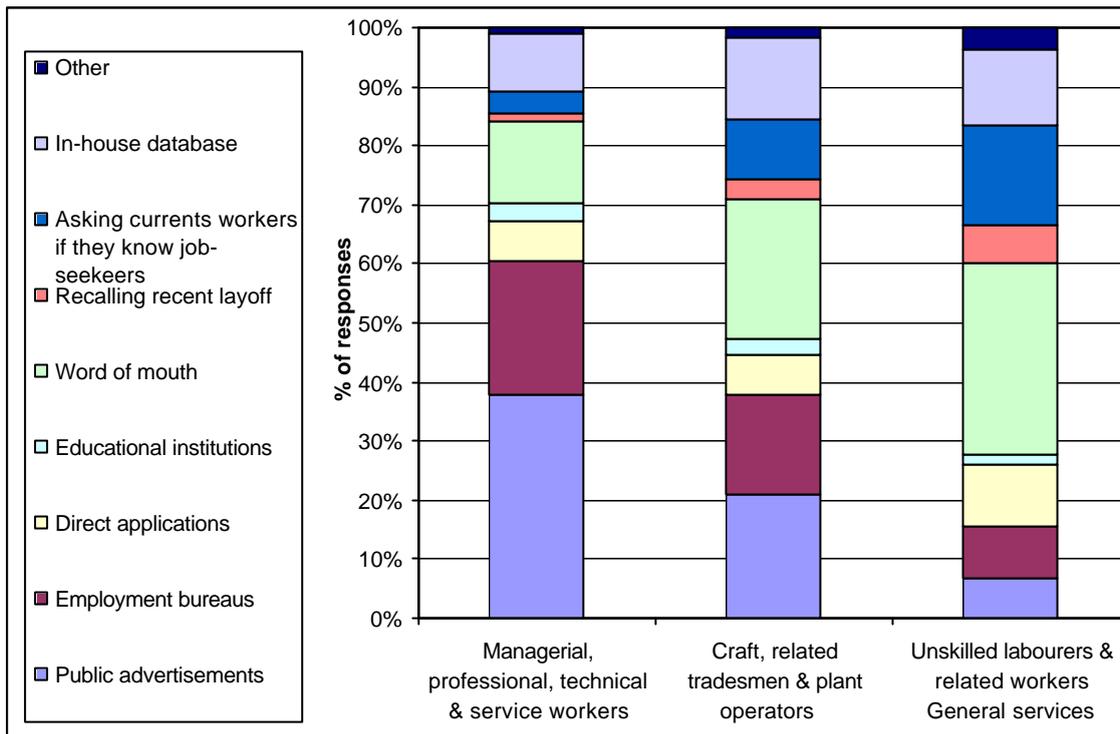
There are nuances in terms of the number of available vacancies across sectors. The largest number of vacant posts was in ‘textiles’ and ‘vehicles and automotive components’ (Table 29). Vacancies in these two sectors accounted for 62.7% of all GDMA vacancies.

**Table 29. Sectoral distribution of vacancies – GDMA, 2002/2003**

Sector	Count	Mean	Median	Sum
Food processing & bev.	61	0.6	0	37
Textiles	152	4.8	0	736
Paper & furniture	85	3.0	0	256
Chemical products	123	3.1	0	387
Iron & steel	8	0.3	0	3
Metal products	49	0.8	0	38
Electrical & electronic machinery	31	0.5	0	15
Vehicles & automotive components	41	14.1	0	579
Leather & footwear	26	1.1	0	28
Non-metallic mineral products	24	0.8	0	20
<b>Total</b>	<b>600</b>	<b>3.5</b>	<b>0</b>	<b>2098</b>

The pattern of recruitment suggests that GDMA firms face relatively high costs in their search for employees. Distinct patterns of recruitment emerge across skill levels (see Figure 22). Positions at the managerial, professional, technical and service levels are filled – in decreasing order of relevance - through public advertising, employment bureaus, educational institutions and by the firms consulting their in-house database. Those in the area of craft, related tradesmen and plant operators are through word of mouth, in-house database and employment bureaus. Finally, filling positions for the unskilled (unskilled labourers and related workers and those involved with general services) is a process that is heavily reputation driven. The recruitment of unskilled workers is organised through recommendations (word of mouth and asking current workers about prospective employees), and by recalling recent layoffs. Other channels for the recruiting of unskilled workers are through the employment service of the Department of Labour (DoL) and by considering direct applications, albeit to a limited extent. In spite of implicitly high search costs, 71.5% of firms reported that they did not give priority to friends or family or to the families of the current workers when hiring (n=598).

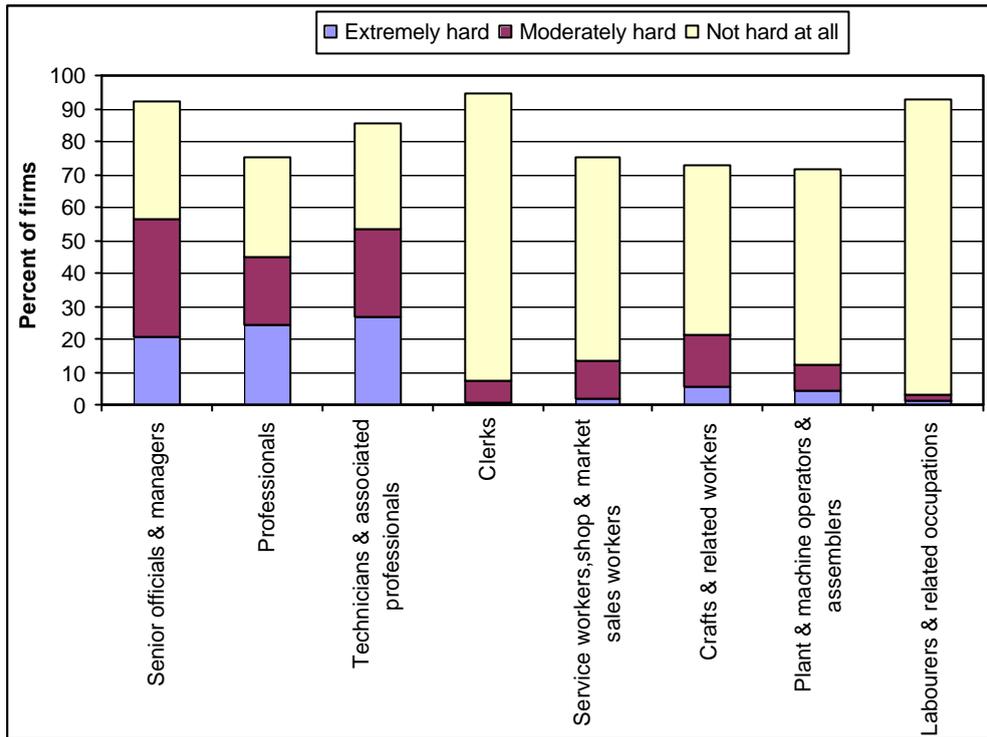
**Figure 22. Channels of recruitment across employment categories – GDMA, 2002/2003**



Notes: Based on a total of 2815 responses (respectively 896, 952 and 967 responses). The category 'Other' includes Employment service of the DoL as a channel of recruitment. The percentages refer to the total of the responses for each of the category.

Whilst the above pattern indicates that there are issues of quality assurance in terms of filling vacancies at the unskilled level, a few work categories were reported in the GDMA survey as extremely or moderately hard to fill. Difficulties were expressed by more than half the firms in filling 'senior officials' and 'technicians and associated professionals' (by as many as 56% and 53% of firms for the aforementioned work categories with the extreme and moderate responses combined). The third most important area of difficulties was with professionals (Figure 23). In contrast, work positions for 'clerks' and 'labourers and related occupations' were easy to fill.

**Figure 23. Degree of difficulty in recruiting across work categories – GDMA, 2002/2003**



Note: The responses do not add up to 100% to reflect the “not applicable” responses. These are cases in which a firm does not employ workers in the specified work category.

Recruitment difficulties in the high skill work categories are noteworthy since they are for a small number of vacant posts: up to 5 vacancies were reported amongst ‘professionals’ and amongst ‘senior officers and managers’ at the time of the interviews. Also, whilst firms reported a higher number of vacancies amongst the categories of ‘technicians and associated professionals’, 58.3% of the 72 firms that reported vacancies in this work group reported that only 2 posts were unfilled when the interviews were conducted.<sup>39</sup>

Amongst work categories for which it was most difficult to recruit, the vacancies were caused by the following factors set by order of decreasing importance:

- a resignation (for ‘senior officials and managers’, ‘professionals’ and ‘technicians’). This particular trigger was also the main reason for the vacancies amongst ‘clerical’ positions;
- difficulties in finding an employee in the category with the right skills for ‘senior officials and managers’ and ‘technicians’. (This was the third most important factor for ‘professionals’);
- promotion was the third most frequent cause of vacancy amongst ‘senior officials’ whereas business expansion was the second most important dimension for the category of ‘professional workers’.

Emigration, a limited reason for the vacancies in the ‘senior officials and

<sup>39</sup> The number of current vacancies for the specified work categories and the number of equivalent vacancies a year ago was asked. For this particular work category, the pattern is relatively consistent over time.

managers' category,<sup>40</sup> ranked fourth in the case of professionals.

Vacancies for replacement purposes were reported in other work areas. The dominant reason for the vacancies amongst 'service, shop and market sales workers' and amongst 'labourers and related occupations' was for health reasons (respectively amounting to 44.3% of n=9 and 31.3% of n=24).<sup>41</sup> The latter category specifically includes occurrences of deaths amongst the workers.

Finally, there were few reports of vacancies in the categories of 'labourers and related occupations' caused by a process of business expansion (in 4.8% of n=24 firms). This particular aspect of a shortage was in fact specific to 'crafts' and to 'plant and machine operators and assemblers' work categories (respectively 23.4% of n=26 and 22.8% of n=65).

The pattern of vacancies needs to be contextualised; 79.8% of GDMA firms reported hiring temporary workers. The main reason for this was to provide flexibility (Figure 24). This was listed by 70% of GDMA firms that follow such practice as the most important factor.

**Figure 24. Reasons for hiring temporary workers (n=479) – GDMA, 2002/2003**



<sup>40</sup> It ranked 11 in a set of 12 factors put forward.

<sup>41</sup> The number of responses is, at times, in excess of the number of vacancies as some firms that had no vacancy still provided comments. Only one response was allowed per firm however.

### 9.3 DEVELOPING HUMAN RESOURCES: PATTERN OF FIRMS' TRAINING

There is a long list of challenges to the process of developing human resource at the national level. These range from addressing the impact of HIV/AIDS on the workforce to addressing large social inequities and labour market discrimination (see Department of Labour, 2001a). In order to address these, the authorities have devised a series of strategic objectives, two of which are relevant to this report. These are to increase "the participation of employers in the process of lifelong learning" and to support "employment growth" through industrial policies, innovation, research and development. This section describes the pattern of firms' training from the perspective of employers. Manufacturing employers are likely to train their workers for two reasons. First, the firms themselves derive the returns from their own investments in human capital. Second, the firms can reclaim some of their skills development levy contributions by involving their workers with training programmes.<sup>42</sup>

? *Training expenditure:* From Table 30, which provides information about levels of training expenditure for 2001, it can be observed that firms spent on average, less on in-house than on outside training (by 24% to 29% per worker depending on whether joint training programs are considered). Excluding joint-training, GDMA establishments spent in 2001 an average of 1111 Rands on in-house training and 2089 Rands on outside training per worker for 50% of their workers. There are some variations on these amounts across firm type. The largest firms spent more per worker but the difference is significant only around external training. The larger firms spend 24% more for in-house and 58% more for outside training than the *average* firm, or 54% and 76% more on in-house or inside training respectively than the *smaller* firms.<sup>43</sup>

---

<sup>42</sup> With the aim of improving 'employability and productivity' of the workforce, a system of skills levy applies to employers. Employers contribute indirectly 1% of the wage bill to the SETA and to the National Skills Fund. A partial grant refund (of up to 65% of the levy) is organised to reward employers engaging with a process of skills development.

<sup>43</sup> The larger firms, which accounted for 50% and 66% of total GDMA in-house and outside training expenditure in 2001 had a disproportionate pattern of outside training expenditure when compared to other firms.

**Table 30. Pattern of expenditure on training – GDMA, 2001**

SIZE		Average amount spent per worker			
		In-house		Outside	
		Excl. joint training	Incl. joint training	Excl. joint training	Incl. joint training
50-99	N	57	60	75	75
	Mean	3607	3443	3913	3913
	Median	996	929	2000	2000
	Sum	205514	205794	292180	292180
100-199	N	94	94	90	90
	Mean	5286	5286	4102	4102
	Median	1000	1000	1875	1875
	Sum	494975	494975	367770	367770
200+	N	100	103	118	125
	Mean	6887	6648	10918	10855
	Median	1375	1203	4395	4813
	Sum	691970	685755	1289898	1352336
Total	N	251	257	282	289
	Mean	5546	5404	6903	6965
	Median	1111	1111	2089	2131
	Sum	1392458	1386523	1949848	2012286

Notes:

- Joint training encompasses several work categories.
- Values are in Rand.
- One-way ANOVA means were significantly different around outside training only;  $F=9.62$  and  $p<0.05$  excluding joint training and  $F=9.888$  and  $p<0.05$  including joint training. The difference is supported by post hoc analysis.

? *Training across work categories:* Whilst training programs were undertaken at all levels of skills, in-house and outside training was offered by the largest number of firms to 'plant, machine operators and assemblers' than to any other work category. The second most important work category involved with in-house training is 'labourers and related occupations' and 'clerks, services and sales workers' for outside training'. A smaller proportion of firms offered training to 'craftsmen and related workers' (Table 31).<sup>44</sup> There are relatively small differences in firms selecting outside rather than in-house training across occupational groups, with the exception of 'senior officials, managers and professionals' for which outside training is a more frequent occurrence. Relatively few firms engage their workers with common (across work categories) training (5% to 6%). A final point to note about the pattern of training is that whilst the proportion of firms that offer training in the GDMA is substantially lower than the equivalent proportions for South Africa for the managerial/professional and semi-skilled group, the figures are somewhat comparable for in-house training of the low skill group.<sup>45</sup> In contrast to 8.8% of South African firms training their workers externally, the figure for the GDMA is substantially higher (20%).

<sup>44</sup> Although as noted earlier, a large proportion of firms did not have such workers in their establishment.

<sup>45</sup> A clear cut comparison is not possible and the figures for the proportion of firms that reported training their workers *rather than* undertaking training programs are higher and above those for the nation – see the note of Table 31, p. 55.

**Table 31. Workers training by categories – GDMA, 2001**

	Senior officials, managers & professionals	Technicians & associated professionals	Clerks & service/sales workers	Craft & related workers	Plant & machine operators & assemblers	Labourers & related occupations	Common (across occup. Categories)
<b>In-house training</b>							
% of firms that offer in-house training programs*	14.3	17.3	18.2	7.5	31.8	20.0	6.7
Average number of in-house training programs offered - valid cases	4.9	4.3	6.6	5.5	5.6	5.4	3.6
Average number of in-house training programs offered - of ALL cases	0.7	0.7	1.2	0.4	1.8	1.1	0.2
Average number of workers trained - valid cases	13.1	11.9	15.2	55.8	66.4	51.9	189.0
Average number of workers trained - ALL cases	2.1	2.6	3.1	5.4	34.4	18.1	10.8
<b>Outside training</b>							
% of firms that offer outside training programs*	19.0	18.1	22.0	9.3	28.3	19.7	5.3
Average number of outside training programs offered - valid cases	4.2	2.9	4.3	3.6	4.9	5.6	6.7
Average number of outside training programs offered - of ALL cases	0.8	0.5	0.9	0.3	1.4	1.1	0.4
Average number of workers trained - valid cases	20.9	38.3	33.6	53.3	117.7	70.3	18.2
Average number of workers trained - ALL cases	4.0	6.6	6.6	3.7	31.4	12.3	0.6

Notes:

- \*: reports of the proportion of firms that offer training differ from the proportion of firms which report that workers have been trained. The proportions reported in the table are lower and discrepancies are important for 'plant, machine operators and assemblers' and 'labourers & related occupations' as can be observed in Annex Table 15, p. 96.

