

SECTORAL STUDY – HEAVY AND LIGHT ENGINEERING

1 INTRODUCTION

The light and heavy engineering sector is a downstream industry, comprising a range of manufacturing processes and outputs as diverse as automotive components and cans. When measured by their share of GDP in the manufacturing sector, the light and heavy industries are an import component of the manufacturing sector (NUMSA Light and Heavy Engineering Report, 2002). The light and heavy engineering industries contribute 6.1% share in total GDP of manufacturing (ABSA, 2001) and traditionally comprises automotive components, metal fabrication, and metal products.

1.1 Profile of the sector

1.1.1 Industry Classification

As noted in the original project methodology, the decision to include various sub-sectors pertaining to this paper in the study scope was arrived at through the consideration of the points below.

The scope is driven by the sectors included in the Metals and Engineering Bargaining Council. However, relevant metals downstream sub-sectors were grouped for analysis based on the bargaining council definitions. An example is that automotive components were included, while motor assembly was excluded. Finally, the terms of reference did not specify any metal construction activities; however from a methodological point of view they were included as a downstream sub-sector of the metals industry.

In the sub-sector segmentation, manufacture of structural metal products, tanks, reservoirs and steam generators (SIC 354) were separated from manufacture of other fabricated metal products; metalwork service activities (SIC 355) although they are collectively defined as manufacture of fabricated metal products. Manufacture of metal furniture is included under SIC 355.

All relevant light and heavy engineering sectors covered by the bargaining council were included within the scope and were addressed in Phase 1 of the research. Secondary (e.g. distributors and agents) and tertiary industries (e.g. services to the sector) were excluded.

For the purposes of this study, the sector has therefore been divided into the following sub-sectors:

- Automotive components - comprising the manufacture of bodies (coachwork) for motor vehicles; and the manufacture of trailers and semi-trailers (SIC 3820). Also comprising the manufacture of parts and accessories for motor vehicles and their engines (SIC3830).
- Metal fabrication – comprising the manufacture of structural metal products, tanks, reservoirs and steam generators (SIC 3541) and the manufacture of tanks, reservoirs and similar containers of metal (SIC 3542). This group also includes the manufacture of steam generators, except central heating hot water boilers (SIC 3543).
- Metal products – comprising the manufacture of other fabricated metal products; as well as metalwork service activities (SIC 355). Within this broad classification the following sub-categories were analysed:
 - Forging, pressing, stamping, and roll-forming of metal; powder metallurgy (SIC 3551);
 - Treatment and coating of metals; general mechanical engineering on a fee or contract basis (SIC 3552);
 - Manufacture of cutlery, hand tools and general hardware (SIC 3553)
 - Manufacture of other fabricated metal products not elsewhere classified (SIC 3559)
 - Manufacture of furniture made predominantly of metal (SIC 39101)
- Metal construction and installation – comprising construction by specialist trade contractors (SIC 5024) and also comprising building installation (SIC 503). Under building installation the following sub-categories may be found:
 - Plumbing (SIC 5031)
 - Electrical contracting (SIC 5032)
 - Shopfitting (SIC 5033)
 - Other building installation not elsewhere classified (SIC 5039)

1.1.2 Major products

The sub-sectors noted above produce a wide range of products and activities, but to give a sense of the overall sector, the major products or activities are noted below, according to the SIC codes.

Automotive components - This group includes the manufacture of bodies (including cabs) designed to be mounted on motor vehicle chassis; bodies for passenger vehicles, lorries and special purpose vehicles; trailers and semi-trailers designed to be drawn by motor vehicles; trailers and semi-trailers of the caravan type used for housing or camping, for the transport of goods; and containers (including containers for the transport of fluids) specially designed and equipped for carriage by one or more modes of transport.

Automotive parts and accessories includes the manufacture of parts and accessories for motor vehicles, including their bodies and engines: Brakes, gear boxes, axles, road wheels, suspension shock absorbers, radiators, silencers, exhaust pipes, clutches, steering wheels, steering columns and steering boxes. Also included are the activities of specialised automotive engineers engaged in the reconditioning and/or rebuilding of automotive parts such as differentials, gear boxes, clutches and brake-shoes.

Metal fabrication – the structural metal products component includes the manufacture of metal structures, parts of metal structures, fabricated structural steel and similar products, including bridges and bridge parts, towers, masts, columns, girders, trusses, arches, rafters, pithead frames, telescopic props, sluice gates, piers, jetties. The manufacture of prefabricated buildings predominantly of metal is included. The manufacture of metal doors, windows, window frames, shutters, fire-escapes, gates, and similar metal work used on buildings. The articles are transportable goods ready for assembly, installation or erection.

The tanks and reservoirs category includes the manufacture of containers of metal for compressed or liquefied gas. Manufacture of central heating boilers and radiators, reservoirs, tanks, and similar containers of types normally installed as fixtures for storage.

The steam generator category includes the manufacture of nuclear reactors for all purposes other than isotope separators. The term “nuclear reactor” covers, in general, all the apparatus and appliances inside the area screened off by the biological shield, including, where appropriate, the shield itself. The term also includes linked support systems. The manufacture of steam or other vapour generating boilers and the manufacture of auxiliary plants for use with boilers, such as economisers, super-heaters, steam collectors and accumulators. Soot removers, gas recoverers and sludge scrapers are also included.

Metal products - This group includes metal service activities such as the manufacture of a wide variety of finished or semi-finished metal products by forging, pressing, stamping and

roll-forming, or powder metallurgy, or under pressure. Also included are plating, polishing, anodising, colouring, engraving, printing, hardening, buffing, deburring, sand-blasting, tumbling, cleaning, welding, and grinding. Cleaning (decalcification) of the interior of pipes and pumps at industrial plants is also included.

Metal products themselves include the manufacture of metal articles for use in and about the house, such as knives and knife blades, other articles of cutlery, etc.; hand tools of a kind used in agriculture, horticulture or forestry; carpentry, cabinet work or other woodwork, mechanical assembly work; sheet metal work; saws and saw blades; knives and cutting blades for machines or for mechanical appliances; interchangeable tools for hand tools or for machine tools; blacksmiths' tools including forges and anvils; manufacture of vices, clamps; locks, padlocks, clasps, and keys.

Other fabricated metal products includes metal fasteners (nails, rivets, tacks, pins, staples, washers); nuts, bolts, screws; metal cable, plaited bands; articles made of wire (barbed wire, wire fencing); packing containers (casks, drums, pails, cans, boxes); springs (leaf springs, helical springs, torsion bar springs); cutlasses, swords, bayonets and similar arms; hollowware, dinnerware; frying pans, saucepans and other metal cooking utensils; small hand-operated kitchen appliances; metal sanitary ware, including baths, sinks, wash-basins; metal office goods; safes, strongboxes, strong-room gates; railway or tramway fixtures or fittings (turntables, platform buffers).

The manufacture of metal furniture for all dwellings (offices or homes or hotels, etc.) is included here, as is the manufacture of different kinds of mattresses.

Metal construction and installation – this includes specialist trade contractor work such as pile-driving, foundation work, concrete work, carcasswork, bricklaying, stone setting, plastering, roof covering, etc. The erection of steel structures is included.

Building installation is also included and covers the installation of all kinds of utilities that permit the construction to function as such. Included are activities such as plumbing, the installation of heating and air-conditioning systems, antennas, alarm systems and other electrical work, sprinkler systems, elevators and escalators, etc. Also included are insulation work (water, heat, sound), sheet metal work, industrial process piping work, commercial refrigerating work, the installation of illumination and signalling systems for roads, railways, airports, harbours, etc., and the installation of certain plants such as manufacturing plants, electric power and transformer plants, telecommunication and radar plants, etc. Also included is repair work undertaken in connection with the above-mentioned installations.

1.1.3 Major companies

In most cases these sub-sectors are characterised by a few major players, with the rest of the sub-sector being made up of small to medium companies. However, the small to medium-sized players account for the bulk of employment. The most capital-intensive manufacture is often found in the bigger players. Examples of these large companies include August Lapple and ISE making automotive bodies, ConSouth Africani, Wilfred-Oddy and Trencor (who manufacture inter-modal tanks), Bosal and Tiger Wheel and Tyre (manufacture parts and accessories). Under metal fabrication, Grinaker-LTA, ConSouth Africani, John Thomson, and IST are examples of domestic players.

The metal products category includes companies such as MacBrightBar, Asaa-Abloy, Haggie, Tetrapak, Lasher, and Edblo. The metal construction and installation group includes Group-5 Murray & Roberts, Grinaker-LTA, McBride and Status.

2 GLOBAL CONTEXT

The **metal fabrication** sector as defined by this study includes structural metal products and tanks and reservoirs. Structural metal products globally are largely linked to construction and building activities, where construction can be seen to be largely civil projects, and building refers to office or residential structures. Understandably, the global structural metal sector globally been negatively affected by the September 11 2001 attacks on the US. In the US growth is still only around 2% (Performance Review, 2003). The EU economy is also still small, with growth levels in its major economies not expected to rise above 2.5% during 2003.

