

1 INTRODUCTION

1.1 Overview of the South African automotive industry

1.1.1 The South African economy

South Africa is a developing country at the Southern tip of the African continent with a recorded population of 44.8 million people in 2005. It is a dominant economy on the African continent, with GDP of \$576.4 billion, accounting for some 25% of the entire continent's GDP and producing around 40% of the continent's industrial output (South Africa Economy Overview, 2007). Its major strengths include its physical and economic infrastructure, natural mineral and metal resources, a growing manufacturing sector, and strong growth potential in the tourism, higher value-added manufacturing and service industries. Since transition to democracy in 1994, South Africa has enjoyed improved economic performance, significant capital inflow, a growing export sector, and improved business. The 2006 growth figures from Statistics South Africa showed that real GDP rose by an annual rate 5.6% in the fourth quarter of 2006, far exceeding market expectations (Statistics South Africa, 2006). By the end of 2006, the country had recorded the longest period of economic expansion in its history. There is a strong expectation that the country will continue on an upward growth path in the foreseeable future. Despite the economic progress made, the country still struggles with high unemployment levels that can be attributed, in part, to the "unemployable" population created by its past legacy. Sustained industrial growth is seen as one of the ways through which the country can create jobs for its population.

From a global perspective, the country is ranked 94 in terms of gross national income per capita (3,630 US dollars per annum) above a country like Brazil but below Turkey. The growth competitive ranking of 2005 ranked South Africa as 28 in business and 46 in technology (Global Competitiveness Ranking, 2005). However, the country investment in R&D as a percentage of national GDP remains quite low (0.8%) compared to that of developed countries like the USA and Japan (Table 1).



Economy	Competitiveness index rank 2005			R&D/GDP 2003
	Growth	Business	Technology	%
USA	2	1	1	2.6
Japan	12	8	8	3.1
UK	13	6	17	1.9
Poland	51	42	39	0.5
Turkey	66	51	53	0.6
South Africa	42	28	46	0.8
Brazil	65	49	50	1.13
Mozambique	91	98	83	-

Table 1: Growth competitiveness index ranking 2005
(OECD, 2006)

In a separate Competitiveness Report of 2006, compiled by the Swiss-based Institute for Management Development (IMD), South Africa was ranked number 44. This was an improvement of three places from the rating of 2005 (IMD, 2006). Only 61 countries were rated in 2006 by the IMD. South Africa was the only African country to be rated.

Fostering sustainable industrial development in areas where poverty and unemployment are at their highest through industry support remains the key industry policy objective of South Africa. The automotive industry is seen as an important contributor to this national objective.

1.1.2 South African automotive industry

The automotive industry is the leading manufacturing sector in the South African economy. It is the third largest contributor to national GDP after the mining and financial sectors. In 2005, the sector accounted for 7% of the country's GDP and 87% of Africa's vehicle output (Galbraith, 2007, p.15). The sector comprised of 8 passenger car assemblers (all of them subsidiaries of multinational corporations), 12 medium and heavy commercial vehicle assemblers, 8 independent importers and over 270 first tier suppliers. Total employment in the sector amounted to 112,470 in 2002.

In the early 1990s, the majority of locally-based vehicle assembly (OEMs) companies were South African, owned under license to multinational vehicle manufacturers and manufacturing exclusively for the domestic and the small Sub-Saharan African market. By early 2004, all of the OEMs were either fully or majority owned by parent companies. This has had a direct impact on the composition of the automotive components industry, with global component manufacturers establishing greenfield operations in South Africa.

Most of the global major motor vehicle brand manufacturers are represented in South Africa. These include Toyota, BMW, Volkswagen, DaimlerChrysler, Nissan, General Motors, Ford (incorporating Mazda, Land Rover and Volvo) and Fiat. Major platforms in the country include the Toyota IMV Hilux, BMW E90 – 3 series, and Mercedes Benz – W203 C Class (Table 2). Many of these models are produced for both the domestic and export markets. For three models, IMV Hilux, Mercedes W203 and BMW E90, the export proportion exceeds domestic sales.