- Valid cases relate only to the firms which have reported training across work categories. All cases relate to all the firms in the GDMA.

When firms undertake training - that is taking the figures for the valid cases in Table 31 -, a similar number of programs is offered in-house and externally for a large number of occupational groups. There are some nuances with a greater proportion of in-house than external programs offered to 'technicians and associated professionals', to 'clerks, service and sale professions', and to 'plant machine operators and assemblers'. This pattern is as expected in a context of learning about plant/factory floor-specific aspects of production. However, similarly to in-house training, the importance of work experience and the practical orientation of training translate into a preference by human resource managers for external training to be undertaken by business partners (e.g. other firms in the sector, the most preferred option) and/or by industrial training boards. These sources of training were reported as of importance by 55% to 60% of the 364 firms that offer this particular type of training (see Annex Figure 5, p. 97).

As expected, joint training schemes are typically conducted externally and

although few such training schemes are offered to the workers, they involve a larger number of workers. Also outside training generally involves a great number of 'plant, machine operators and assemblers' (118 workers on average).

In terms of firm size differences, half of type 2 firms that offer training engage the highest proportion of their workers in in-house training (43% - see Table 32). Yet half of the firms within the group only involve 7.5% of their workforce in outside training. The proportion of workers trained by all the firms which offer training varies from 21% to 42% depending on the type of training considered. Half of all the firms that initiate training involve about one fourth of their workers in in-house training.

**Table 32. Proportion of total workers trained by firms that engage in training – GDMA, 2002/2003**

SIZE		% workers trained			
		In-house		Outside	
		Excl. joint	Incl. joint	Excl. joint	Incl. joint
50-99	Frequencies	124	128	106	109
	<b>Mean</b>	<b>39.6</b>	<b>41.5</b>	<b>17.1</b>	<b>18.0</b>
	<b>Median</b>	<b>19.6</b>	<b>22.6</b>	<b>8.6</b>	<b>8.7</b>
100-199	Frequencies	123	125	105	107
	<b>Mean</b>	<b>44.5</b>	<b>45.5</b>	<b>21.3</b>	<b>21.0</b>
	<b>Median</b>	<b>40.1</b>	<b>43.3</b>	<b>7.5</b>	<b>7.5</b>
200+	Frequencies	152	162	145	154
	<b>Mean</b>	<b>35.0</b>	<b>39.2</b>	<b>23.3</b>	<b>22.3</b>
	<b>Median</b>	<b>23.8</b>	<b>24.7</b>	<b>9.9</b>	<b>9.7</b>
Total	Frequencies	399	415	356	370
	<b>Mean</b>	<b>39.4</b>	<b>41.8</b>	<b>20.9</b>	<b>20.7</b>
	<b>Median</b>	<b>25.0</b>	<b>27.8</b>	<b>8.6</b>	<b>8.6</b>
	Mode	4.8	100.0	6.7	6.7
	Minimum	0.8	0.8	0.3	0.3
	Maximum	166.7	188.3	133.3	133.3

Note: The maxima exceed 100 because of weights and misreporting. It is also possible that firms have trained workers who subsequently left the establishment. For purpose of comparison, the Department of Labour (2001a, p. 36) reports that 20% to 30% of the South African workforce is trained.

A key aspect of trainings in the GDMA is that relative to their presence in manufacturing establishments, comparatively few 'technicians and associated professionals' and 'labourers' are trained in-house and externally (Table 33).

**Table 33. Proportion of workers trained by work categories – GDMA (2001)**

	Senior officials, managers & professionals	Technicians & associated professionals	Clerks & service/sales workers	Craft & related workers	Plant & machine operators & assemblers	Labourers & related occupations
<b>In-house (%)</b>	25.5	11.6	36.7	48.5	38.7	27.6
<b>Outside (%)</b>	48.5	29.8	44.2	32.8	35.3	18.7

Note: Percentage calculations based on mean figures in terms of the number of workers within each work group and number of employees within each work group trained in 2001 *per GDMA firm*.

Training stops when the training objectives have been met; either the workers are sufficiently trained or the skill required cannot be acquired through a training

program (mentioned by 51.1% and 28.3% of firms - Table 34). However, nearly one fourth of firms reports that training costs constraint demand. As for the level of qualifications of the workers, it is only mentioned as impeding training by 9.7% of firms.

**Table 34. Reasons for not training more workers (n=573)**

	Count	Percent of responses	Percent of cases
Sufficiently trained workers	293	34.3	51.1
Formally trained workers get trained and leave	34	4	5.9
Formally trained programs are expensive	133	15.6	23.2
Further formal training not relevant because of nature of work	162	19	28.3
Present demand conditions do not justify further investment in training	82	9.6	14.3
Existing/new workers do not have basic qualifications to be properly trained	55	6.5	9.7
Other	94	11	16.4
<b>Total</b>	<b>853</b>	<b>100</b>	

? *Free riding*: The risk facing the firms that the workers might free ride on the training program to find alternative employment does not deter firms from engaging with training. This is the least frequent mention by firms as a reason for not sending more workers on training programs (Table 34). There are, in fact, limited occurrences of departure triggered by training (Table 35).<sup>46</sup> Yet, variations emerge across occupational groups; training causes a greater proportion of ‘craft and related workers’ to leave the establishment than other professional groups – i.e. new work opportunities occur associated with an excess labour demand in that occupation -. A similar outcome results from joint training programs although this is only reported by 1.7% of firms. Reports of ‘plant and machine operators and assemblers’ who left the establishment after training is a more frequent occurrence being reported by 5.5% of firms. However, since a small *total* number of these leave after training, the impact per firm is small. By and large, the largest departures are in the ‘craft and related workers’, 13% to 19% of the number that is trained across industries – the figures varying depending on whether in-house or outside training is considered. There is no clear cut explanations for the departures; 45.3% of firms (n=600) report that newly trained employees leave for a better paid jobs. The complex incentives to leave are not explored in the questionnaire.

<sup>46</sup> This might explain that 77.4% of firms (n=600) do not find that the resignation of recently trained workers causes difficulties.

**Table 35. Departures after training – GDMA, 2001**

	Senior officials, managers & professionals	Technicians & associated professionals	Clerks & service/sales workers	Craft & related workers	Plant & machine operators & assemblers	Labourers & related occupations	Common (across occup. Categories)
% of firms that have reported on departure (n/600)	2.6	4.9	1.8	1.5	5.5	4.3	1.7
Average number of trainees who left in 2001 after training - of valid cases	2.8	3.2	2.1	43.8	5.2	10.9	37.9
Average number of trainees who left in 2001 after training - of ALL cases	0.1	0.2	0.0	0.7	0.3	0.5	0.7

#### 9.4 CONCLUSION

Four important features emerge around some basic human resource dimensions of the GDMA firms.

- First, the firms favour recruiting employees with work experience. In this regard, *relevant* prior work experience matters second closely after the characteristic of prior work experience with secondary education. As for vocational training with work experience, its low rank in the list of recruitment preferences probes questions as to the quality and main features of such training. As such, newcomers in the labour market are likely to find limited opportunities. However, one striking feature of the pattern of vacancies is there are few of these in the GDMA. These are furthermore concentrated around a small sectoral base. At a time when firms expressed confidence about the overall economic performance, there are only 3.5 vacancies per firm on average across sectors. Work opportunities are with the larger firms. There are, on average, nine vacancies in these. The responses towards the level of vacancies might be biased by one dimension set out in the introduction: the growth of temporary workers in the GDMA firms. This growth was set out around flexibility purposes.
- Second, focusing on the nature of the vacancies, a wide range of factors drive these. For the 'professionals', vacancies are caused, on the demand-side, by problems associated with resignations and by business expansion. Supply-side issues emerge through emigration.<sup>47</sup> This particular trigger does not figure in other categories however. The need for specific skills was an issue in the recruiting of technicians and senior officials. Demand for labourers is not expansion-based but instead appears to be influenced by replacements on grounds of health. In contrast, since business expansion translates into an excess demand for operators, production expansion might be occurring around a fixed stock of machinery.

<sup>47</sup> National emigration trends are described in Department of Labour, 2001a.

- Third, another striking feature is the basis on which employers report recruiting their unskilled workers. These workers are recruiting informally through existing social networks. This suggests that there are issues with the process of screening at low levels of skills.
- Fourth, in terms of the racial composition of the workforce, whereas Indian/Asian workers are well represented across the skilled and semi-skilled groups, the pattern of African workers is biased towards the low skill groups where they dominate.

In a separate discussion of the extent to which the firms provide training to their workers, two routes seem to be equally followed, in-house and external training. Firms spend from 1,100 to 2,130 Rands per worker per year on training depending on the type of training considered. This might be a high cost relative to the wages. As for the Skills Development Act, it had no impact on the size of the workforce (and was thus not discussed).<sup>48</sup>

The larger firms were found to spend significantly more on external training than other firms. This feature might be explained by the fact that specific skills are required by those firms which can only be provided by a small base of external experts. There are few occurrences of such training however.

Training occurs at all work categories but the operators are the more notable beneficiaries of firm training. By and large, there are small number of training programs set up by the manufacturing firms. This is with the caveat that the information was specified for 2001 and that the numbers might have grown subsequently.

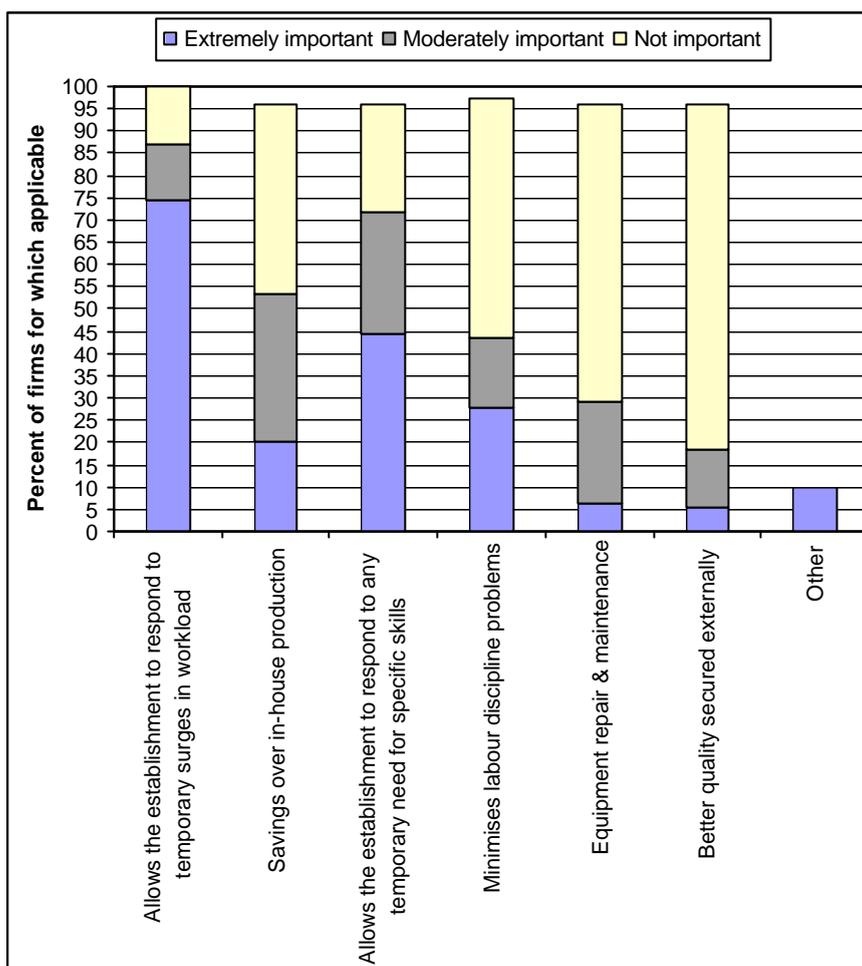
Firms have both external and internal means available to re-address the problems caused by skill shortages. Whilst the discussion carried out in this chapter was around the internal means available to the firms, an important feature of production emerged in the analysis of the GDMA data. Among the long list of functions outsourced by the firms,<sup>49</sup> 29.9% of outsourcing firms subcontract production. From Figure 25 which reports the various rationales for firms outsourcing production, it can be observed that outsourcing predominantly eases surges in workload. Yet, of direct relevance to the discussion is that the second dominant reason for outsourcing was that it enables the firms to relax specific skills constraint; about 50% of firms that outsource production report skills as either very or moderately important. There are some sectoral variations on this pattern. XXX

---

<sup>48</sup> 'No effect' was reported by 91.3% of firms and adverse effects by 5.1% of firms. Worryingly, 6 firms (0.9%) mentioned that they were not familiar with the Act. Other effects were limited; there were occasional mentions that the SDA led to an increase in costs - of the 25 firms which commented on the Act, 26.7% reported that it generated an increase in costs. 21.5% (n=25) reported however that it would help unskilled workers to find employment.

<sup>49</sup> 78.5% of firms report outsourcing some of their activities (n=600). The main area for outsourcing is with general services (i.e. cleaning, security) and transport. 60.3% and 57.7% of the firms that outsource (n=471) respectively have recourse to these.

**Figure 25. Reasons for outsourcing/subcontracting production (n=141) – GDMA, 2002/2003**



Note: Based on responses from the firms that only outsource production. There are sectoral nuances - textiles and the small 'iron and steel' sectors are heavily turned towards this practise whereas there are limited reports of subcontracting in the food and beverages sector (see Annex Table 12, p. 92).

## 10 FINANCIAL CHARACTERISTICS AND INVESTMENT

There is a well documented shortage of foreign investment into South Africa. Similarly, investments by domestic manufacturing firms have been relatively stable since 1994. DTI (2001, p. 19) identifies three periods: a rise in the ratio of investment to capital stock from 11.5% to 12.9% between 1994 and 1995 (signalling postponed investment decisions taking place); a stabilisation of the ratio at around 13.2% in 1996-1997 before a decline to 12.24% in 1999. The figure was 12.55% in 2000.<sup>50</sup> An important explanation for this pattern lies with high prevailing rates of interest: between 1996 and 1997 interest rates were at around 20% reaching 21.76% in 1998 according to IMF data (nominal prime interest rate – International Financial Statistics). The rate dropped subsequently between 1999 and 2001 to reach 13% in the fourth quarter of the year. It rose again in 2002 and stabilised at about 17% at the end of 2002/2003 when fieldwork

<sup>50</sup> Data of the ratio of gross domestic fixed investment to fixed capital stock from the Trade and Industry Policy Secretariat Standardised Industry Database would suggest by 2001 this ratio was nearing but was still below the 1995.

was carried out. The pattern of real interest rate level differs; the rate peaked in 1998 and was slightly in excess of 15% for the year, above the 11.06% figure for 1997 (nominal data deflated by Consumer Price Index data for South Africa from the IMF). The figure rose again over 2002 to reach 13.82% in real terms in the fourth quarter of 2002. To what extent does the high cost of capital and of credit matters to investment decisions? How do firms secure their capital? Are liabilities domestic or foreign? Are the firms credit constrained?

This chapter seeks to shed some light on the above questions and deals with various financial characteristics of relevance to the GDMA firms. Also detailed here is the extent to which and means through which the firms adjust to high costs of credit and capital. *Section 10.1* describes the firms' sources of finance and contrasts the pattern observed in the GDMA with that of South Africa. *Section 10.2* sets out issues related to access to finance for production purposes. *Section 10.3* focuses on the cost of capital and credit and the extent to which firms can and do adjust to high interest rates. After a discussion of the firms' response to a long period of high (nominal) interest rates, attention is paid to the 1998 hike. *Section 10.4* moves to a broader list of determinants of investment decisions. *Section 10.5* turns to the role of authorities in promoting investment and local economic development in the DMUC. A final *Section 10.6* concludes.