The **global tank container market** has recently started to recover from the slump that it experienced in late 2001. This was largely due to a decreased demand in the petrochemical market, which led to decreased demand for tank containers. This slowdown was linked to the slump in the EU and US markets. South African companies manufacture almost 60% of new tank containers internationally. Tank container utilisation levels are picking up, but demand for new containers is still sluggish. Most of the tank containers made in South Africa are exported.

The **global automotive market** as a whole, can be divided into three broad segments; Original Equipment Manufacture (OEM), which is comprised of passenger and commercial vehicle sales; Original Equipment Supply (OES), which is comprised of automotive parts and accessory sales through the OEMs and finally the independent aftermarket consisting of automotive parts and accessory sales through independent retailers and repair shops (Performance Review, 2003).

Globally, there is still a large amount of underutilised automotive capacity both in developing and developed countries. For example, both South Korea and Japan are experiencing significant underutilisation of their existing automotive production capacity (Barnes, undated). This is exacerbated by the sluggish growth of global markets, which has been a problem for OEMs recently. Growth is very low, and this has an attendant knock-on effect in terms of component demand. As in the rest of the metals sector, this has led to a series of large mergers and acquisitions over the last 5 years in both component and OEM companies. In addition, the developed markets of the US and the EU evidence mainly 'replacement demand', whereby the growth is not in new products, but in replacement of existing vehicles for slightly redesigned models. The growth market for new vehicle products is in the Far East.

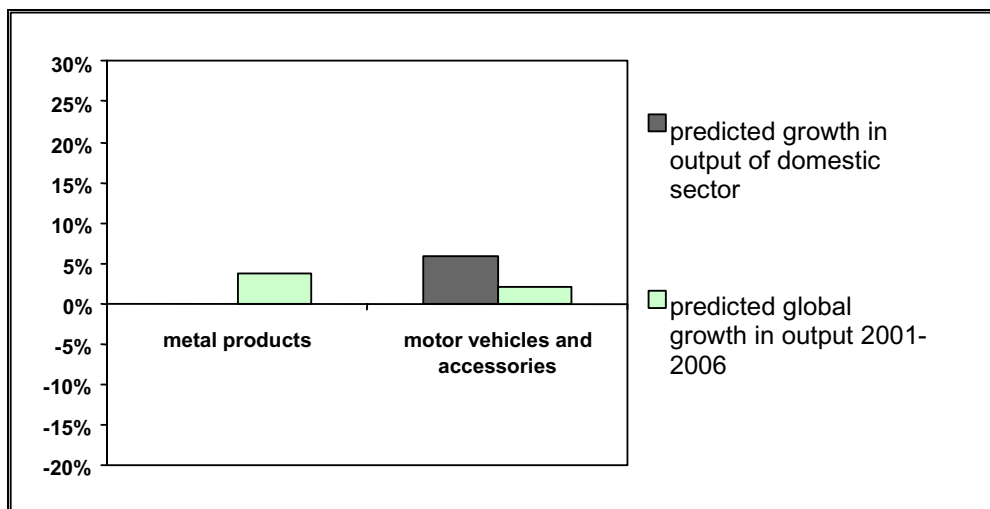
Global world trade in **structural steel** products accelerated by 11% per annum in value terms. Structural products accounted for 2.2% of world trade in downstream steel products (IDC Downstream analysis, 2000). In terms of end-user demand, the South African **construction sector** has experienced revived growth in recent years, especially on the

regional and continental stage, but local activity is also increasing. As noted above, the **metal construction and installation** as well as the **metal fabrication (including structural metal)** sub-sectors provide inputs to construction contracting. European, North American and some Australian contractors dominate most of the construction contracting in Africa, but a number of South African companies have gained market share since 1994. By 2000, the two largest South African companies by turnover, Grinaker-LTA and Murray and Roberts, had secured 9% of the African market (excluding their South African turnover). This amounted to US\$ 663 million in 2000 (TIPS Forum Paper, 2002). To what extent these projects incorporate South African structural steel products is unclear although metal construction and installation activities would be included in the turnkey solutions provided by South African companies.

However it is in the local market that increased employment and growth would have the most multiplier effects in terms of procurement and sub-contracting across the construction industry, thus benefiting light and heavy engineering sub-sectors directly.

An area of international growth that has positive implications for South Africa is stainless steel. Globally this sector has grown at 6% per year from 1990 to 2000. This has also seen South African exports grow over the period, with exports now larger than imports for the first time since 2000. The clearest drivers of this are the growth globally in the market for stainless steel tank containers and catalytic convertors. South Africa now supplies around 60% of the global market for tank containers. With strengthened environmental regulations globally, catalytic convertor usage has also grown. It is expected that global stainless steel demand will continue to rise at a steady rate. However, as can be seen from Figure 71, the global future for metal products and the automotive sectors that together constitute the heavy and light engineering sector is not strong, with global growth being less than 5% in both instances.

Figure 71: Predicted growth in domestic and global output, 2001-2006



Source: ABSA, 2002

3 HISTORICAL, CURRENT AND FUTURE EXPECTED DOMESTIC PERFORMANCE

3.1 Introduction

The light and heavy engineering industries have been experiencing decline in growth (GDP) over the past two decades, with the value added to products dropping, the rate of profit for most companies falling and a rise in retrenchment of workers coupled with poor export performance. It should be borne in mind though that factors operating at a global level have also contributed to the deterioration of South African's basic metal's growth performance in the past, and will affect its growth path in the future. The picture is a multi-faceted one, with a decline in public and private investment, poor exports, low capital productivity, lack of skilled labour, rise of grey goods in the domestic market, shrinking of local market demand, import parity pricing and reduction of import tariffs all contributing to the sector's apparent lack of growth. Profit rates in South Africa have declined simultaneously, particularly over the medium to long term. In fact, a decline of almost 50% was experienced from the 1970's to the mid-1990s. However, this decline did stabilise and from that point on, remained within a tight range till 2000 (NIEP, cited in NUMSA Background Report, 2002).

Of interest in terms of domestic developments is the **stainless steel** sector. This sector has experienced strong growth in recent years. This has been largely due to the efforts of the South African Stainless Steel Development Association (SASSDA) and the South African Stainless Steel Fabricators Association (SASSFA). SASSDA recently published its annual report on trends and statistics in the South African stainless-steel industry, stating that the apparent domestic consumption was 138 900 tons in 2001, which represents a growth of over 12,5% compared to the previous year (Creamer Research, 2002).

3.2 Employment overview

As reflected in Figure 72, the heavy and light engineering sectors are the largest in the metals and engineering sector and as such, are critical to the continued ability of the overall sector to maintain and expand employment levels.

Figure 72: Employment performance in light and heavy engineering versus other sectors

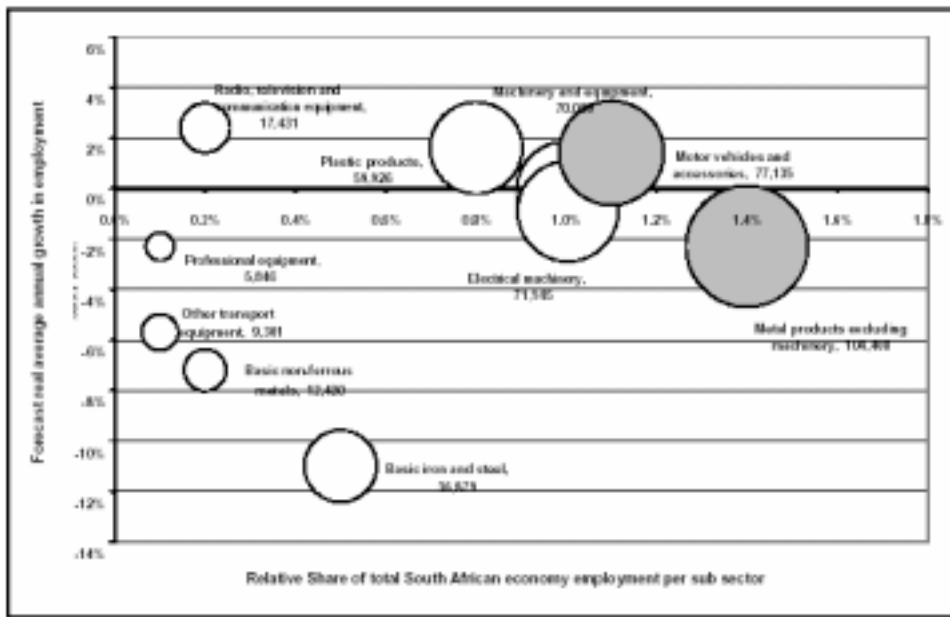
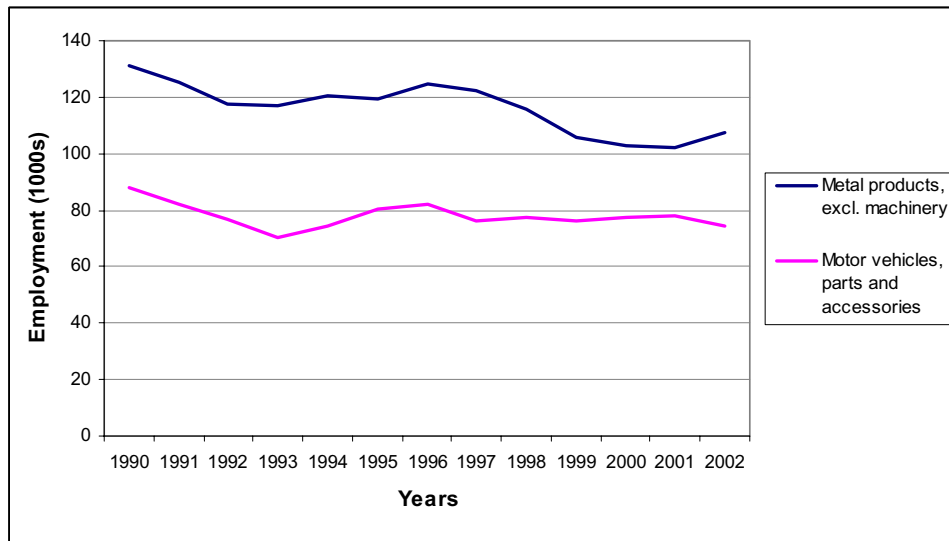


Figure 73 shows that employment levels decreased but then stabilised by 2000, with a slight increase in 2001. Respondents reported that they did not expect employment levels to decline any further and that a slight increase could be expected over the next 5 years.

Figure 73: Employment in the heavy and light engineering sector, by industry (in '000s) from 1990-2002

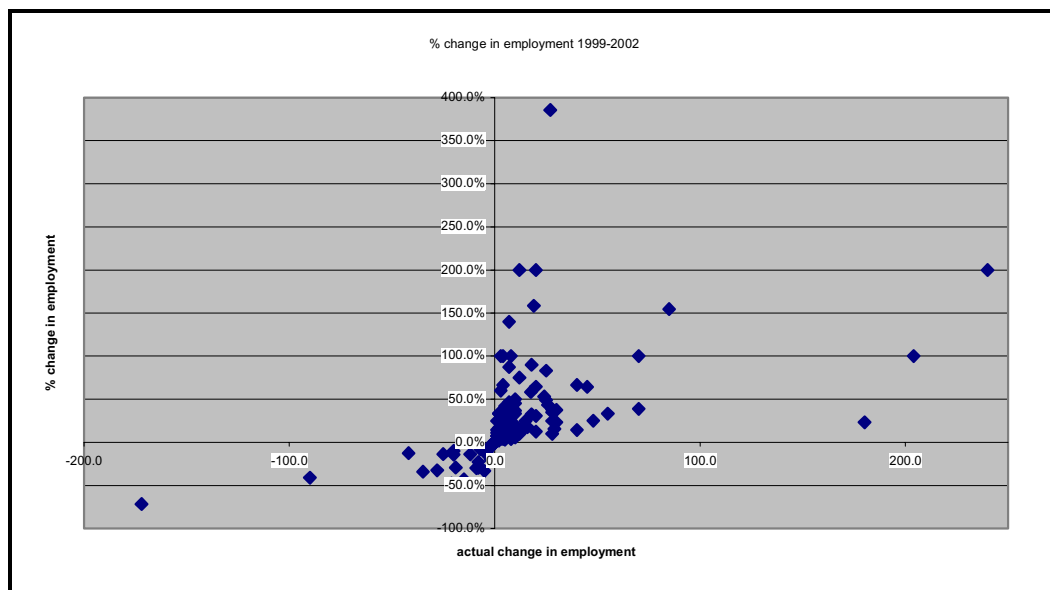


Source: Adapted by IDC data²⁷

²⁷ NB: The IDC data includes OEM employment, which accounts for the discrepancy between the employment statistics in Figure 73 and reported elsewhere.

These figures concur with both the opinions expressed in the qualitative interviews as well as the findings of the qualitative survey, which in fact showed more companies creating jobs across the sector during 1999 – 2002 than companies that had lost jobs in the preceding years. Figure 74 reflects the employment trend among the companies surveyed, with companies that had experienced large increases in both actual change in employment and % change in employment between 1999 and 2002, lying in the upper right hand quadrant, while those companies that shed jobs and experienced a negative % change in employment are reflected in the bottom left hand quadrant.

Figure 74: Employment trends from 1999 – 2002 within the heavy and light engineering sub-sector



Official data indicates that the *metal products excluding machinery* sub-sector is the largest source of employment, employing 104,498 people in 2000 and is forecast to shed employment at an average rate of -2.3% per annum between 2001 and 2006.

This is contradicted by the results of the survey conducted as part of this study which showed a compound annual growth rate of 1.6% in the metal products and fabrication sub-sector from 1999-2002 amongst full-time permanent employees. When permanent, temporary and sub contracted employment trends are considered together, the representative metal products sample experienced a compound annual growth rate in excess of 8% per annum. Official data indicated that the 'motor vehicles and accessories' sub-sector employed approximately 77,135 people in 2000 and is forecast to increase employment by an encouraging 1.4% per annum between 2001 and 2006. This however includes employment in OEM's. The survey

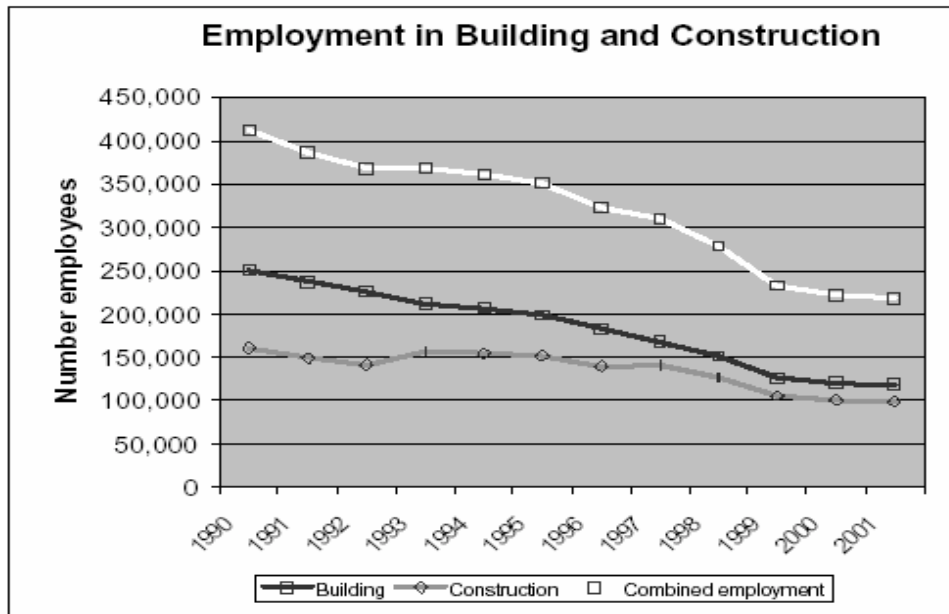
conducted as part of this study indicates that the automotive components sub-sector has experienced positive growth of 4.4% per annum since 1999.

The forecast growth in output exceeds that of employment, hinting at the expected productivity gains and the increased use of technology, which will limit any rise in employment. However the growth in both employment and output are from a large base and it can be concluded that the sub-sector will continue to play an important role in the metals and engineering sector.

According to the Building Industry Federation's 2002 Report, employment levels within the formal construction sector stood at 251 625 in 1990, but by 2001 this number had fallen to roughly 160 000 in line with decreasing output. However, there has been a strong move toward the outsourcing of work to informal sub-contractors, which may in reality mean that the drop in total employment has been lower. In line with this, most employment losses have occurred among the semi- and unskilled categories, with this decline being most pronounced after 1996/7. The decline has also been more obvious in the building industry than in the construction industry (see Figure 75 below), perhaps due to the short-term nature of building projects as opposed to construction initiatives, which have a longer term planning cycle (Teljeur & Stern, 2002:13).

Employment in the construction and building sector has not only fallen in absolute terms but also in relative terms. In 1990, building contributed 3.1% to total formal sector employment, compared to 1.6% in 2001. Likewise, employment in construction fell from 2.0% of formal employment to 1.4% over the same period. These employment figures do not include reference to informal sector usage, which is estimated to account for 35-40% of the total number of people employed in the construction and building sector. This informal sector usage is growing and is projected to account for 50% of total employment in construction and building by 2003. It thus appears that the decline in output in the building and construction industries has contributed to a 'casualisation' of construction workers (Teljeur and Stern, 2002).

Figure 75: Employment in building and construction



3.2.1 Structure of employment

Table 23 and Table 24 show the relative change in types of employment since 1999 and 2002, reflecting the absolute change over the three-year period for which data was obtained.

PLEASE NOTE: The numbers in the table are the actual numbers obtained from the survey of a representative sample.