#### 10.1 SOURCES OF FINANCE

GDMA firms' financing sources and the characteristics of the firms' access to finances are, in many ways, similar to those that were observed for South Africa as a whole (see Chandra et al., 2001). First, access to bank loans is not an issue; about 50% of firms use loans from a local South African bank with the proportion of firms that finance investment capital through this channel somewhat decreasing with size (Figure 26). Second, retained/internal savings is the preferred source for investment capital. This source of funding is used by 65% of firms. Two differences between GDMA and national firms are to be reported. First, size 3 firms in the GDMA make greater use of their parent/partner establishment to gather capital investment funds than do GDMA firms (recalling that reports of a parent company are typical of larger firms); Size 2 firms display the reverse pattern as the proportion of firms that secure finance through loans from partner/parent company is lower than in South Africa.<sup>51</sup> A point to note about the role of parent companies is that they play some role in the investment decisions. 58.1% of firms (n=258) with parent companies engage in joint investment decisions with their parents whilst in 26% of cases the subsidiary takes the decision independently of its parent. In 15.9% of cases the parent company *alone* takes the decisions. There is no evidence of any significant variations with size in this regard (see Annex Table 8, p. 89).<sup>52</sup> Second, no size 3 firm uses shares issued on the stock market to fund capital investment, even though those are relatively more presented on stock markets than other firms. Only 4% of size 2 firms use the stock market to this purpose compared to 10% of firms in South Africa.

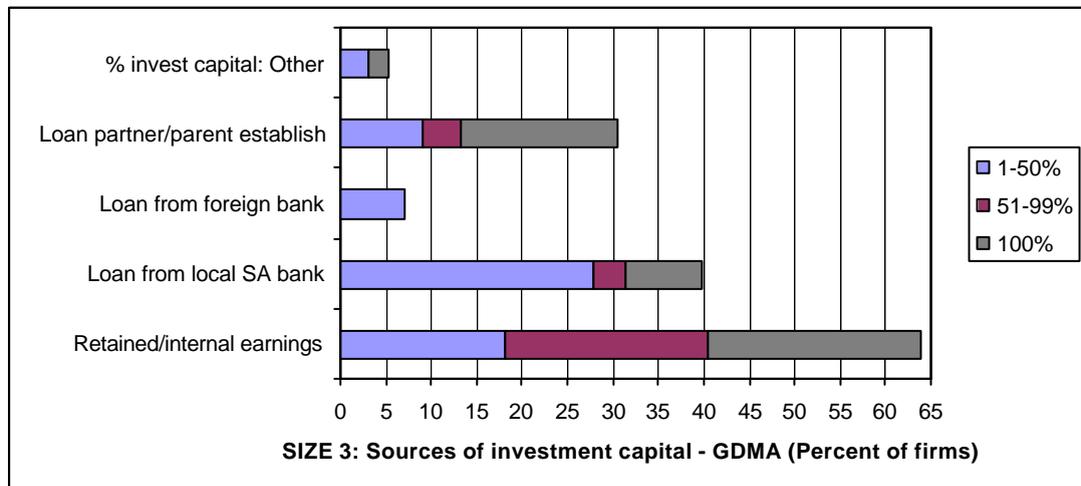
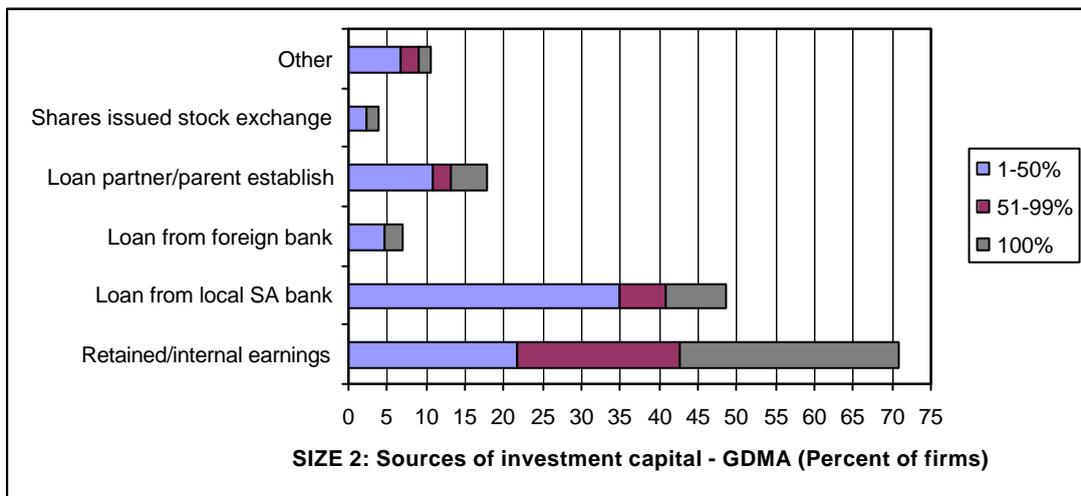
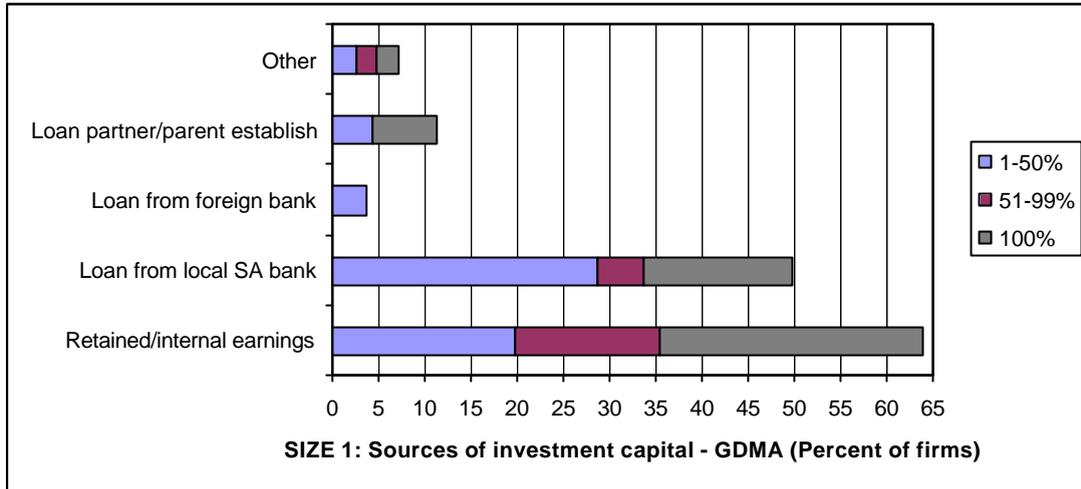
---

<sup>51</sup> 30% of size 3 firms in the GMDA compared to 20% in South Africa. The comparable figures for size 2 firms are 17% and about 27%.

<sup>52</sup> It is statistically not possible to test whether the firms' position towards the cost of capital/credit is a problem varies with them securing a loan from the parent company.

Similarly to the financial sources for investment capital, firms turn to retained/internal earnings for their working capital (for 85% of firms). Loans from South African banks are the second most important source of working capital (for 30% to 38% of firms depending on size class). In contrast to finance for investment capital purposes, loans from parent or partner company are atypical for size 3 firms for working capital purposes (noted by about 8% of size 3 firms).

**Figure 26. Sources of investment capital by size class – GDMA, 2002/2003**



Note: The option of shares issued on the stock exchange is only reported when relevant.

## 10.2 FINANCE AND PRODUCTION EXPANSION

Focusing on the firms that finances *other* than from retained/internal earnings for investment and working capital purposes, 67.4% of such firms considered an expansion of their production in the year prior to the interview (2001/2002 - n=242 including two cases of firms that had not yet started their operations in the year for which the information was gathered).<sup>53</sup> As these GDMA firms were, in the main, able to expand (82.7% of n=183), they are not externally credit constrained. Further in support of this argument is the response that lack of funds was not the reason for the firms that did not expand in spite of having planned an expansion. Finances were generally available for production purposes and only for 7 firms which had access to external sources of finance was a planned expansion not undertaken *because* of lack of funds.

More generally, only 19.3% (n=600) of GDMA firms faced difficulties in financing levels of production. Of the two types of problems that might cause firms to face production finance constraints (adverse changes in the goods market or in the finance market), financial costs and credit availability were reported by 68.9% of firms (Table 36). In other words, the main cause for the firms that faced difficulties *originated* in conditions in the financial market.<sup>54</sup>

**Table 36. Reasons for difficulties in financing levels of production (n=114) – GDMA, 2002/2003**

	Frequencies	Percent of responses	Percent of cases
Operating or market conditions	55	34.5	48.1
Financial market conditions	78	49.3	68.9
Other	26	16.2	22.6
<b>Total</b>	<b>159</b>	<b>100</b>	

The aforementioned figures suggest that access to finance and costs of finance did not generally impede a process of production expansion but instead possibly compounded short-term difficulties when these were experienced by the firms. These were, in the main, overcome.

## 10.3 THE COST OF CAPITAL/CREDIT

Although the cost of capital/credit and issues around the availability of skills were ranked similarly by CEOs across firms (see Figure 6, p. 19), differences emerged in the questions of whether it is listed as a major or moderate constraint. The cost of capital/credit had an overall rank of six. This is in sharp contrast with the GJMA where it was the second most important constraint to growth. However, such costs appear to bear disproportionately on size 1 firms (Table 37). It also mattered to medium size firms which listed it as the fifth *major* ranked constraint

<sup>53</sup> The focus here is only on firms that do not have 100% of retained/internal earnings either for investment or working capital purposes.

<sup>54</sup> Again the difficulties are of two types, high rates of borrowing or credit rationing.

(Table 12, p. 21). The cost of capital/credit was reported as a major problem area by 37.8% of size 1 firms and by 28.2% of the size 2 firms. It is a moderate problem area for 31.1% of the smaller firms. These figures contrast with the position of size 3 firms. This possibly relates to the lower costs that would be associated with loans from parent/partner companies.<sup>55</sup>

**Table 37. Cost of capital/credit as a constraint to growth (n=600): distribution according to firm size – GDMA, 2002/2003**

		SIZE			Total
		50-99	100-199	200+	
Not a problem/ not applicable	Count	69	69	109	<b>247</b>
	% within SIZE	31.1	39.0	54.2	<b>41.2</b>
Moderate problem	Count	69	58	60	<b>187</b>
	% within SIZE	31.1	32.8	29.9	<b>31.2</b>
Major problem	Count	84	50	32	<b>166</b>
	% within SIZE	37.8	28.2	15.9	<b>27.7</b>
Total firms		<b>222</b>	<b>177</b>	<b>201</b>	<b>600</b>

Note: There are statistically significant differences with  $\chi^2=32.626$ ,  $df=4$  and  $p=0.000$ .

There are further sectoral differences. The cost of capital and of credit ranking is as high as three for textiles - a large sector in the GDMA – and for leather and footwear (Table 38).

**Table 38. Cost of capital/credit as a constraint to growth: rank by sectors – GDMA, 2002/2003**

Above total rank	Similar rank to total	Below total rank
Textiles (3)	Food processing & bev. (6)	Chemical products (11)
Leather & footwear (3)	Electrical & electronic	
Paper & furniture (4)	Machinery (6)	
Metal products (4)	Vehicles & automotive	
Non-metallic products (4)	Components (6)	
Iron & steel (5)		

Notes: Based on weighted moderate/major responses. The rank of cost of capital/credit in the list of constraints to growth for the sector is given in brackets.

High interest rates have, in sharp contrast to the generally limited financing constraints observed for production, notably affected the firms. 63.9% of GDMA firms (n=600 including 7 cases of no response) reported that high interest rates over the 1996 to mid-1999 period created difficulties for the establishments. Although the question was specified for a past event, it is possible that the firms have adjusted their production decisions, resources and factors of production over a longer time horizon so that they *currently* face limited financial constraints. High interest rates were reported by the firms concerned (n=382) to have caused three types of problems; 1) they had adverse financial implications for the firms (28.8%); 2) they created cash flow shortages and thus the conduct of routine transactions

<sup>55</sup> It is not possible to test whether there are significant difference in terms of the cost of capital being a major/moderate constraints to growth and size and access to loans from a parent/partner company.

(15.3%), and 3) they impacted on consumer demand (11.6%) as well as on overall level of economic demand (9.1%) (Table 39). As the latter informs on the potential impact future hikes might have, it is worth noting that access to lower cost finance (through alternative funding sources) and cash flow levels differentiate firms for which the rate of interest was a problem from those for which it was not (compare Table 39 with Table 40).

**Table 39. Channels through which high interest rates (1996 to mid-1999) adversely impacted on firms – GDMA (n=382)**

	Frequency* Percent*	
Cash flow, negative	58	15.3
Competitiveness decreased	11	2.9
Costs increased	35	9.2
Customers affected negatively	44	11.6
Demand decreased	35	9.1
Economy weakened	7	1.7
Financial implications, negative impact	110	28.8
Imports	11	2.8
Inputs/Raw materials	5	1.3
Investment restricted	20	5.4
Market shrunk	15	3.9
Production decreased	3	0.7
Profitability eroded	17	4.5
Funding, negative	11	2.9
<b>Total</b>	<b>382</b>	<b>100</b>

Note: \*: including responses of firms which started production after 1998 (65 firms). These responses have been incorporated as they are interpreted to mean that the rate of interest is still high and poses a problem to these firms as well.

**Table 40. Reasons advanced by firms for which high interest rate was not a problem – GDMA (n=201)**

	Frequency* Valid Percent*	
None	56	28.1
Not applicable	7	3.7
Cash flow, positive	57	28.5
Financial implications, positive/none	8	3.9
Funding, (alternative) sources used	63	31.1
Investment, new	6	2.8
Market grew	4	1.8
<b>Total</b>	<b>201</b>	<b>100</b>

Note: \*: As for Table 39, includes responses of firms which started production after 1998.

Amongst those who reported being affected over the 1996 to mid-1999 period by high interest rate levels, the severe interest rate hike of 1998 caused these firms to reduce their planned plant operation expansion (Table 41). It thus impacted relatively severely on production levels. Only 23.8% of such firms reported that they had changed their borrowing structure in the process and incurred new liabilities accordingly. The second most important adjustment was in the direction of a reduced level of borrowing.