Table 23. Changes in types of employment between 1999 and 2002, Metal products and fabrication

	Sample employment 1999	Sample employment 2002	Compound Annual Growth Rate
Permanent employees (FT and PT)	7 748	8 122	1.6%
Casual employees	17	176	117.9%
Temporary employees	10	40	58.7%
Sub contracted labour	193	1 766	109.2%
Total employment	7 968	10 104	8.2%

The permanent (full and part time) employment within the metal fabrication sub-sector sample experienced a compound annual growth rate (CAGR) of 1.6% between 1999 and 2002. The total change in permanent employment within the sample indicated an increase of 432 employees. This increase in permanent employment was largely driven by employment gains within several large firms in the sample, specifically growth in one large company having a significant impact on the overall growth of the sub-sector.

Casual employment with the metal fabrication sub-sector sample experienced an absolute increase in employment of 159 employees and a CAGR of 118%. Ten firms or 7.2% of the sample indicated the use of casual employees in 2002 compared with 2% in 1999. Two firms collectively employed 73% of all casual employees in the sample, which may in turn inflate the figures for casual employees across the sub-sector.

Temporary employment with the metal fabrication sub-sector sample experienced an absolute increase in employment of 30 employees and a CAGR of 58.7%. Two firms or 2% of the sample indicated the use of temporary employees in 2002 compared with 1% in 1999. Two companies collectively employed 100% of all temporary employees in the sample.

Sub contracted employment with the metal fabrication sub-sector sample experienced an absolute increase in employment of 1538 employees which is equivalent to a CAGR of 108%. Twenty firms or 14% of the sample indicated the use of temporary employees in 2002 compared with 9% in 1999. Two firms collectively employed 75% of all sub contracted employees in the sample.

Table 24: Changes in types of employment between 1999 and 2002, automotive components

	Sample employment 1999	Sample employment 2002	Compound Annual Growth Rate
Permanent employees (FT and PT)	4 635	4 980	2.4%
Casual employees	2	46	184.4%
Temporary employees	13	61	67.4%
Sub contracted labour	81	156	24.4%
Total employment	4 731	5 243	3.5%

Although the trend towards atypical employment is also visible in the automotive component sub-sector where relative changes in non-permanent forms of employment are considerable, they occur off a low base. Atypical employment is much less of an issue in this sub-sector than in the other sectors in the overall metals and engineering sector.

Overall growth in employment was found to be fairly evenly spread between several companies, with no single company having a pronounced impact on the overall sample picture regarding changes in employment. What is however interesting, is that some of the companies that have been successful in generating exports have not increased employment considerably more when compared to their domestically oriented counterparts. This issue is addressed more extensively elsewhere in the report.

Outsourcing

As in the other Metal and Engineering sub-sectors, there has been a definite rise in the level of outsourcing across both the automotive components and metal products and fabrication sub-sectors. While permanent employees continue to overwhelmingly dominate employment, sub-contracted employment has grown significantly in absolute terms over the last 3-year period.

The prevalence of outsourcing was found to be 45.4% in the heavy and light engineering sub-sector, which is higher than the 33.3% within the basic metals sector and the 34.7% observed in the electrical and electronics sector. When the sample was segmented by company size as shown by Table 25, there was a clear trend for larger companies to outsource relatively more, with 87.5% of the large companies surveyed outsourcing functions.

Table 25. Prevalence of outsourcing among the heavy and light engineering sub-sector

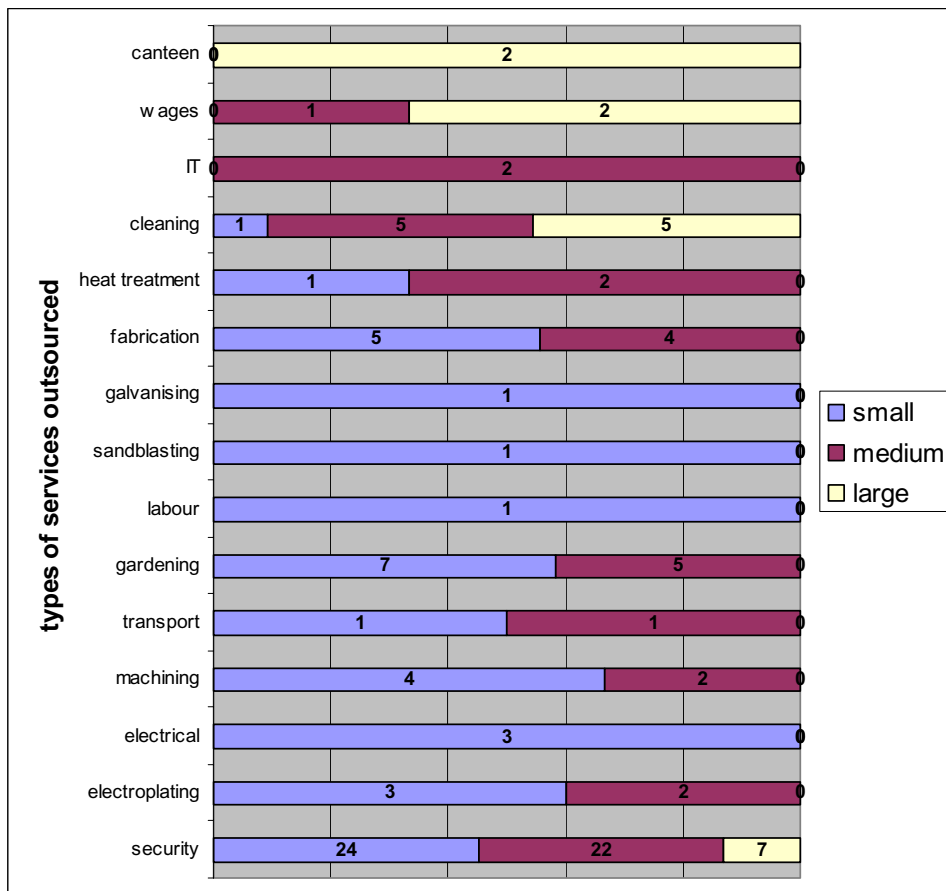
Company size	Total number of companies	Frequency of outsourcing	Response in %
Small	115	45	39.1%
Medium	71	36	50.7%
Large	8	7	87.5%
Overall sub sector	194	88	45.4%

Security was by far the most commonly outsourced function among small, medium and large companies in this sector. There was a clear trend among small companies to outsource

technical functions such as electroplating, electrical work and machining, while medium and large companies tended to outsource generic functions like gardening and cleaning. The services most commonly outsourced are reflected in Figure 18.

Again we observe the trend of fairly substantial outsourcing of non-core activities coupled to a relatively high level of outsourcing of manufacturing related activities.

Figure 76. Type of services outsourced among small, medium and large companies



Race Profile

Black workers fill the majority of unskilled and semi-skilled positions, while whites dominate managerial and skilled positions.

Figure 77 and Figure 78 represent the work categories reported in the automotive and metal products and fabrication categories, subdivided by race. The employment figures indicate that the sub-sectors are comprised predominantly of black semi-skilled and unskilled workers. Office clerks, supervisors, skilled workers and middle managers are predominantly white,

highlighting the need for employment equity and transformational actions in these areas, in order to improve access to skills and opportunity within all groups.