**Table 41. Responses by firms adversely affected by high interest rates to the 1998 interest rate hike (n=382) - GDMA**

	Count	Percent of responses	Percent of cases
Changed term structure of borrowing towards new liabilities	91	18.6	23.8
Reduced level of borrowing	124	25.3	32.4
Reduced planned plant expansion	155	31.6	40.5
Not at all	45	9.3	11.9
Not applicable	38	7.7	9.8
Other	37	7.5	9.7
<b>Total</b>	<b>489</b>	<b>100</b>	

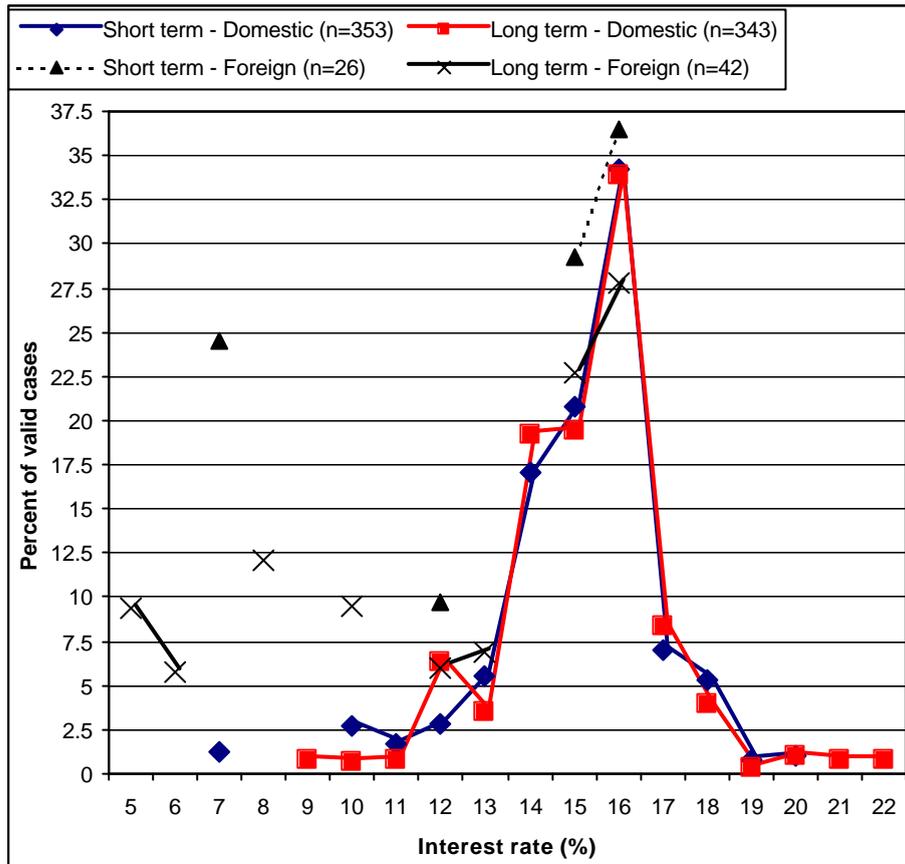
More generally, the interest rates faced by the firms in 2001 were high and determined domestically.<sup>56</sup> Amongst the 353 that have reported the domestic rate which applied to their short-term liabilities, 34.2% faced a rate of 16%. A similar proportion of firms (33.9%) faced this rate for their long-run liabilities. For purpose of comparison this was above the then prevailing interest rate (13.77% according to IMF data and between 13.14% and 14.3% according to Global Insights).<sup>57</sup> Whilst there is some spread around this particular rate (Figure 27), only a small subset of firms appear to have secured substantially lower rates. Also noticeable for the short run is that the costs of the liabilities are lower when these are foreign. These apply to a very small set of firms, however.<sup>58</sup>

<sup>56</sup> In terms of access to foreign sources of finance, few firms reported foreign liabilities: 26 and 42 firms respectively have short-run and long run foreign liabilities.

<sup>57</sup> See <http://www.essa.org.za/> for the latter series.

<sup>58</sup> It is difficult to explain the presence of foreign liabilities. These firms have not reported having loans from foreign banks for either working or investment capital purposes. No explanation could be found through the ownership structure of these firms either.

**Figure 27. Interest rates applying to liabilities: distribution of firms – GDMA, 2001**



#### 10.4 THE MISCELLANEOUS DETERMINANTS OF INVESTMENT

The cost of capital impacts on the level of capital investment and employment. Both would increase following a fall in the real rate of interest. However other factors determine an expansion of the two main factors of production. The cost of capital/credit was reported by 48.5% of firms as a determinant of capital investment expansion. This was in excess of the 30-40% reported for Johannesburg. It was the third most important factor; a sustained increase in market demand ranked first and was reported by 83.9% of firms (Table 42). Instead, reducing economic risk by improving the overall investment climate (broadly defined) is the second most important factor; more specifically, 53% of firms reported dealing with 'crime and violence' as the second most important trigger to capital investment. Another 40.1% reported improving South African investment opportunities *relatively* to be a determinant of investment. Thus, focusing on reducing the probability of asset loss and promoting an environment favourable to investors are changes that would generate a sizeable expansion of capital investment in the manufacturing sector in the GDMA. Reduced currency volatility also has a relatively high weight in capital investment decisions.

**Table 42. Determinants of an expansion of the scale of operation that would allow an increase in capital investment by 10% in a one year period (n=593) – GDMA, 2002/2003**

Category	Count	Percent of Responses	Percent of Cases
Sustained increase in the market demand	497	17.9	83.9
Interest rates must fall in real terms	287	10.4	48.5
The exchange rate must stabilize	282	10.2	47.6
Have to export more	259	9.4	43.7
Need to feel more confident about the future of the SA economy	269	9.7	45.5
Crime and violence must decrease to make investments less risky	314	11.3	53.0
Labour relations must be more flexible & real wages must fall	221	8.0	37.3
Need a greater supply of skilled workers	138	5.0	23.3
The investment climate (rate of return/risk) in SA in relation to foreign economies must improve significantly	237	8.6	40.1
Creation of more opportunities for manufacturers in SA as a result of globalisation	236	8.5	39.9
Other	29	1.0	4.8
<b>Total</b>	<b>2770</b>	<b>100</b>	

Similarly to an expansion of capital investment, the firms reported sustained market demand as the most important trigger to an expansion of their workforce (Table 43). Improvements in the real interest rate was the fourth determinant (37.4%) after more flexible labour regulations, suggesting that some degree of substitution of (unskilled) labour for capital is driven by firms using capital to deal with fluctuations in production/orders.<sup>59</sup> Focusing on firms that only export, the relatively greater emphasis put on flexible labour relations and on lowered labour costs nevertheless reveals that for these firms, labour and capital might be complementary (Table 44, p. 70).

<sup>59</sup> Evidence on this particular point has already been set out around the reasons for firms hiring temporary workers.

**Table 43. Determinants of an expansion of the scale of operation that would allow an increase in the workforce by 10% or more (n=595) – GDMA, 2002/2003**

Category	Count	Percent of Responses	Percent of Cases
Sustained increase in market demand	510	27.2	85.6
Interest rates must fall in real terms	222	11.9	37.4
Wages must decline in real terms	114	6.1	19.2
Have to export more	292	15.6	49.2
Need cheaper imports	127	6.8	21.3
More flexible labour regulations	275	14.7	46.2
Need more skilled workers	157	8.4	26.3
Foreign competition must decline	95	5.1	15.9
Other	79	4.2	13.3
<b>Total</b>	<b>1871</b>	<b>100</b>	

As should be clear, numerous factors influence capital investment decisions. These factors further vary depending on whether the firms are involved with foreign markets (importers and/or exporters). A common recurring determinant of capital investment is however primarily with longer term demand *prospects* as defined through sustained increase in demand (*and* growing export prospects for firms that export but do not import - see Table 44).

**Table 44. Determinants of an expansion of the scale of operation that would allow an increase in capital investment by 10% in a one year period (n=593) according to firm's involvement with foreign markets – GDMA**

	Exporter only	Exporter & importer	Importer Only	Neither Exports nor imports
Sustained increase in market demand	<b>28</b> 83.4	<b>235</b> 77.2	<b>83</b> 89.3	<b>151</b> 93.2
Interest rates must fall in real terms	<b>15</b> 45.6	<b>124</b> 40.7	<b>44</b> 47.8	<b>104</b> 63.9
The exchange rate must stabilize	<b>19</b> 56.1	<b>140</b> 46.1	<b>42</b> 44.8	<b>81</b> 50.1
Have to export more	<b>30</b> 88.0	<b>181</b> 59.4	<b>16</b> 17.2	<b>33</b> 20.5
Need to feel more confident about the future of the SA economy	<b>14</b> 40.8	<b>123</b> 40.5	<b>34</b> 36.7	<b>99</b> 60.7
Crime and violence must decrease to make investments less risky	<b>22</b> 65.1	<b>134</b> 44.1	<b>46</b> 49.4	<b>113</b> 69.3
Labour relations must be more flexible & real wages must fall	<b>20</b> 59.1	<b>95</b> 31.4	<b>34</b> 36.6	<b>72</b> 44.1
Need a greater supply of skilled workers	<b>7</b> 20.2	<b>82</b> 27.0	<b>21</b> 22.3	<b>29</b> 17.6
The investment climate (rate of return/risk) in SA in relation to foreign economies must improve significantly	<b>15</b> 44.5	<b>142</b> 46.8	<b>37</b> 40.1	<b>43</b> 26.4
Creation of more opportunities for manufacturers in SA as a result of globalisation	<b>14</b> 41.9	<b>100</b> 32.8	<b>40</b> 43.5	<b>82</b> 50.5
Other	<b>0</b> 0	<b>19</b> 6.2	<b>5</b> 5.9	<b>4</b> 2.6
<b>Number of firms that have responded across status</b>	<b>34</b>	<b>304</b>	<b>93</b>	<b>162</b>

Notes: Figures in bold are the frequencies. The other figures in the table are the percentages of the cases, that is the proportion of firms of a particular status that have listed the factor as important. The original question offered the possibility of multiple responses. The figures can be compared to the overall percent of cases figures of Table 42, p. 68.

The investment climate has a relatively low rank amongst the factors influencing investment decisions, particularly for firms that are not engaged with foreign markets. This indicates either that capital investment plays a differing role across firm type, or that firms that are entirely geared to the domestic market are influenced by markedly different conditions. Notably for these firms, confidence about the future of the South African economy matters substantially more than for other firms. It is their third most important trigger of capital investment, after addressing issues related to 'crime and violence'.

Differences in positions across firm types defined in terms of their engagement with foreign markets indicate that the engagement significantly causes or is strongly associated with differences in perceptions of risks. This might explain the generally low rank in the investment decisions attributed to the role of the investment climate. This is particularly for firms that neither export nor import and

who are, therefore, more concerned with new global opportunities. Undoubtedly, there are nuances and the *relative* South African investment climate is viewed as more central to the firms that export. The overall point is that GDMA manufacturing firms perceive South Africa as a relatively risky economy in which to undertake investment. However, the nature of the risk is interpreted and expressed differently depending on whether the firms are engaged with the international economy and the direction of that engagement. Focusing on the cost of investment, it is a factor that is notably more important to firms that neither export nor import. This might be because the firms that are engaged with foreign markets have already undertaken substantial investments in the past or/and that they have an advantage of a financial nature over other firms.

#### 10.5 THE ROLE OF THE AUTHORITIES IN PROMOTING INVESTMENT AND LOCAL ECONOMIC DEVELOPMENT

Having outlined some overall determinants of investment decisions and the importance of interest rates in these, attention is now turned to the broader framework of policy. In this section we report the role of the authorities as they are perceived by the CEOs in the area of promoting investment and local economic development.

The respondents specified some important role for the DMUC in improving street safety and security, in providing some financially targeted incentives and general infrastructure support (Table 45). There are some similar demands towards central government authorities. Yet whilst the respondents re-iterated dealing with 'crime and violence' as the *main* area of intervention by the authorities at the central level, another important arena for public good provision was in health. Finally, the authorities had a role in managing inflation so as to secure lower interest rates, in not interfering in the exchange rate and in setting wage targets that are consistent with inflation targets (Table 46). The positions around the latter theme varied across manufacturing sectors. The role for the central authorities around targeting inflation was more important for the food processing and textile sectors than in other sectors. In contrast, this ranked eighth out of nine areas for intervention in the case of the 'electrical and electronic machinery' sector.

**Table 45. Areas for DMUC contributions to promote investment and local economic development (n=600) – GDMA, 2002/2003**

	Count	Percent of responses	Percent of cases
Safety and security on streets	463	25.7	77.1
Infrastructure (road maintenance, network development, electricity, water)	210	11.7	35.0
Investment support and facilitation centres	151	8.4	25.1
Improved attitude of local officials towards local residents	52	2.9	8.7
Health policy (eg HIV/AIDS)	187	10.4	31.1
Maintenance of high ethical standards by local government officials	261	15.4	43.5
Targeted financial incentives	239	13.3	39.8
Public transport	193	10.7	32.2
Other	45	2.5	7.5
<b>Total</b>	<b>1800</b>	<b>100</b>	

**Table 46. Areas for central government contributions to promote investment and local economic development in the GDMA, 2002/2003 (n=600)**

	Count	Percent of responses	Percent of cases
Policy stability (stick to the policies announced)	161	9.1	26.8
Safety and security	441	25.0	73.5
Health policy (e.g. HIV/AIDS)	231	13.1	38.4
Provide timely, accurate and relevant information for growth of local businesses	78	4.4	13.1
Promote greater private sector participation in publicly-provided services and goods	72	4.1	12.0
Speed up privatisation	119	6.8	19.9
Promote an efficient interest rate policy	205	11.6	34.2
Promote an efficient and flexible wage policy	219	12.4	36.6
Promote an efficient and flexible exchange rate policy	239	13.5	39.8
<b>Total</b>	<b>1766</b>	<b>100</b>	

Whilst investment/credit costs and the broader context within which manufacturers operate was perceived to be an area that could be influenced by the DMUC authorities in order to attract investment, investment support and facilitation was felt to be of lesser importance. It was reported by only one fourth of GDMA firms. There are nevertheless important variations in this regard 1) across sectors of activities – ‘chemical product’ and ‘leather and footwear’ stand respectively at the least and most favourable end of the spectrum – and 2) across firm size; this was an area reported to be of greater interest by size 1 firms.<sup>60</sup>

<sup>60</sup> Targeted financial incentives were seen as of greater importance than an overall program of investment support.

## 10.6 CONCLUSION

The GDMA firms displayed, in the main, no sign of problems in the area of access to finance. The main source of finance is retained earnings. The second most important source is with loans from parent company for investment capital purposes although it is, as expected, a feature of type 3 firms. Finance raised through the stock market, whenever applicable, is not used either for working or investment purposes. Yet, whilst access to finance for production is not a problem area for the firms, conditions in the financial markets compound financial difficulties some firms might have. In other words, the financial conditions do not threaten production expansion *per se*, but matter above a certain threshold of difficulties. The main ways in which the firms acquire finance and the conditions applying to these are important since a comparatively small subset of GDMA firms only (27.6% of firms) have obtained new employment and capital stock through a merger/acquisition process.

There are signs that high interest rates had, over the short-term, contractionary effects. When the rates are particularly high – as in 1998 - the firms contract their level of borrowing rather than incur new liabilities. This would curtail investment. Whilst high interest rates have complex effects, the firms are primarily affected by the rates' impact on levels of consumer demand. Notwithstanding the debate of a link between investment and growth - highlighted for instance by Lewis (2001) - if one takes the context more broadly, then reducing risk is the second most important determinant of investment decision. This suggests that a sizeable investment boost could be generated if the authorities were able to reduce risk although there are variations on how different firm type interprets risk. By and large, an important area of intervention is with reducing the overall level of crime and theft.

As for interfering on the rate of interest *alone*, this would have a relatively limited impact on investment. Investment decisions are, in the GDMA, influenced by a wide range of alternative factors (reduced volatility of the currency, confidence in the national economic performance etc.). As pointed out by Lewis (2001) for South Africa, this limited role could be explained by the internal origin of the firms' source of finances. Yet, beyond affecting capital investment, albeit marginally, lowering the level of interest rates would contribute to a potential employment expansion in exporting firms. Finally, there are still signs that the firms consider the main role of the authorities to be sector-specific rather than general.

## 11 LABOUR REGULATIONS AND IMPLICIT COSTS

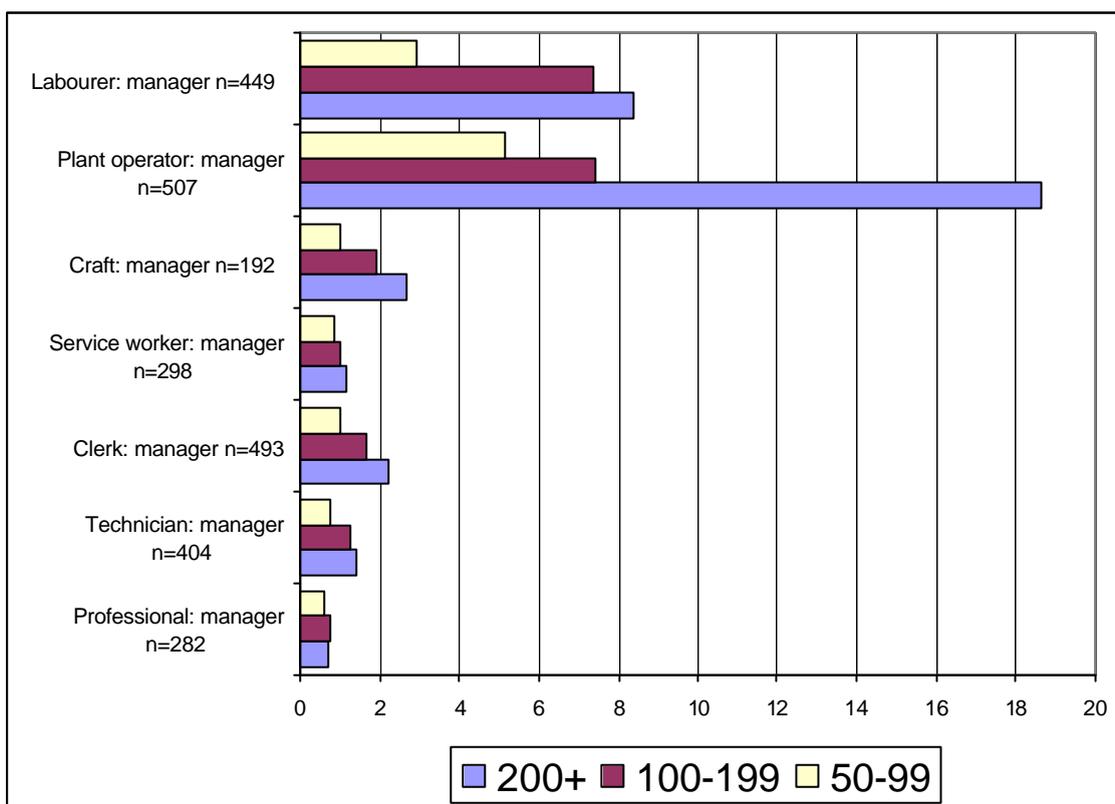
In sharp contrast to the GJMA survey, CEOs, in general, did not identify labour regulations to be among the most significant constraints to growth in their firms. It was, however, identified as a major problem by 20% of firms. For smaller firms, this figure increased to 28.8% of firms, suggesting that labour market flexibility may be a greater determinant of growth among these firms. We explore some of these issues here.

### 11.1 THE ROLE OF LARGE MANUFACTURING FIRMS IN EMPLOYMENT GENERATION

Figure 28 explores the employment generating capability of firms in the GDMA.

We measure the number of non-managerial jobs to managerial jobs by firm size. The figure shows that the performance of the largest firm (size class 3) stands out, with these firms generating more employment per manager in all skills categories, except for professionals. For skilled occupations and higher level semi-skilled occupations (such as clerks) the performance of size class 3 firms was not significantly better than that of other firms. For some semi-skilled work, specifically craft work and plant operations occupations, size class 3 firms performed significantly better in the numbers of jobs per manager. For unskilled labourers, size class 2 and 3 firms performed significantly better than size class 1 firms (smaller firms).<sup>61</sup>

**Figure 28. Ratio of non-managerial workers to managers (median ratios)**



## 11.2 FIRM RESPONSE TO RECENT LABOUR REGULATIONS

The rest of this chapter examines the effect of the labour relations environment on GDMA firms. In order to contextualise the discussion of labour relations, Table 47 illustrates that labour costs form a substantial proportion of total costs for firms in the GDMA.

<sup>61</sup> We ran post-hoc Scheffe significance tests on the means. For professional occupations the means for size class 1 and 2, and 2 and 3, were not significantly different. For technical occupations, the means for size 3 firms was significantly different from size 1 and 2. For clerks, class 1 was significantly different from 2 and 3. For service workers there were no significant differences between 1, 2 and 3. For craft and plant operators, 1 and 2 were significantly different from 3. For labourers 1 was significantly different from 2 and 3.

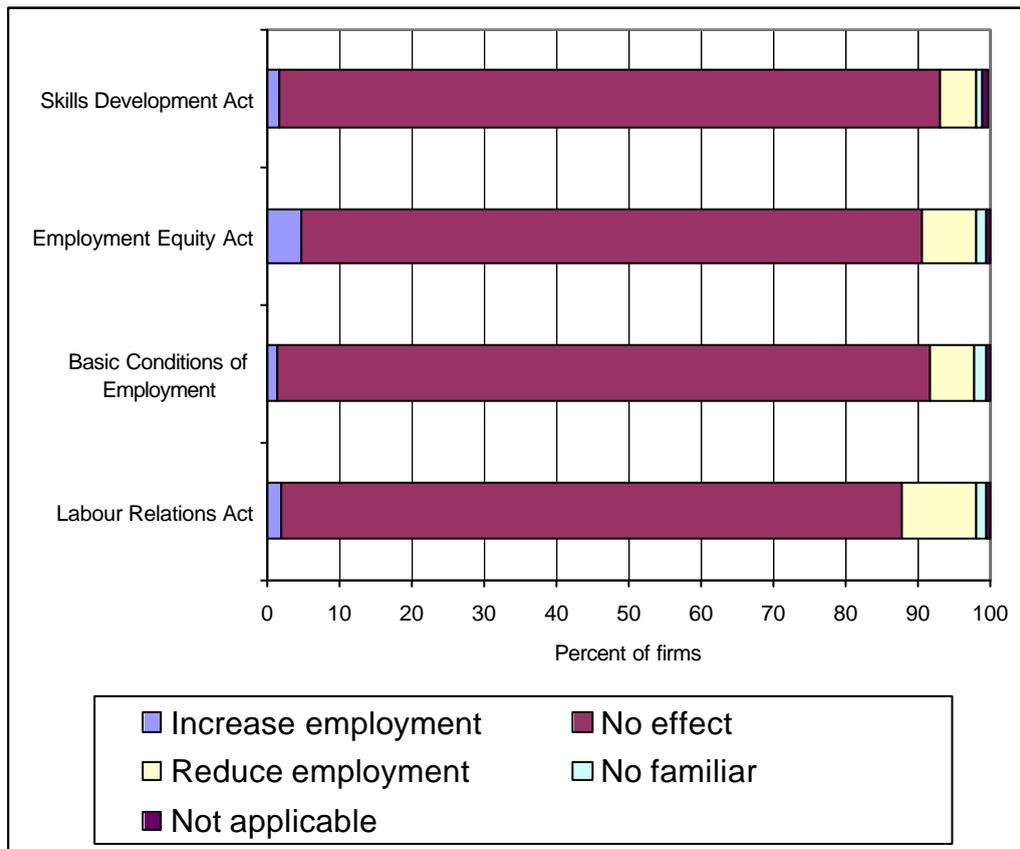
**Table 47. Average Labour Cost**

	2000	2001
Average labour Costs as a Percentage of Sales	22.1	21.1
Av. Labour Costs as a Percent of Total Costs	30.1	28.7

Firms were asked to provide their responses to four pieces of labour legislation that have been introduced in South Africa since 1995: the Labour Relations Act of 1995 (LRA), the Basic Conditions of Employment Act of 1997 (BCEA), the Employment Equity Act of 1998, and the Skills Development Act of 1999. Both the LRA and the BCEA were amended in important respects in 2002. Unfortunately, we are unable to assess the degree to which the amendments, which would have been proposed amendments at the time the survey was conducted, may have affected responses to the legislation.

Firms were asked to specify the effect of each piece of legislation on the size of their workforce. Figure 29 shows that all of these pieces of legislation had a very minor effect on firms in the GDMA, with close to 90% of all firms reporting no effect on the size of their workforce. Where the legislation did have a negative effect on employment, the LRA was identified as a problem.

**Figure 29. Employment Responses of Firms to Labour Legislation**

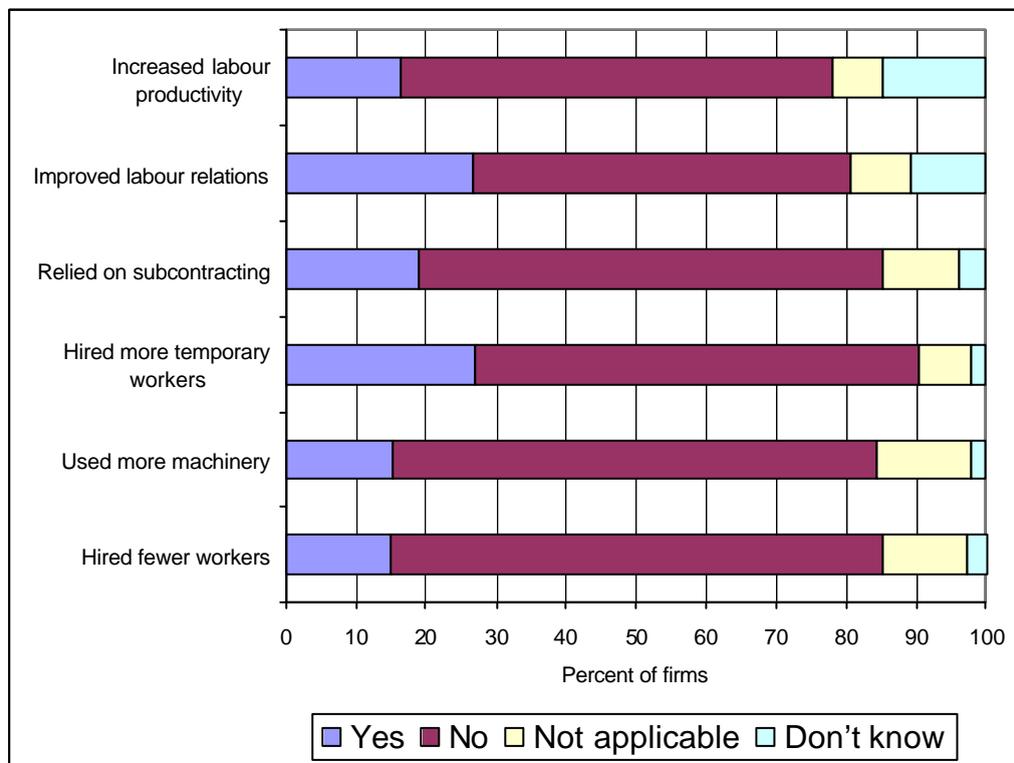


There are differences in the way that smaller firms responded to the legislation. For each of the pieces of legislation, small firms and medium sized firms were

more likely to respond by decreasing employment than the largest firms. For the LRA, whereas 6.5% of the largest firms decreased employment, the respective figure for medium sized and the smallest firms was 13.6% and 12.2%. For the EE Act, whereas only 3.5% of the largest firms reduced employment, 10.7% of medium sized firms, and 9.5% of small firms reduced their employment levels<sup>62</sup>. There was no significant difference between firm size and their response to the BCEA and the Skills Development Act.

Although labour regulations was not identified among the top five constraints to growth by CEOs of GDMA firms, it did feature as a major problem for 20% of firms (see Figure 6, p. 19). The firms' responses to the labour legislation, presented in Figure 29 above, suggest that there is a mismatch between the perceptions of CEOs and actual practice of firms. In order to explore this issue further, we examine other ways in which firms may have responded to the legislation (Figure 30). Again, the vast majority of firms report that the labour legislation has had a limited effect on their operations. There is, however, some evidence that the labour regulations may have had the unintended effect of reducing employment, and increasing subcontracting and temporary work. It is important to note that just under a quarter of the firms in the GDMA reported a positive impact of the legislation in that labour relations improved. The negative impact of the labour legislation in the GDMA was significantly lower than that for the GJMA, where close to 40% of firms responded by hiring fewer workers, or replacing permanent workers with machinery or temporary workers and subcontractors.

**Figure 30. General Response of Firms to Labour Legislation**



<sup>62</sup> The test result is significant at the 5% level. However, the statistic is inappropriate since 60% of cells have a count of less than 5.

Once again, firm size is an important determinant of the way that firms responded to the legislation. Table 48 shows that a greater percentage of small firms responded to the legislation by reducing permanent employment. More smaller firms responded by hiring fewer workers, replacing capital with labour and using more temporary workers at a greater, whereas more larger firms responded by sub-contracting. The positive impact the legislation, that of improving labour legislation, was felt by a greater percentage of larger firms. These differences, with the exception of 'improved labour productivity' are statistically significant. These data are consistent with the perception of CEOs, i.e. that labour relation issues may be an important constraint to growth among small firms.

**Table 48. General Response to Labour Legislation by Firm Size, Percentage of Firms**

<b>Response</b>	<b>Size 50-99</b>	<b>Size 100-99</b>	<b>Size 200+</b>	<b>Total</b>
Hire fewer workers	22.1	12.9	9.5	<b>15.1</b>
Use more machinery	20.7	13.6	10.4	<b>15.2</b>
More temporary workers	34.2	22.6	27.2	<b>27.8</b>
More subcontracting	19.8	17.5	21.9	<b>19.5</b>
Labour relations improved	19.0	26.4	33.3	<b>26.0</b>
Improved labour productivity	16.7	16.9	15.4	<b>16.3</b>

### 11.3 LABOUR RELATIONS ENVIRONMENT

The interactions between firms and their workers is an important factor in the productivity and overall performance of firms. Often, these interactions are mediated through the labour relations environment. We explore some of these issues below. Table 49 reports on the numbers of unions that firms deal with. A large percentage, 31.1%, of size class 1 firms (smaller firms) deal with no union. This decreases to 17.4% size class 2 firms and just 5.5% for the largest firms. Most firms, across the size classes deal with just one trade union.

Figure 31 illustrates that 8% of firms in the GDMA conduct their labour relations outside of any collective bargaining agreements. A larger percentage of smaller firms are not covered by any collective bargaining agreement. 48% of firms are covered by an agreement that is negotiated at a sector or industry level. It is interesting to note that unlike the GJMA, a larger percentage of smaller firms (59%) are covered by agreements at the sector or industry level. This is probably due to the large number of textiles firms in the GDMA that are covered by an industry level agreement. The majority of large firms and medium sized firms conduct their bargaining at the establishment and company level.

**Table 49 Number of Unions Firms Deal With**

	% of firms across size classes and of total			
	50-99	100-199	200+	<b>Total</b>
None	31.1%	17.4%	5.5%	<b>18.5%</b>
One	53.2%	67.4%	69.7%	<b>62.9%</b>
Two	14.0%	11.8%	15.9%	<b>14.0%</b>
Three or more*	1.8%	3.4%	9.0%	<b>4.7%</b>

Notes:

- Statistically significant association between size and number of unions ( $\chi^2=56.6$ ,  $df=6$ ,  $p<0.05$ );
- Only three firms deal with four unions.