Figure 77: Survey employment categories by race for the automotive components

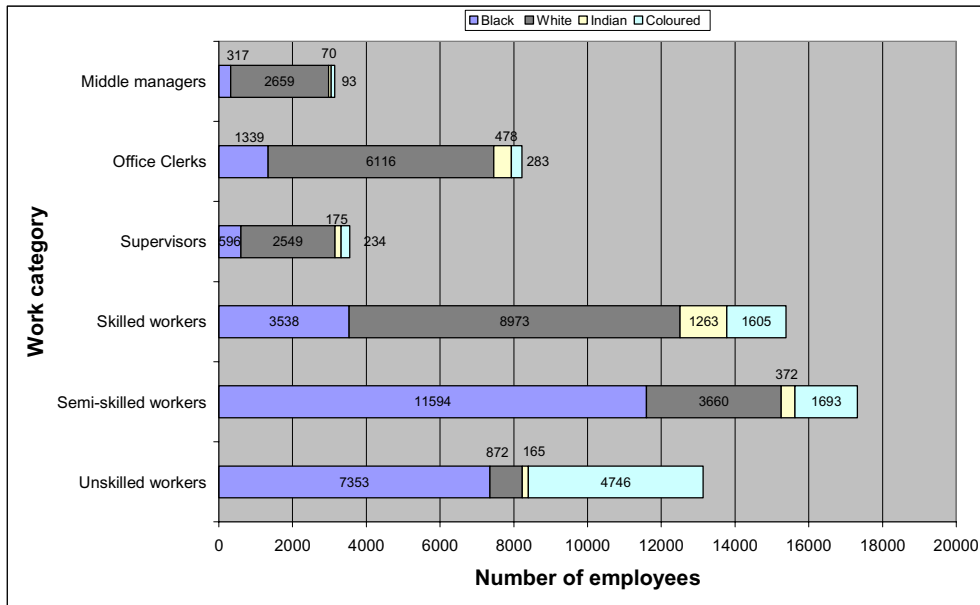
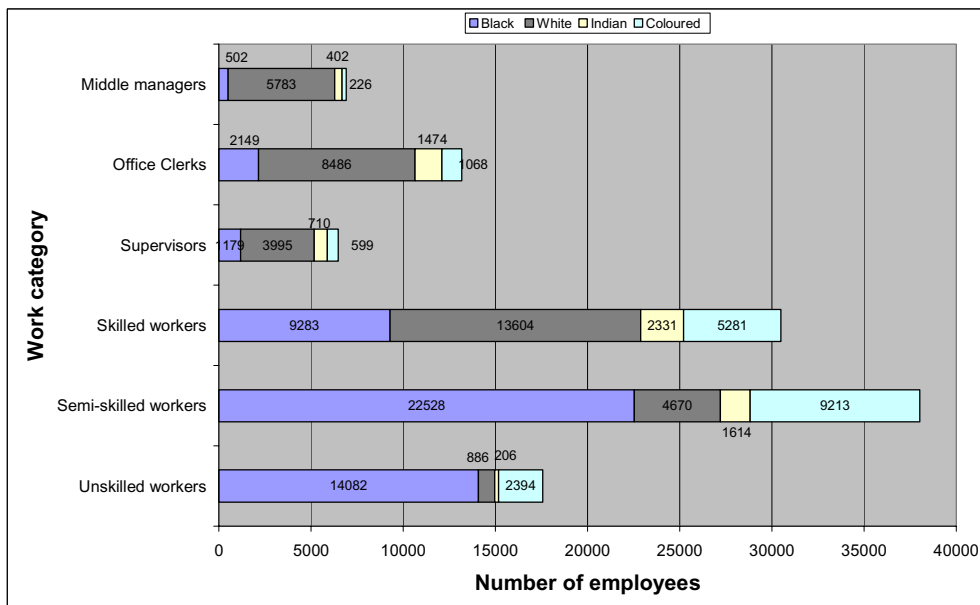


Figure 78: Survey employment categories by race in the metal product and fabrication category



Gender profile

Similarly, our survey shows that men overwhelmingly dominate employment in the sector. Women are only significantly represented in the traditional domains of office work.

Figure 79: Survey employment categories by gender for the automotive components category

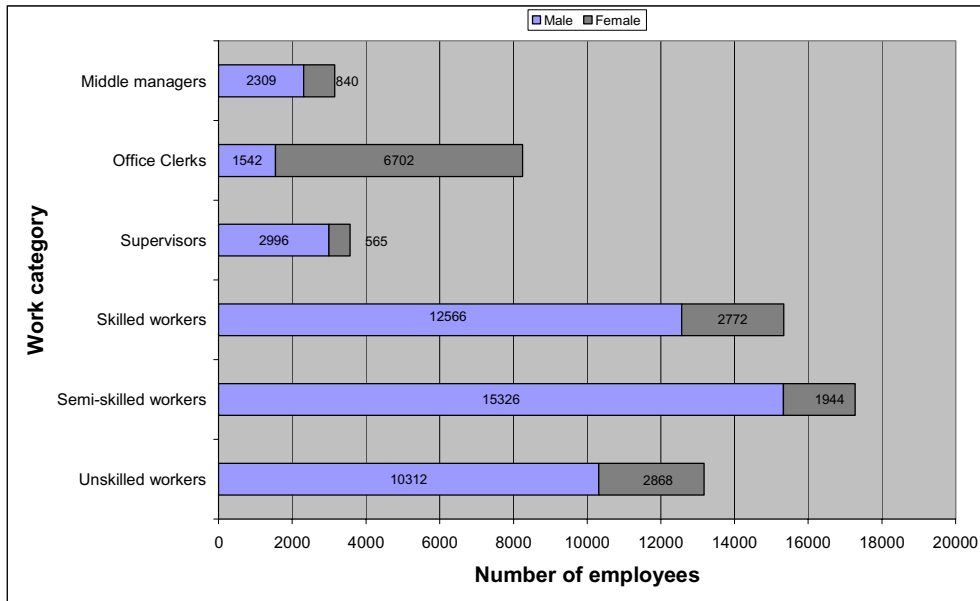
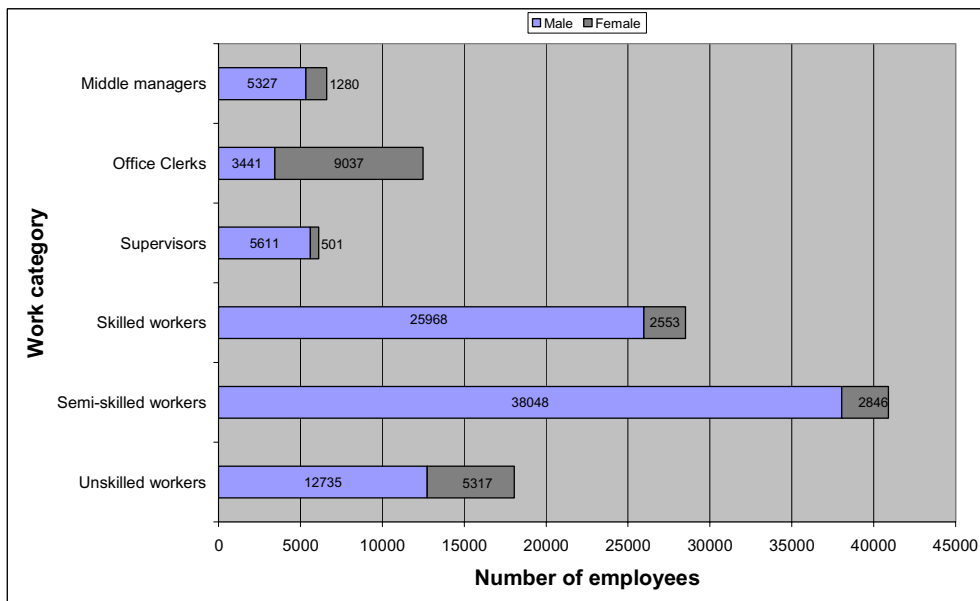


Figure 80: Survey employment categories by gender in the metal product and fabrication category

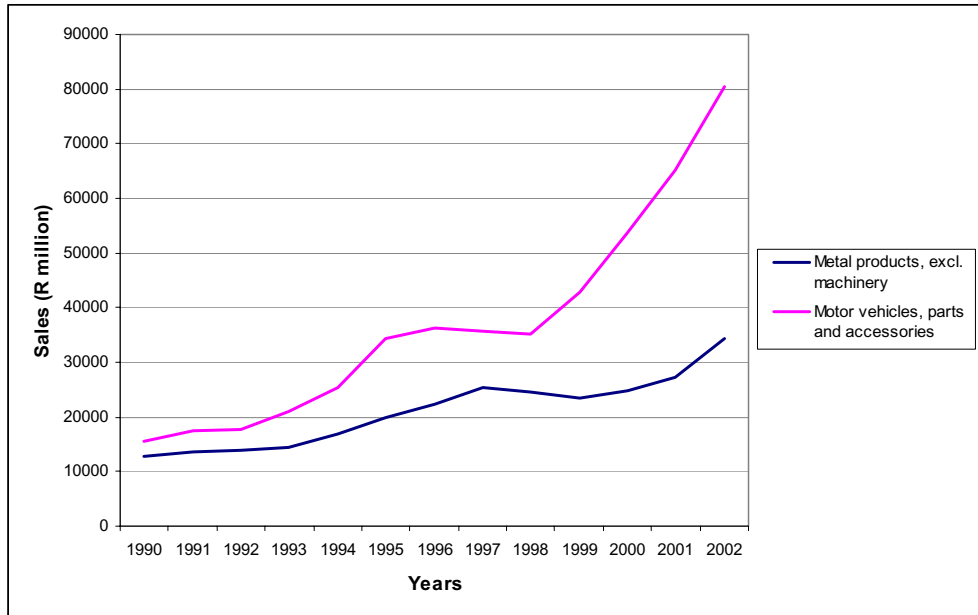


3.2.2 Turnover

The sales performance of the heavy and light engineering sector has been driven by the increasing sales from the motor vehicles, parts and accessories sub-sector. Much of this growth has been driven by the increasing integration of South African operations into global value chains and foreign direct investment into the automotive sub-sector, which has grown dramatically over the last 4 years. As shown in Figure 81, the above events of the automotive

components sub-sector skew much of the data, while the metal products sub-sector has experienced fairly steady growth over the past 10 years.