**Figure 31. Level at Which Collective Agreements are Made**

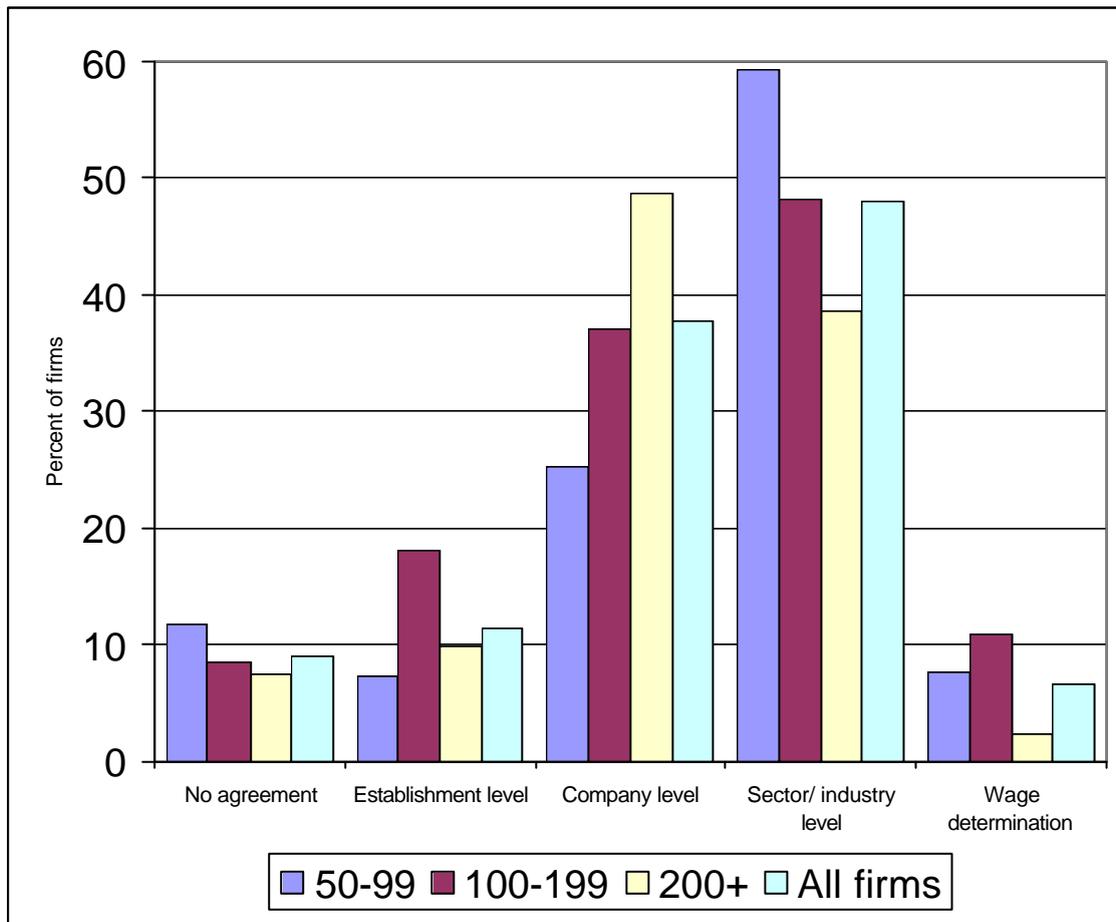


Table 50 reports on the numbers of strikes that occurred at firms in 2001. Strike activity tends to be very cyclical<sup>63</sup> and is driven by many factors – some related to the production system and other not (e.g. political strikes). These data should therefore not be interpreted as suggesting any pattern of strike activity in the GDMA. Table 50 shows that there is a relationship, for 2001, between strike activity and firm size with the number of strikes increasing by firm size. In general, strike activity does not seem to have been an important issue in 2001 with 86.5% of firms reporting no strikes. Just 1.7% of firms, *all* larger firms reported two or

<sup>63</sup> See Table 52, p. 80.

more strikes in the year. Examining the numbers of strikes occurring may give an incomplete picture of strike activity since this does not assess the length of each strike episode and therefore to true costs to employers. Table 51 confirms that in 2001 strike activity was not a major factor for firms with 86.8% of firms reporting nil work days lost due to strikes. Again, there is a relationship between firm size and work days lost due to strikes, with larger firms experiencing higher levels of lost work days.

**Table 50. Number of Strikes – GDMA, 2001**

	% of firms across size classes and of total			
	50-99	100-199	200+	All firms
None	95.9%	88.1%	74.6%	<b>86.5%</b>
One	4.1%	11.9%	20.4%	<b>11.8%</b>
Two or more			5.0%	<b>1.7%</b>

Note: Statistically significant association between size and number of strikes ( $\chi^2=41.6$ ,  $df=2$ ,  $p<0.05$ ).

**Table 51. Number of work days lost due to strikes - GDMA, 2001**

	% of firms across size classes and of total			
	50-99	100-199	200+	All firms
None	95.9%	88.1%	75.6%	<b>86.8%</b>
1-5 days	4.1%	7.9%	15.4%	<b>9.0%</b>
6+ days <sup>64</sup>		4.0%	9.0%	<b>4.2%</b>

Notes:

- Statistically significant association between size and number of days lost ( $\chi^2=40.8$ ,  $df=4$ ,  $p<0.05$ );
- Of firms with strikes, 92% were 10 days or fewer. Six firms experienced strikes of more than 10 days.

The level of strike activity in the GDMA in 2001 is substantially lower than that recorded for the GJMA in 1998 where 46% of firms reported lost workdays of 1-10 days, 32.5% reported losing between 11 and 25 days and 20.6% reported losing between 26 and 200 days. Some caution should however be exercised in comparing the GDMA and GJMA data since they relate to different years, and different contexts. Table 52 shows the number of work days lost in South Africa for the period 1997-2002. The GJMA survey was conducted in a year of relatively high levels of strike activity compared to the GDMA survey. This may explain some of the difference in the levels of strike activity. We are unable, however, to make any firm conclusions based on comparing labour relations in the GDMA and the GJMA.

**Table 52. Work days lost due to strikes, South Africa**

Year	Work days lost
1997	650 000
1998	2.3 million
1999	3.1m
2000	500 000
2001	1.25 million
2002	945 000

Table 53 reports on the percentage of firms retrenching workers in 2001. 14.7% of all firms in GDMA retrenched workers, with retrenchments occurring most often in larger firms. Table 54 reports on the average length of time taken to effect a retrenchment.

**Table 53. Percent of Firms Retrenching Workers - GDMA, 2001**

	% of firms across size classes and of total			
	50-99	100-199	200+	All firms
Yes	10.8%	6.2%	26.4%	<b>14.7%</b>
No	89.2%	93.8%	73.6%	<b>85.3%</b>

Note: Statistically significant association between size and percent firms retrenching ( $\chi^2=34.7$ ,  $df=2, p<0.05$ ).

**Table 54. Time Taken to Retrench an Entry- level Worker**

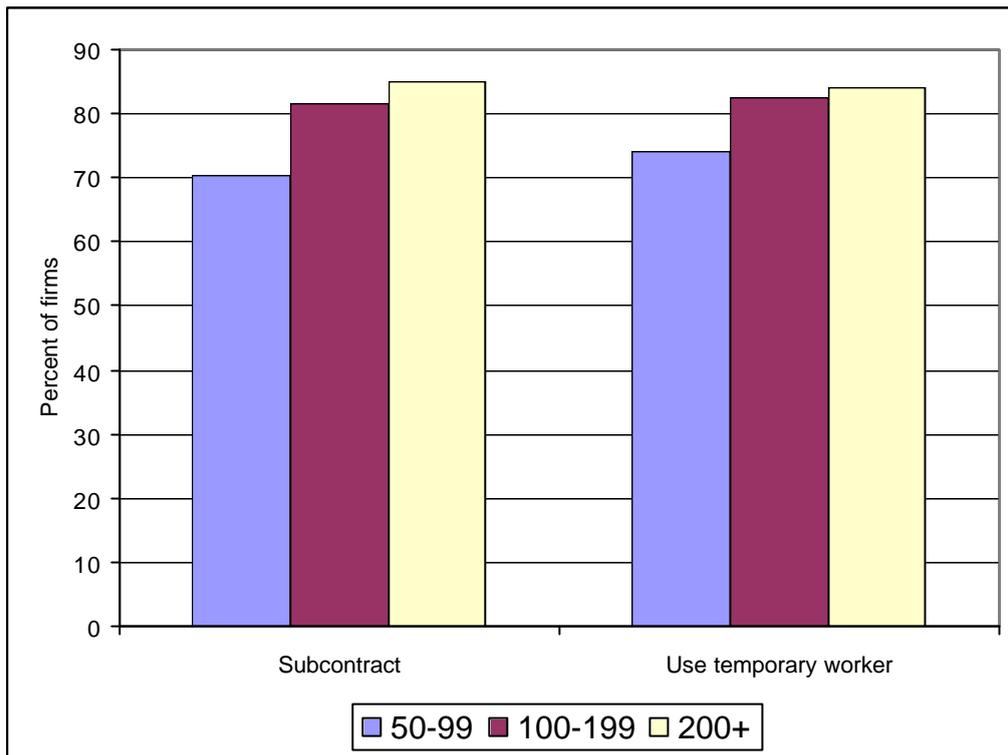
	% of firms across size classes and of total			
	50-99	100-199	200+	All firms
1 month	12.0%	36.4%	18.9%	<b>19.1%</b>
2 months	24.0%	36.4%	18.9%	<b>22.5%</b>
3 or more months	64.0%	27.3%	62.3%	<b>58.4%</b>

Note: The statistical significance of size and time taken to retrench worker cannot be established ( $\chi^2=5.7$ ,  $df=4$ ,  $p=0.219$ ). 33% of cells have expected count less than 5.

#### 11.4 TEMPORARY WORK AND SUBCONTRACTING

One of the responses of firms to the labour legislation introduced since 1995, as we saw earlier, has been to increase subcontracting and the level of temporary work. Figure 32 shows the percentage of firms that use subcontracting and temporary workers. All firms make extensive use of both subcontracting and temporary workers, with this occurring most in the largest firms. This indicates that there are probably close linkages between the large manufacturing firms in the GDMA and the small business and informal business segments of the economy.

**Figure 32. Use of Temporary Workers and Subcontracting, 2001**

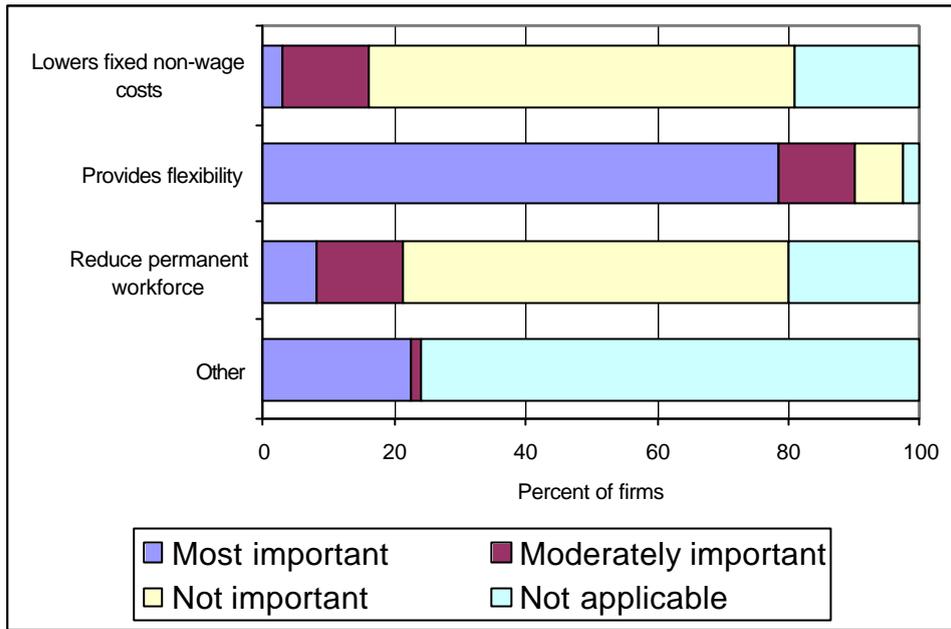


Note: Statistically significant association between size and percent firms using temporary workers ( $\chi^2=7.9$ ,  $df=2$ ,  $p<0.05$ ) and subcontracting ( $\chi^2=14.9$ ,  $df=2$ ,  $p<0.05$ ).

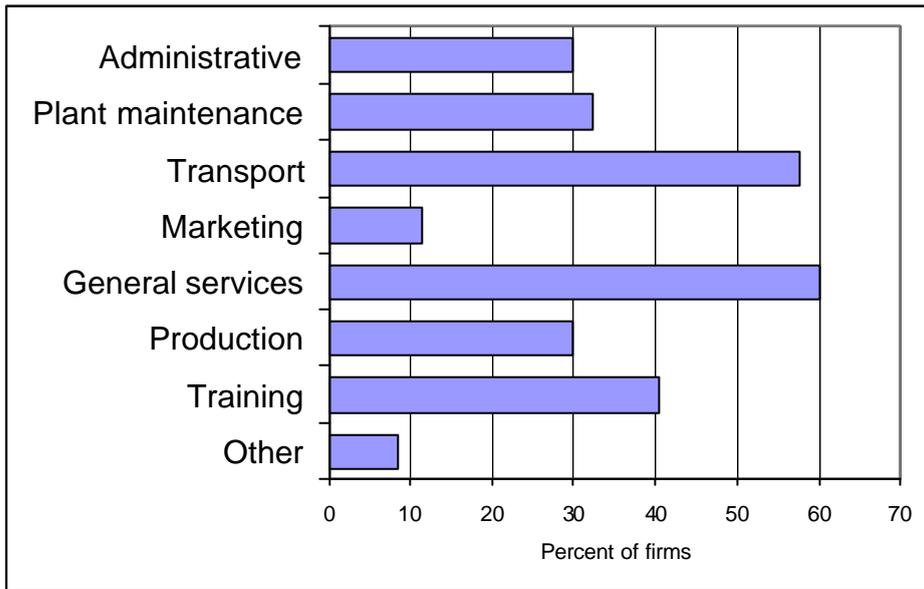
The use of and growth of subcontracting, informal and temporary work is part of an international phenomenon. It is therefore difficult to disentangle exactly what part of this growth in subcontracting and temporary work is a result of the labour legislation. Figure 33 shows that firms primarily use temporary workers because it allows a greater degree of flexibility. The use of temporary workers as a means of reducing labour costs or reducing the permanent workforce applies to only 18% and 21% respectively of firms.

Figure 34 reports on the main activities that manufacturing firms in the GDMA subcontract. The figure shows that most firms subcontract non-core elements of their activities such as transport, general services such as cleaning and security and training. A significant proportion of firms, 30%, do subcontract production. Figure 35 reports on subcontracting by firm size. As would be expected, smaller firms subcontract more of their administrative functions and larger firms more of the general services.