Figure 81: Sales trends within the heavy and light engineering sub-sector, 1990-2002



Source: IDC

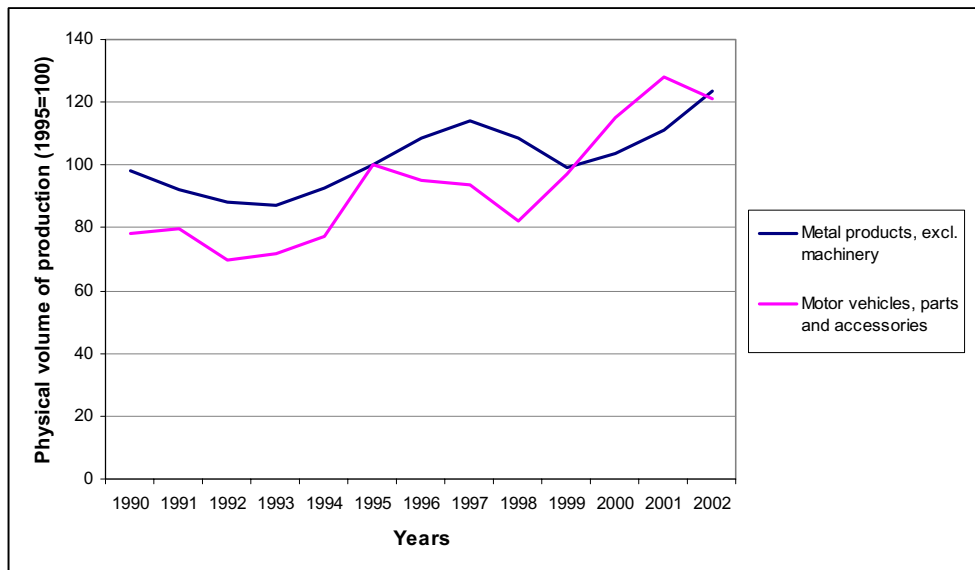
The distribution of companies within the automotive components sub-sector according to size and turnover is consistent with relative rates of labour intensity. However, across all categories there are companies that are outliers; either large companies that are relatively more labour intensive or small and medium-sized companies that have a relatively high level of turnover per employee.

By contrast, turnover within the metal products and fabrication sub-sector is much more consistent with size of the organisation. This is due to the relatively smaller opportunity for the production of high value-added products within this sector and is consistent with reports from interviews stating that increased output of the sector correlates well with increased employment.

3.2.3 Production volumes

The output of the sector is in keeping with the above sales trends, with metal products remaining fairly constant across time while the output trend of the automotive sector has kept pace with increased sales.

Figure 82: Index of production volumes (1995=100)



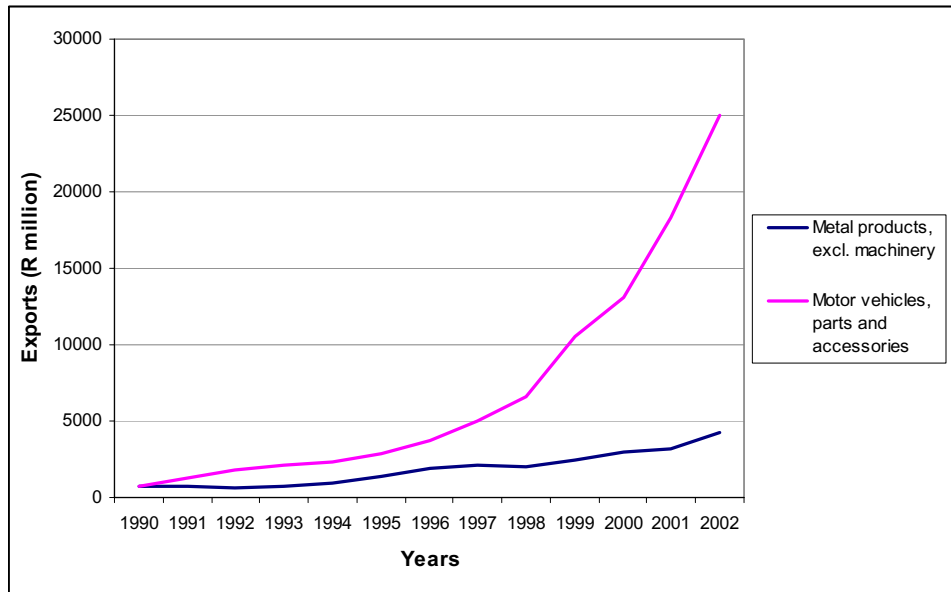
Source: IDC, 2002

The increasing production volumes may be linked to the stabilisation and growth in employment that is reflected in both our quantitative survey results and the official statistics. This relationship however does not automatically imply that increased sales may translate more readily into jobs, due to the capital intensive nature of production within the automotive components sub-sector. New production facilities invariably become more capital intensive as manufacturers try to keep up with the evolving nature of manufacturing processes and customer demands in target markets. South Africa's current limitations to production volume in the automotive sector have however allowed the country to play the role of short run supplier, which enables it to win orders that European or Japanese manufacturers will not compete for.

3.2.4 Trade

The automotive sector grew rapidly on the back of the implementation of the MIDP and the subsequent integration of domestic based operations into global value chains. The metal products sector has not significantly grown exports over the last decade, making it somewhat of an anomaly within the metals and engineering sector. This may be due to the tendency of metal product manufacturers to regard the export market as merely a 'top-up' to a principal focus on domestic demand. It may also reflect growing international competition in this sub-sector which deters exporters.

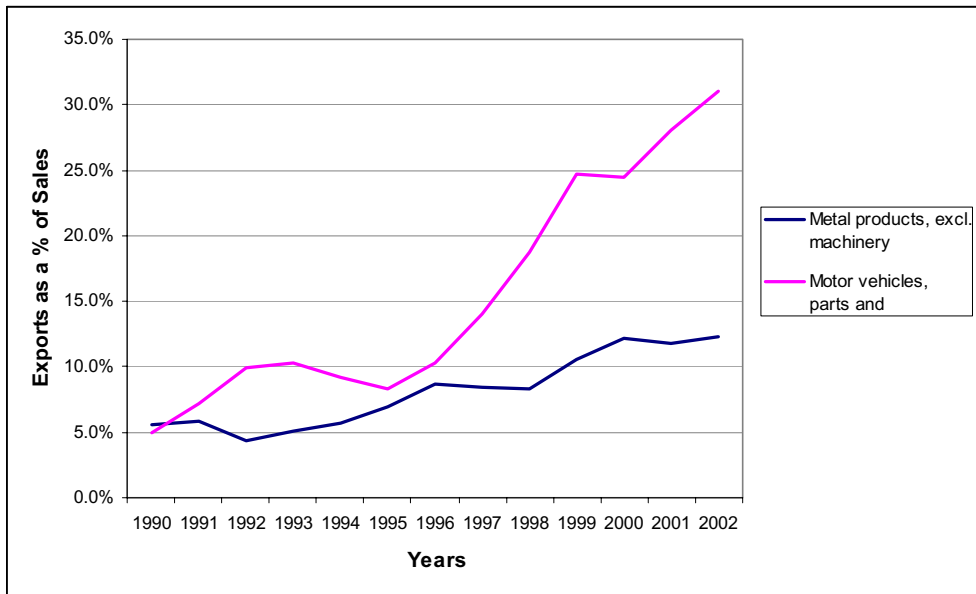
Figure 83. Export levels in the heavy and light engineering sector, by sub-sector from 1990 to 2002



Source: IDC, 2002

Despite the relatively static growth in exports, the overall exposure of the metals products sector to exports has almost doubled over the course of the last decade. Declining domestic sales have been driven by this trend and imply that although local manufacturers have managed to maintain their export markets, they have been displaced from certain domestic market segments.

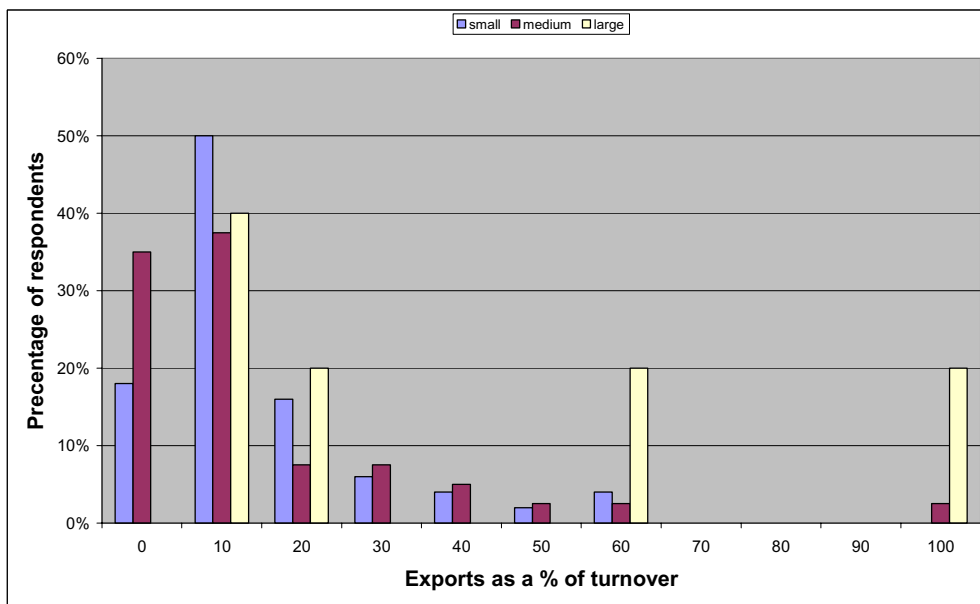
Figure 84: Exports as percentage of total sales from 1990 to 2002



Source: IDC, 2002

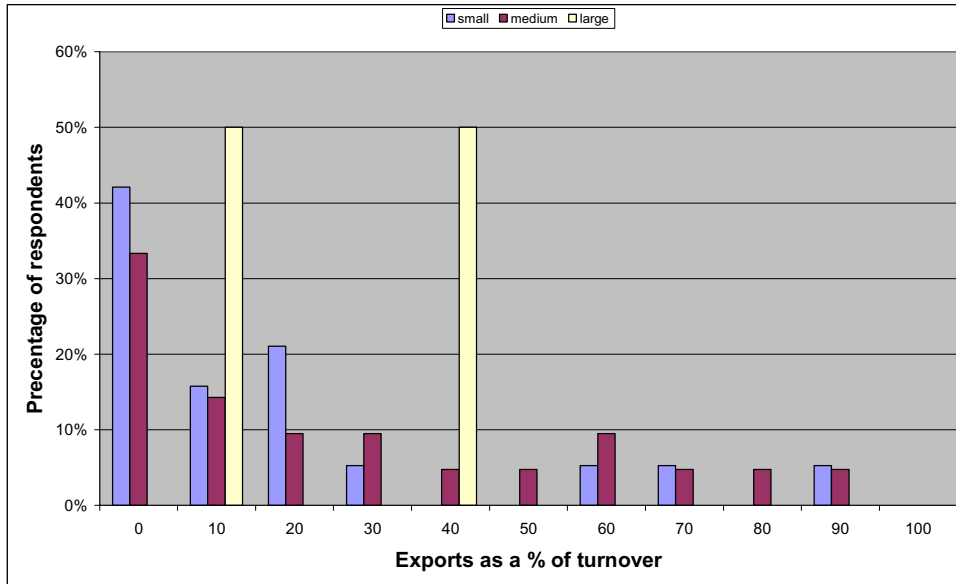
Notwithstanding the relatively low level of exports within the metal products sector, Figure 85 indicates that the majority of companies in the sector are exporting to some degree. Given the fairly low levels of import penetration, coupled to the trend across all the Metals and Engineering sub-sectors of rapidly increasing export sales; once a critical mass point has been attained, this may indicate that the sector is geared for expansion in the future.

Figure 85: Exports' contribution to turnover for the metal products and fabrication sector



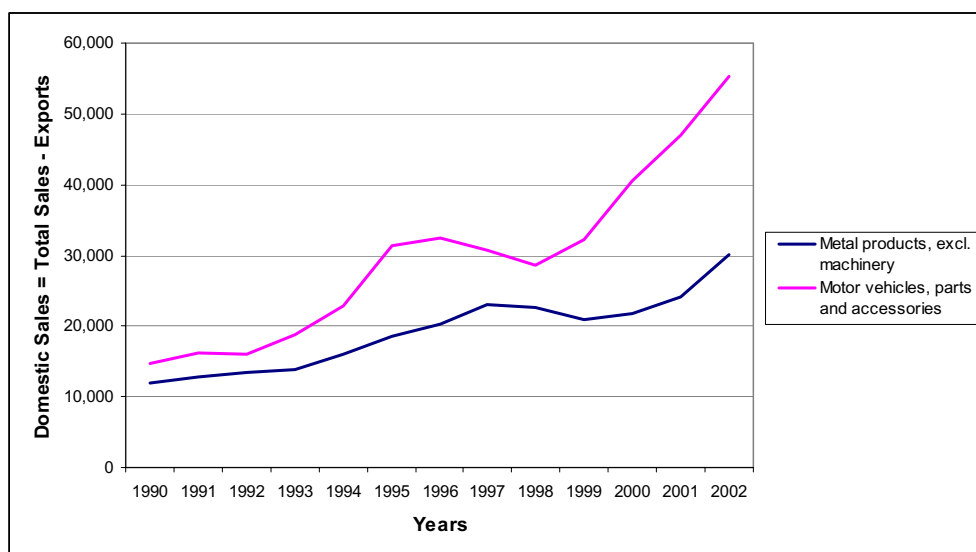
Export distribution across the automotive components sub-sector companies surveyed is in line with the aggregate picture that emerges from the official sector statistics. This fairly consistent distribution of export performance implies that the sector as a whole, is successfully servicing some export markets. This contrasts with other Metal and Engineering sectors where the export drive is led by a few well-performing companies.

Figure 86: Exports contribution to turnover for the automotive sector



The automotive sector has benefited from growth in both exports and domestic consumption. This is however reflective of the structure of the sub-sector where increased output and sales from OEMs are a key driver of domestic sales of automotive components.

Figure 87: Domestic sales in the heavy and light engineering sector, by sub-sector from 1990-2002



Source: IDC, 2002

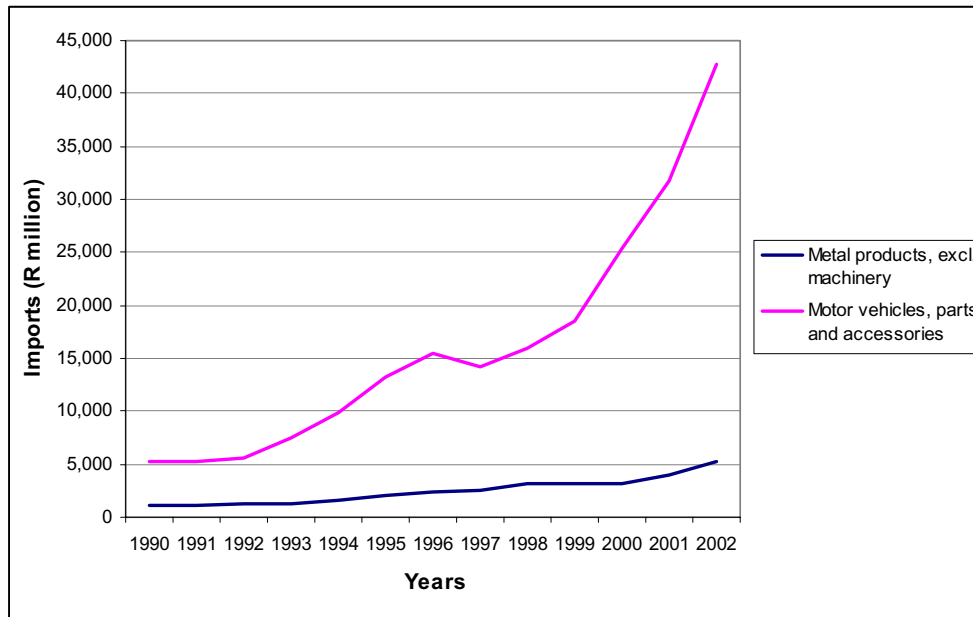
Import levels have risen as tariff levels within many of the heavy and light engineering sub-sectors were dropped significantly during the 1990s. With the associated increase in demand for these cheaper imported products, import volumes have increased substantially in certain pockets within metal products sub-sector and within the automotive sub-sectors are linked to MIDP structure. These imports (which are largely in the automotive sub-sector) are having a negative impact on the trade balance. Increased import volumes have increased domestic competition, which has influenced local producers to become internationally competitive. To achieve this competitiveness, companies have restructured their industries, resulting in job losses.

Between 1990 and 1998, import prices for most of the light and heavy engineering products increased. Import prices for wire and wire products increased at annual rate of 4.4%; pipe and tube increased at annual rate of 5.1%; structural steel increased at an annual rate of 2.5% and packaging increased at an annual rate of 12.7%.²⁸ However, the East Asian crisis kept import prices steady and this contributed to further import penetration. Although the government reacted with stricter anti-dumping legislation in the case of wire and wire rope, this import trend is expected to continue to hamper growth in the domestic industry. Primarily higher-value products are imported, while lower-value products are exported.

The pipe and tube products industry has likewise experienced a steady rise in imports. Since the start of the 1990s, import volumes increased by 9% per annum, resulting in an import penetration ratio of 9%. Import volumes for the structural steel products industry increased by 7% per annum in the 1990s, while the import penetration ratio was 4%. These import volumes accounted for approximately 1.1% of the basket of imported downstream steel products, which amounted to R 289 million in 1998. Since the start of the 1990s, import volumes of packaging increased by 13% per annum, the import penetration ratio for this industry is 5%. These import volumes that amounted to R 134 million in 1998, accounted for approximately 0.3% of the basket of imported downstream steel products between 1990 and 1998. These import trends are reflected in Figure 26.