**Figure 33. Reasons for Using Temporary Workers**



**Figure 34. Tasks Outsourced by Firms**



**Figure 35. Tasks Outsourced by Firms by Firm Size**

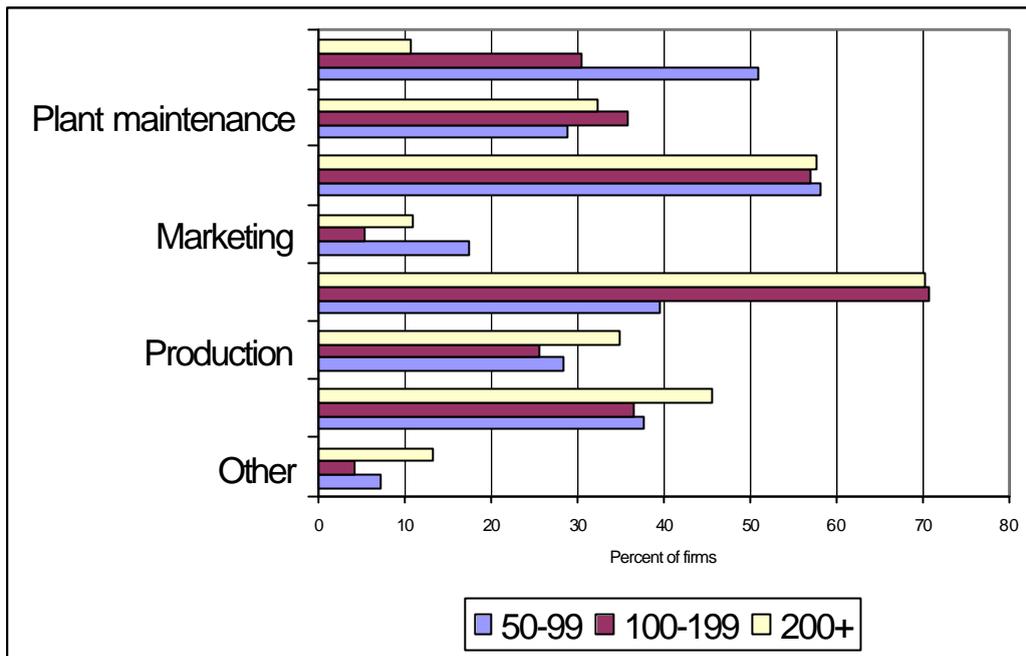
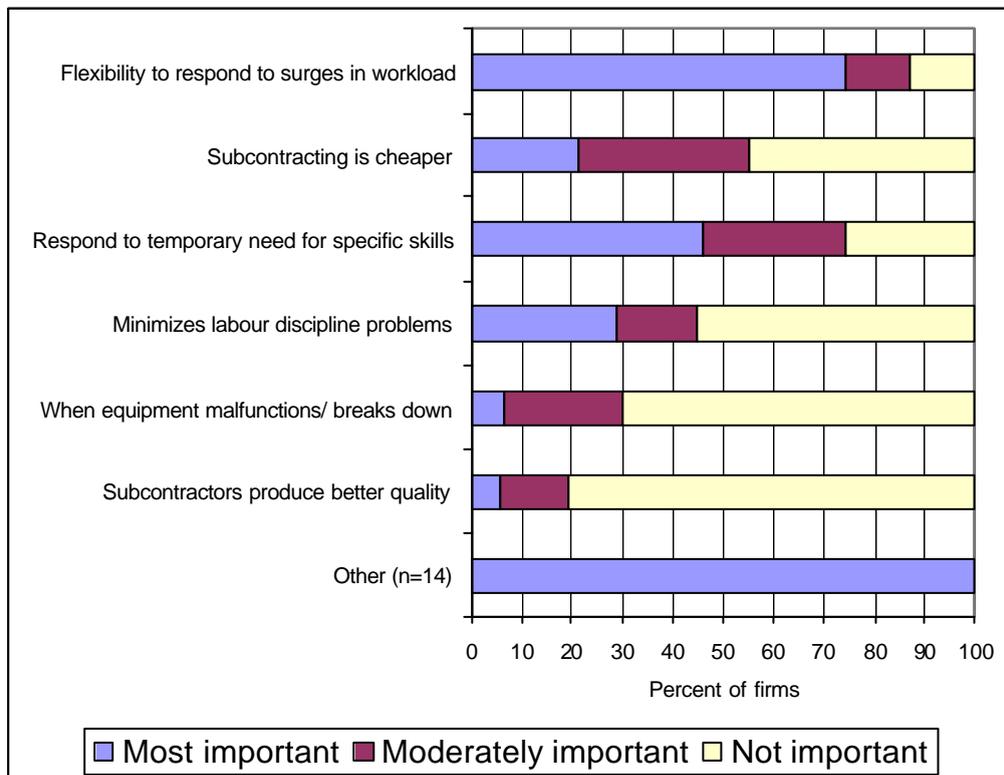


Figure 36 explores the reasons for subcontracting. Like the use of temporary workers, subcontracting is used primarily, by over 70% of firms, as a means to improve flexibility and to cope with production surges. 43% of firms use subcontractors to source specific skills. The use of subcontracting as a means to reduce costs and minimizing labour related problems is less important for GDMA firms than the other reasons.

**Figure 36. Reasons for Subcontracting**



## 12 CONCLUSION

## 13 REFERENCES

- Cassim, R.; D. Onyango and Van Seventer, D.E. (March 2002) "The State of Trade Policy in South Africa", Draft. Johannesburg: TIPS.
- Chandra, V. (2002) "Constraints to Growth in South Africa's Manufactured Exports Sector", *Trade and Industry Monitor*, Vol. 21, pp. 2 – 5 and pp. 10 - 20.
- Chandra, V.; Moorty, L.; Rajaratnam, B. and Schaefer, K. (June 2001) "Constraints to Growth and Employment in South Africa, Report No. 1 – Statistics from the Large Manufacturing Firm Survey", World Bank Southern Africa Department, Discussion Paper No. 14, Informal Discussion Papers on Aspects of the South African Economy.  
<<http://www.tips.org.za/research/lfs/default.htm>> Consulted May 2003.
- Clerides, S.; Lach, S. and Tybout, J. (Aug. 1998) "Is Learning by Exporting Important? Micro-dynamic Evidence from Colombia, Mexico, and Morocco", *Quarterly Journal of Economics*, pp. 903 - 947.
- Department of Labour (Feb. 2001a) "Human Resource Development Strategy for South Africa: A Nation at Work for a Better Life for All." Pretoria.  
<<http://www.labour.gov.za/docs/legislation/skills/HRD%20Strategy.pdf>> Consulted June 2003.
- Department of Labour (2001b) "Provincial Skills Plan (PSP) – Kwazulu Natal". Pretoria.  
<<http://www.labour.gov.za/docs/legislation/skills/index.html>> Consulted June 2003.
- Department of Trade and industry (South Africa) (May 2001) "Driving Competitiveness: An Integrated Industrial Strategy for Sustainable Employment and Growth." Pretoria.  
<<http://www.dti.gov.za/downloads/docs/indstrat2.pdf>> Consulted June 2003.
- HSRC (Nov. 2002) "KZN – Economic Review", Pretoria.
- Katzen, M. (1961) *Industry in Greater Durban. Part 1. Its Growth and Structure*. Pietermaritzburg: Natal Town and Region Planning Commission.
- Lewis, J.D. (2001) "Policies to Promote Growth and Employment in South Africa", the World Bank Southern Africa Department, Informal Discussion Papers on Aspects of the Economy of South Africa, Discussion Paper No. 16.
- The Monitor Company (Dec. 2000) "Durban at the Crossroads". A report prepared by the Monitor Group and the Durban Unicity.
- Morris, M.; Barnes, J. and Dunne, N. (2002) "From Import Substituting Industrialisation to Globalised International Competitiveness: Industrial Restructuring in a South African City" in *(D)urban Vortex: South African City in Transition*, Freund, B. and Padayachee, V. (eds). Pietermaritzburg: University of Natal Press, pp. 107 –133.

Rajaratnam, B. (undated) "Constraints to Growth and Job-Creation in the Durban Metropolitan area - Concept Note", Durban Unicity - World Bank partnership, note partly extracted from Chandra *et al.* (2001), <<http://www.tips.org.za/research/lfs/default.htm>> Consulted May 2003.

Statistics South Africa "Gross Domestic Product per Region: Annual Estimates 1995-2001." Johannesburg: Discussion Paper.

Valodia, I. (1996) " "in Budlender, D. (ed.) *The Women's Budget*. Cape Town: Idasa, Institute for Democracy in South Africa.

Valodia, I. (1999). "Trade Policy and Industrial Development in Durban", *Transformation*, Vol. 39, pp. 72 - 96.

## 14 ANNEX

### The manufacturing sector in KZN

**Annex Table 1. The importance of KZN to South Africa**

	Part 1: 1996			
	Establishment	Paid Employees	Salaries & wages	Net Profit
KZN	19.45	22.74	20.04	21.87
Gauteng	43.04	37.73	45.09	34.33
Other SA Provinces	37.51	39.53	34.86	43.79
Total RSA	100	100	100	100

Source: 1996 Census of Manufacturing.

Part 2: KZN contribution to SA gross domestic product (estimates %)

	1995	1996	1997	1998	1999	2000	2001
	15.9	16.1	15.9	16.0	15.7	15.5	15.5

Source: Statistics South Africa (2002), part of Table 1, p. 20.

**Annex Table 2. Contribution of industries to KZN gross domestic product (estimates)**

	1995	1996	1997	1998	1999	2000	2001
Primary Industries	7.6	8.3	8.0	7.7	6.6	6.7	7.0
Secondary Industries	31.2	29.6	29.4	28.2	27.9	27.4	27.9
<i>Manufacturing</i>	25.9	24.5	24.3	23.2	23.2	23.2	23.3
Tertiary	52.8	54.0	54.3	55.6	56.8	57.0	56.3
All industries at basic prices	91.7	91.8	91.7	91.4	91.2	91.1	91.2

Source: Statistics South Africa (2002), part of Table 6, p. 25.

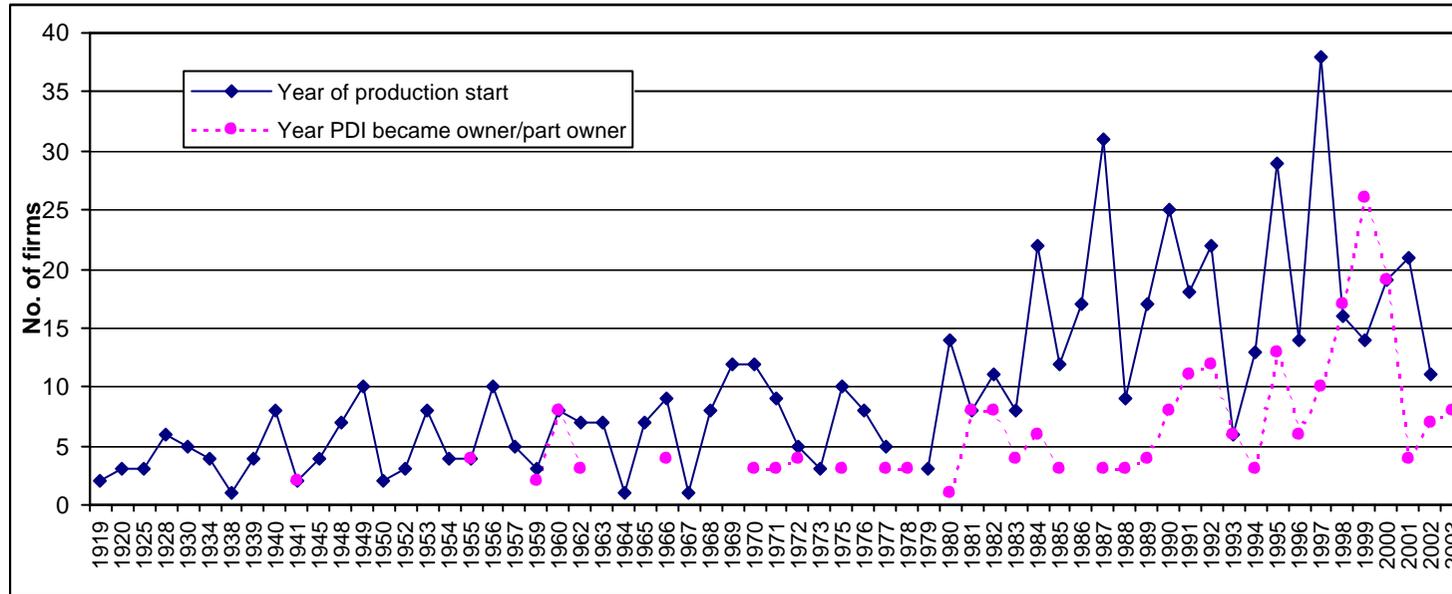
**Annex Table 3. The contribution of manufacturing activities in KZN (1996)**

	Output Structure (%)	% of paid employees
Refined petroleum products, chemical, rubber & plastic products	18.8	10.5
Basic metals, fabricated metal products, machinery & equip.	18.5	14.6
Food, Food pdcts & beverages	17.6	13.6
Wood, wood pdcts, paper & paper pdcts	15.9	13.5
Textiles, clothing & leather goods	13.7	32.6
Transport equip.	10.0	6.1
Furniture & other major groups n.e.s.	2.2	4.1
Non-metallic mineral products	1.7	2.8
Electrical machinery and apparatus	0.9	1.0
Precision & optical & communication equip. & apparatus	0.6	0.9
All sectors	100	100

Source: 1996 Census of Manufacturing.

## Key characteristics of the GDMA firms Start up date

Annex Figure 1. Year plant started production – GDMA



Annex Table 4. Plant start up date: pre- and post 1995, distribution across sectors – GDMA

		Food processing & beverages	Textiles	Paper and furniture	Chemical products	Iron and steel	Metal products	Electrical & electronic machinery	Vehicles & automotive components	Leather & footwear	Non-metallic mineral products	Total
Before 1995	Count	36	112	58	104	8	34	26	35	12	14	439
	% within period	8.20%	25.50%	13.20%	23.70%	1.80%	7.70%	5.90%	8.00%	2.70%	3.20%	100.00%
	% within SECTOR	59.00%	73.70%	68.20%	84.60%	100.00%	69.40%	83.90%	85.40%	46.20%	58.30%	73.20%
After 1994	Count	25	40	27	19		15	5	6	14	10	161
	% within period	15.50%	24.80%	16.80%	11.80%		9.30%	3.10%	3.70%	8.70%	6.20%	100.00%
	% within SECTOR	41.00%	26.30%	31.80%	15.40%		30.60%	16.10%	14.60%	53.80%	41.70%	26.80%
Total	Count	61	152	85	123	8	49	31	41	26	24	600
	% within period	10.20%	25.30%	14.20%	20.50%	1.30%	8.20%	5.20%	6.80%	4.30%	4.00%	100.00%

## Size of firms

**Annex Table 5. Size by age of firms – GDMA, 2002/2003**

		No. of employees			Total
		50-99	100-199	200+	
1-5 years	Count	43	16	21	<b>80</b>
	% within SIZE	19.4%	9.1%	10.5%	<b>13.4%</b>
6-10 years	Count	62	27	11	<b>100</b>
	% within SIZE	27.9%	15.3%	5.5%	<b>16.7%</b>
11-20 years	Count	50	72	58	<b>180</b>
	% within SIZE	22.5%	40.9%	29.0%	<b>30.1%</b>
21-30 years	Count	24	13	22	<b>59</b>
	% within SIZE	10.8%	7.4%	11.0%	<b>9.9%</b>
Over 30 years	Count	43	48	88	<b>179</b>
	% within SIZE	19.4%	27.3%	44.0%	<b>29.9%</b>
<b>Total</b>	<b>Count</b>	<b>222</b>	<b>176</b>	<b>200</b>	<b>598</b>

Note:  $\chi^2=76.165$ ,  $df=8$ ,  $p<0.05$ .

**Annex Table 6. Size of firms by sector – GDMA, 2002/2003**

		No. of employees			Total
		50-99	100-199	200+	
Food processing and beverages	Count	19	18	24	<b>61</b>
	% within SIZE	8.6%	10.2%	11.9%	<b>10.2%</b>
Textiles	Count	50	43	59	<b>152</b>
	% within SIZE	22.5%	24.3%	29.4%	<b>25.3%</b>
Paper and furniture	Count	29	26	30	<b>85</b>
	% within SIZE	13.1%	14.7%	14.9%	<b>14.2%</b>
Chemical products	Count	50	35	38	<b>123</b>
	% within SIZE	22.5%	19.8%	18.9%	<b>20.5%</b>
Iron and steel	Count	2	4	2	<b>8</b>
	% within SIZE	0.9%	2.3%	1.0%	<b>1.3%</b>
Metal products	Count	23	17	9	<b>49</b>
	% within SIZE	10.4%	9.6%	4.5%	<b>8.2%</b>
Electrical and electronic machinery	Count	10	12	9	<b>31</b>
	% within SIZE	4.5%	6.8%	4.5%	<b>5.2%</b>
Vehicles and automotive components	Count	14	12	15	<b>41</b>
	% within SIZE	6.3%	6.8%	7.5%	<b>6.8%</b>
Leather and footwear	Count	11	5	10	<b>26</b>
	% within SIZE	5.0%	2.8%	5.0%	<b>4.3%</b>
Non-metallic mineral products	Count	14	5	5	<b>24</b>
	% within SIZE	6.3%	2.8%	2.5%	<b>4.0%</b>
<b>Total</b>	<b>Count</b>	<b>222</b>	<b>177</b>	<b>201</b>	<b>600</b>

Note:  $\chi^2=18.513$ ,  $df=18$ ,  $p=0.422$ .

## Parent companies

**Annex Table 7. Parent company and size – GDMA, 2002/2003**

		50-99	100-199	200+	Total
Parent company?	Yes				
	Count	70	64	123	<b>257</b>
	% within answer	27.2	24.9	47.9	<b>100</b>
	% within firm size	31.5	36.2	61.2	<b>42.8</b>
	No				
	Count	152	113	78	<b>343</b>
% within answer	44.3	32.9	22.7	<b>100</b>	
% within firm size	68.5	63.8	38.8	<b>57.2</b>	
<b>Total firms</b>		<b>222</b>	<b>177</b>	<b>201</b>	<b>600</b>

Note:  $\chi^2=42.474$ ,  $df=2$  and  $p<0.05$ .

**Annex Table 8. The role of parent companies in investment decisions: responses according to size – GDMA, 2002/2003**

		50-99	100-199	200+	Total
Independently of its parent company	Count	13	12	42	<b>67</b>
	% within response	19.4	17.9	62.7	<b>100</b>
	% within SIZE	18.3	18.8	34.1	<b>26.0</b>
By parent company	Count	12	11	18	<b>41</b>
	% within response	29.3	26.8	43.9	<b>100</b>
	% within SIZE	16.9	17.2	14.6	<b>15.9</b>
Jointly	Count	46	41	63	<b>150</b>
	% within response	30.7	27.3	42	<b>100</b>
	% within SIZE	64.8	64.1	51.2	<b>58.1</b>
<b>Total firms that have responded</b>		<b>71</b>	<b>64</b>	<b>123</b>	<b>258</b>
% within response		27.5	24.8	47.7	100

Note:  $\chi^2=8.23$ ,  $df=4$  and  $p=0.084$ .



**Annex Table 9. Sectoral distribution of parent companies – GDMA, 2002/2003**

		Food proc. & bev.	Textiles	Paper & furniture	Chemical products	Iron & steel	Metal products	Electrical & electronic mach.	Vehicles & autom. Comp.	Leather & footwear	Non-metallic mineral products	Total
company?	Yes											
	Count	39	24	40	91	5	15	20	16		10	<b>260</b>
	% within answer	15.0	9.2	15.4	35.0	1.9	5.8	7.7	6.2		3.8	<b>100</b>
	% within sector	63.9	15.8	47.1	74.0	62.5	30.6	64.5	39.0		40	<b>43.3</b>
	No											
	Count	22	128	45	32	3	34	11	25	26	15	<b>341</b>
% within answer	6.5	37.5	13.2	9.4	0.9	10.0	3.2	7.3	7.6	4.4	<b>100</b>	
% within sector	36.1	84.2	52.9	26.0	37.5	69.4	35.5	61.0	100	60	<b>56.7</b>	
<b>Total firms</b>		<b>61</b>	<b>152</b>	<b>85</b>	<b>123</b>	<b>8</b>	<b>49</b>	<b>31</b>	<b>41</b>	<b>26</b>	<b>25</b>	<b>601</b>

Note:  $\chi^2=135.491$ ,  $df=9$  and  $p=0.000$ .

## PDI Involvement

**Annex Table 10. Size of firm by PDI involvement – GDMA, 2002/2003**

		SIZE			Total
		50-99	100-199	200+	
Yes	Count	85	65	78	<b>228</b>
	% within SIZE	38.3%	36.7%	38.8%	<b>38.0%</b>
No	Count	137	112	123	<b>372</b>
	% within SIZE	61.7%	63.3%	61.2%	<b>62.0%</b>
<b>Total</b>	<b>Count</b>	<b>222</b>	<b>177</b>	<b>201</b>	<b>600</b>

Note:  $\chi^2=0.186$ ,  $df=2$ ,  $p=0.911$ .

**Annex Table 11. Distribution of PDI companies across sectors – GDMA, 2002/2003**

		Food proc. & beverages	Textiles	Paper & furniture	Chemical products	Iron & steel	Metal pdcts	Electrical & electronic mach.	Vehicles & autom. components	Leather & footwear	Non-metallic mineral pdcts	TOTAL
PDI(s) or companies controlled by PDIs own part	<b>Yes</b>											
	Count	23	68	37	44	1	9	11	6	22	8	229
	% within group	10.0	29.7	16.2	19.2	0.4	3.9	4.8	2.6	9.6	3.5	100
	% within SECTOR	37.7	44.7	43.5	35.8	12.5	18.4	35.5	14.6	84.6	33.3	38.2
	<b>No</b>											
	Count	38	84	48	79	7	40	20	35	4	16	371
	% within group	10.2	22.6	12.9	21.3	1.9	10.8	5.4	9.4	1.1	4.3	100
	% within SECTOR	62.3	55.3	56.5	64.2	87.5	81.6	64.5	85.4	15.4	66.7	61.8
	<b>Tota</b>											
Count	61	152	85	123	8	49	31	41	26	24	600	
Distribution of firms across sectors (%)	10.2	25.3	14.2	20.5	1.3	8.2	5.2	6.8	4.3	4	100	

## Outsourcing of production

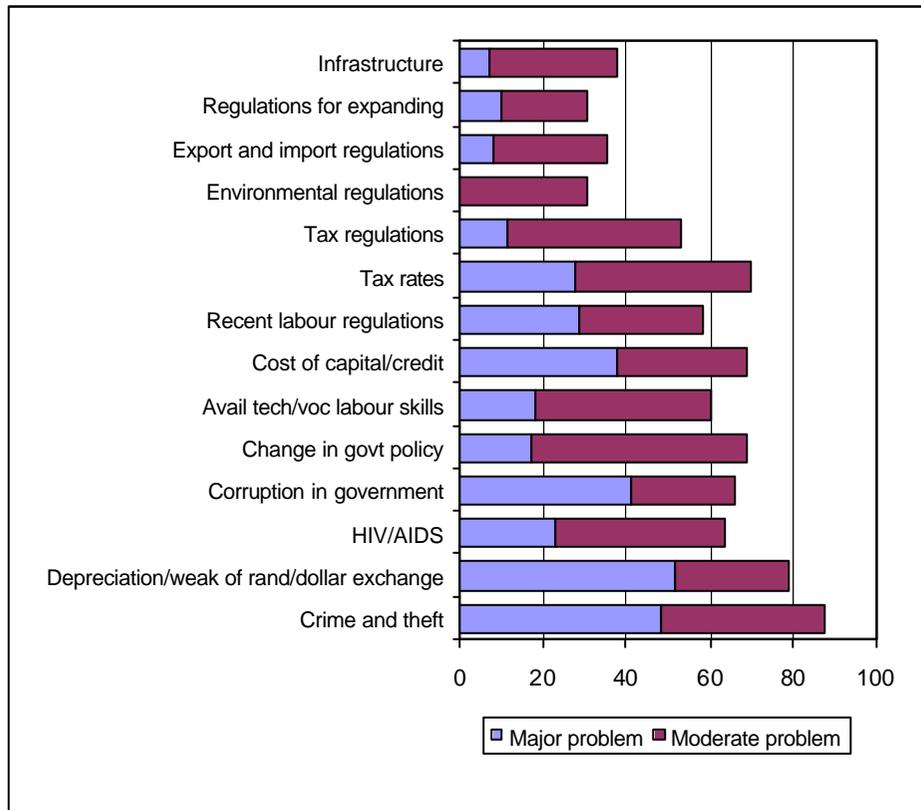
**Annex Table 12. Sectoral pattern of production outsourcing/subcontracting – GDMA, 2002/2003**

		Food proc. & beverages	Textiles	Paper & furniture	Chemical products	Iron & steel	Metal pdcts	Electrical & electronic mach.	Vehicles & autom. components	Leather & footwear	Non-metallic mineral pdcts	TOTAL
Production outsourced?	<b>Yes</b>											
	Count	3	60	14	17	4	12	11	7	9	5	142
	% within SECTOR	4.9	39.5	16.5	13.8	50	24.5	35.5	17.1	34.6	20.8	23.7
	<b>No</b>											
	Count	58	92	71	106	4	37	20	34	17	19	458
	% within SECTOR	95.1	60.5	83.5	86.2	50	75.5	64.5	82.9	65.4	79.2	76.3
<b>Tota</b>												
Count	61	152	85	123	8	49	31	41	26	24	600	
% within SECTOR	100	100	100	100	100	100	100	100	100	100	100	

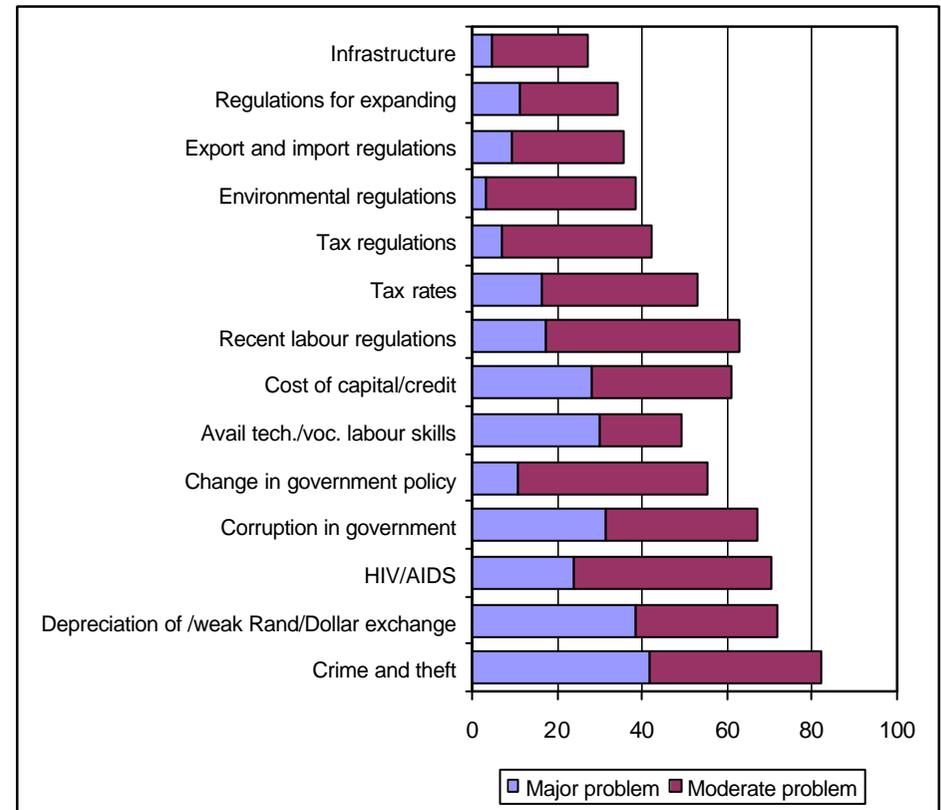
Note:  $\chi^2=50.232$ ,  $df=9$ ,  $p=0.000$ .

### Constraints to growth

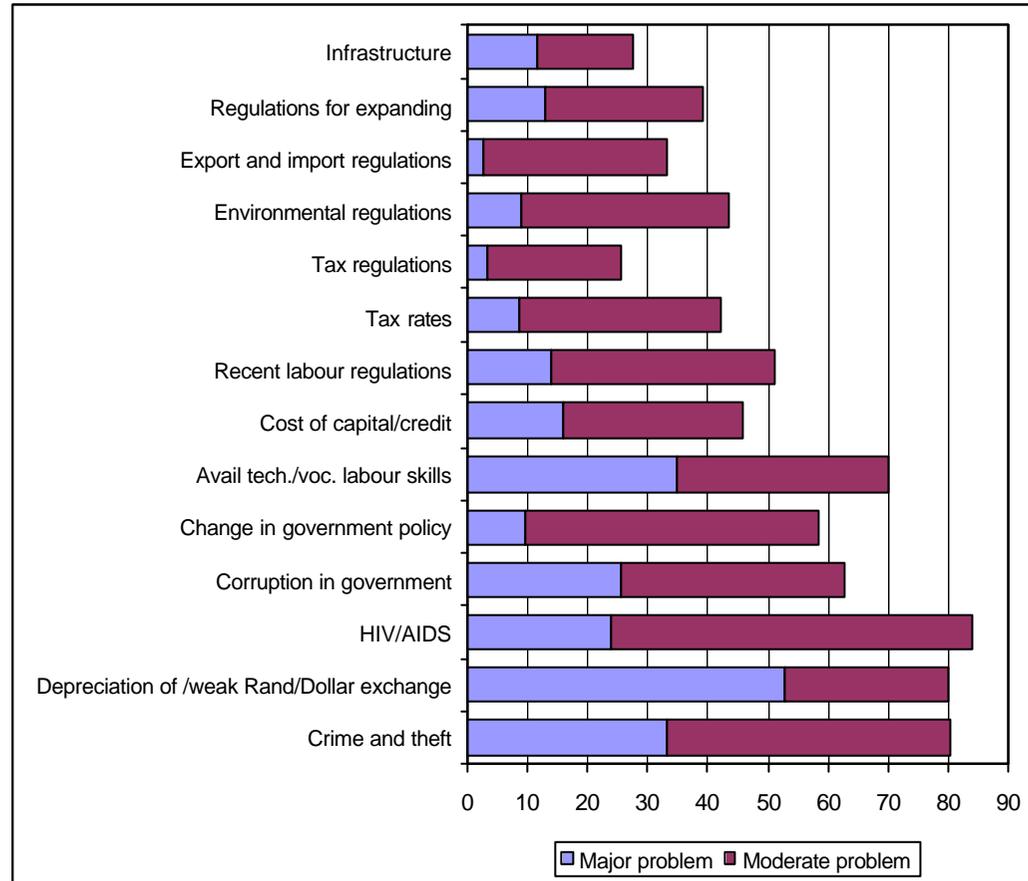
**Annex Figure 2. Index of CEO Rankings on Constraints to Growth (n=222): Size 50-99 employees**



**Annex Figure 3. Index of CEO Ranking on Constraints to Growth (n=177): Size 100-199 employees**



**Annex Figure 4. Index of CEO Ranking on Constraints to Growth (n=177): Size 200 + employees**



## Employment characteristics

**Annex Table 13. Structure of manufacturing employment across categories (n=600) – GDMA, 2001**

		Managerial	Prof & technical	Clerical	Service worker	Craft	Plant Op.	Labourers & related
No. of employees	Mean	8	22	16	8	11	89	66
	Median	6	4	5	0	0	42	27
	Mode	4	0	0	0	0	0	0
	Minimum	0	0	0	0	0	0	0
	Maximum	95	1173	202	212	305	855	4412
% of firms with no employee in category		9.50	24.5	17.4	50.4	67.6	14.7	24.5

## Key features of training

**Annex Table 14. Total number of training programs and of trained workers – GDMA, 2002/2003**

		Senior officials, managers & professionals	Technicians & associated professionals	Clerks & service/sales workers	Craft & related workers	Plant & machine operators & assemblers	Labourers & related occupations	Common/across occup. categories
In-house	Number in-house training programs offered in 2001	421.5	446.1	719.5	248.8	1062.9	646.2	144.9
	Number of workers trained	1255.3	1541.0	1866.8	3255.2	20624.1	10884.0	6465.7
Outside	Number outside training programs	477.1	313.7	561.0	200.0	829.3	665.4	211.4
	Number workers trained	2383.2	3938.5	3973.2	2202.8	18834.0	7391.6	330.5
	Number trainees left in 2001 after training	43.1	93.9	22.0	395.9	172.6	279.8	397.8

**Annex Table 15. Proportion of GDMA firms involved with training (Percent valid firms n/600) - 2002/2003**

		Senior officials, managers & professionals	Technicians & associated professionals	Clerks & service/sales workers	Craft & related workers	Plant & machine operators & assemblers	Labourers & related occupations	Common/across occup. categories
In-house	Number in-house training programs offered in 2001	14.3	17.3	18.2	7.5	31.8	20.0	6.7
	Number of workers trained	16.0	21.6	20.4	9.7	51.8	35.0	5.7
Outside	Number outside training programs	19.0	18.1	22.0	9.3	28.3	19.7	5.3
	Number workers trained	19.0	17.1	19.7	6.9	26.7	17.5	3.0
	Number trainees left in 2001 after training	2.6	4.9	1.8	1.5	5.5	4.3	1.7

**Annex Figure 5. Preferences towards external training agencies – GDMA, 2002/2003**