²⁸ These four categories (wire and wire rope, pipes and tubes, motor vehicles and parts, and structural steel are often used in industry analysis due to their indicative nature of sub-sectoral trends, and their ranking as components of their respective sub-sectors. Wire and wire rope goes under fabricated metal products, structural steel goes under metal fabrication and can be indicative of construction activities, and pipe and tube go under steel milling. Motor vehicles and parts often represent the entire automotive sub-sector.

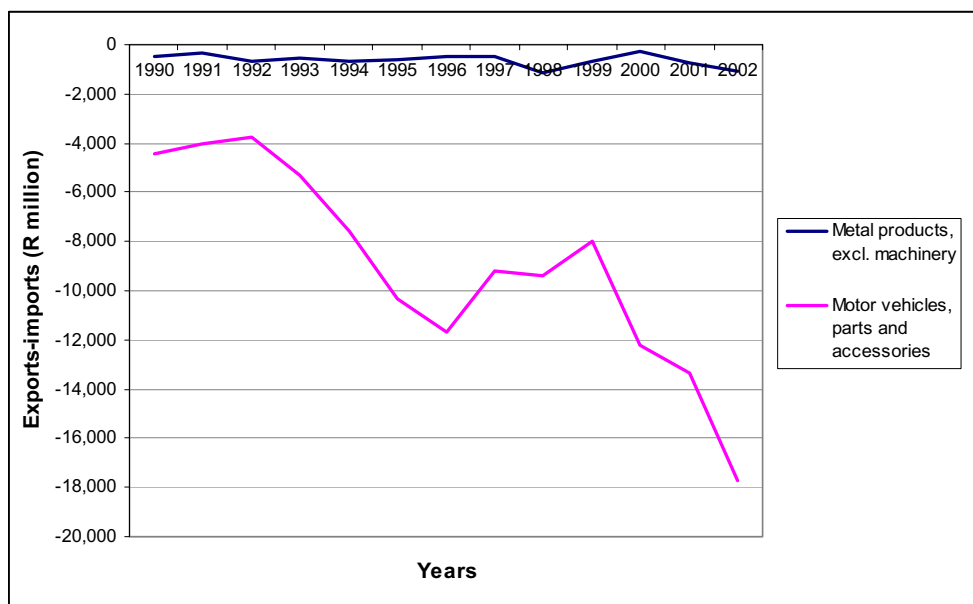
Figure 88: Imports, 1990-2002



Source: IDC, 2002

Tariff liberalisation has had little effect on the overall metal products sub-sector where import penetration and the balance of trade have remained fairly static over the decade. Balance of trade conditions, reflected below, have worsened in the automotive sub-sector since the early 1990s. This is despite the dramatic increase in exports by the sub-sector, but is in keeping with the logic of the MIDP strategy, whereby imports are balanced by exports. Although this undermines the balance of trade potential of exports, it has served as an effective buffer for the automotive sub-sector in periods of instability in global automotive production. The tying of import credits to exports encourages OEM's to export.

Figure 89: Balance of trade, 1990-2001



Source: IDC, 2002

3.2.5 Investment

A significant acceleration in fixed investment spending appears to be gaining ground on the back of improved business conditions overall with the net majority of respondents to the Bureau of Economic Research (BER) survey reporting an increase in total fixed investment from 11% to 29%. This supports the quantitative findings in the light and heavy engineering sector, where investment spend is positive, both currently and for the next 12 months. The improvement seems to be mainly tied to higher investment in machinery and equipment. However, on a 12-month basis (3rd Quarter 2002 – 3rd Quarter 2003), BER respondents apparently also plan to increase fixed investment in land, building and construction works. The BER survey also noted that current fixed investment plans of those surveyed also make provision for additional production capacity. A net 14% of the respondents plan to expand, while a net 13% plan replacement capital spending.

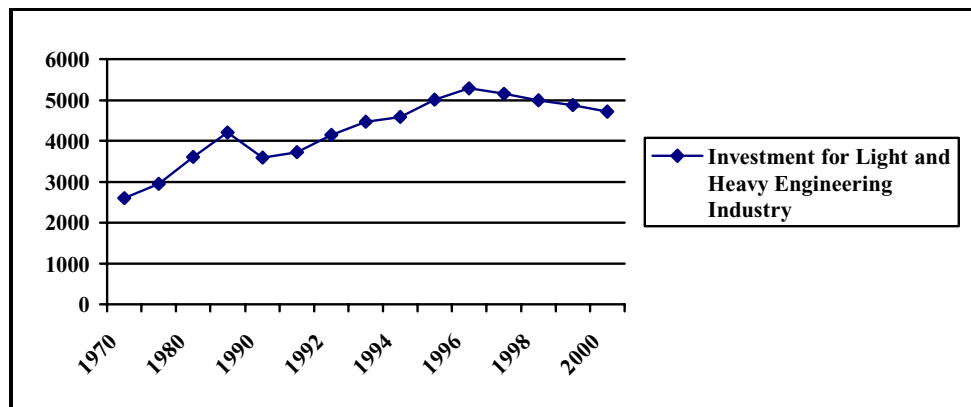
The investment trend in the light and heavy engineering sector shows an increase from 1970-80, followed by a decline in the following decades (see Figure 90 below). The declining trend in public and private investment has been a contributing factor to the sluggish growth of the sectors. The spending effect of the commodity price boom (1970-80s) was substantial, contributing to an increase in the output of the downstream durable sub-sectors, namely, fabricated metal products, machinery, electrical machinery, motor vehicles and other transport equipment. The general increase in investment from 1970-81 resulted in rapid growth in the value-added within these categories of manufacturing industries. However, in the 1990s,

investment declined and this has contributed to the reduction in value-added in the two industries.

What has increased the negative impact of this lack of investment is that where investment has occurred, it has been in the form of cash by buying existing structures and other assets (NUMSA L&H Background Report, 2002). Few investors have invested by way of expanding industries or production. GDFI levels have shown stagnant growth and sometimes declined during the 1990s (BW Performance Review, 2002) and between 1994 and 1998, only 3.4% of total FDI went into new productive investments, while a further 3.5% of total FDI went into expanding existing production capacities (Nicholson, 2001). The rest of FDI went into portfolio investment (80%) or mergers and acquisitions (12%).

The lack of direct investment in the metals sector may be behind the decline in value-added. The metals sector including both upstream and downstream industries, has experienced the largest increase in export orientation since 1985, but an absolute decline in real value-added. Value-added in the whole metals industry fell at an average annual rate of 2.1 % from 1980-90 and by 1.1% from 1990-98, as reflected in Figure 90. The decline in value-added is mainly caused by the shrinkage of direct local and foreign investment in the industry. Some possible contributing factors to the decline in local and international investment in the sector include low investment returns, low skills and a limited domestic market.

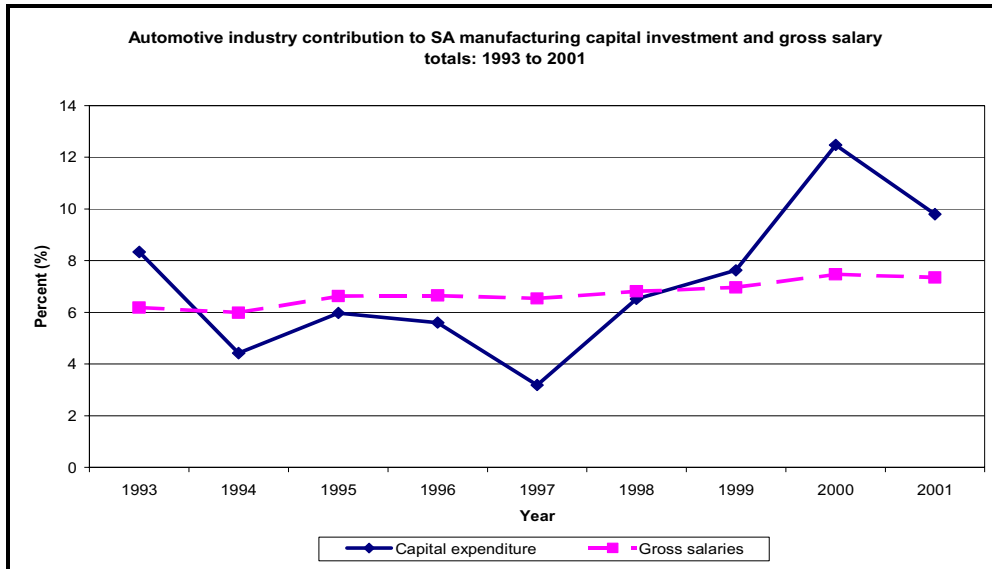
Figure 90: Investment trends within the light and heavy engineering sector (Constant R Million, in 1995 value terms)



Source: NIEP, 2000; WEFA 2000

As the automotive industry is a significant contributor to the manufacturing component of GDP (accounting for 9.43% of manufacturing GDP), it is worth noting the investment performance of the sub-sector. It is apparent from the figure below that even this sector experienced sluggish rates of capital investment until recently.

Figure 91: Automotive industry capital investments, 1993-2001



Source: Barnes: Key Export Factors, 2002