OEM	Platforms	
Fiat	Palio 178	
BMW	E90 - 3 Series	
DaimlerChrysler	W203 - 'C' Class	
Volkswagen	A5 - Golf	PQ24 - Polo
Nissan	QW - Hardbody	HS02 - Almera
Toyota	IMV 692N - Hilux	558N - Corolla
Ford	Ranger/Mazda Drifter	Ford Focus/Mazda3/Volvo S40
General Motors	Isuzu	Opel Corsa

Table 2: South African automotive industry: OEMs and major platforms in 2006
(NAAMSA, 2006)

Despite its significant role on the continent, the South African automotive industry accounts for only 0.71% of the world's vehicle production (Table 3). The industry still has a long way to go before it becomes a significant player in the global automotive business. The expectation, however, is that the country can explore its location advantage to

penetrate the African market and use trade agreements as a lever to export into developed countries' markets.

Rank	Country	Production	% World Production
1	USA	11,989,387	18.69
2	Japan	10,511,518	16.38
9	Brazil	2,210,062	3.44
10	UK	1,856,049	2.89
12	India	1,511,157	2.36
15	Thailand	927,981	1.45
18	Poland	593,779	0.93
19	South Africa	455,052	0.71
20	Czech Republic	448,360	0.70
21	Taiwan	430,814	0.67

Table 3: Global automotive manufacturing 2004 (World total was 64.2 million units)
(Galbraith, 2007, p.14)

1.1.3 South Africa's automotive industry policy

Automotive production in South Africa started in the 1920s. Government used tariff regulation and local content requirements to guide industry growth (Black, 2001, p.779). The initial phase that lasted until 1961 was a classical import substitution, favouring simple assembly in the domestic market. Very high protective tariffs on imports created space for development of an industry of small plants, producing many models in small volumes at a high cost (Department of Trade and Industry South Africa, 2004, p.8). By the early 1990s, it was evident that the hitherto adopted inward-looking policy stance was not sustainable in the long run. The industry had to comply with the General Agreement on Tariffs and Trade (GATT) and World Trade Organisation (WTO) trade regulations (Damoense & Simon, 2004, p.252). Domestic market constraint meant that exports had to play a big role in industry growth. Government realised that industry needed encouragement with a number of "sticks and carrots" to change and improve its competitiveness (Coyne, 2000, p.11). Of

major importance to Government was finding ways by which to maintain and grow the industry in a less protected trade environment. Table 4 summarises development stages of automotive policy in South Africa.

Policy Measure	Period
1. High tariffs	1920 to 1995
2. Local content requirements by mass	1961 to 1987
3. Local content requirements by Value	1989 to 1995
4. Import-export complementation (MIDP)	1995 to date
5. Productive asset allowance (MIDP)	2000 to date

Table 4: Development of automotive policy in South Africa
(Damoense & Simon, 2004, p.252)

In 1995, the South African government launched a Motor Industry Development Programme (MIDP) aimed at establishing a competitive industry, both locally and globally. The MIDP replaced a series of protection and local content requirements that had previously characterised the industry (Black, 2001, p.780). The main objectives of the MIDP were to increase competitiveness of the industry, encourage industry growth through export, stabilise employment levels, improve the industry's trade balance and make vehicles more affordable in the domestic market (Barnes and Black, 2003, p.5). The MIDP strategy was to rationalise the industry by reducing the number of models produced locally. It was envisaged that rationalisation would lead to reduced average costs by creating economies of scale and subsequently lead to industry competitiveness. To compensate for the discontinued models, an Import-Export Complementation (IEC) arrangement was instituted. Under this arrangement, firms would earn import rebates based on the value of local content exported. The earned rebates could be used to offset import duties payable on Complete Built Units (CBUs) and components imported by OEMs (Flatters, 2002, p.3).

The Import-Export Complementation arrangement has been the driving force behind the high increase in automotive exports from South Africa. Total automotive-related exports have grown by 30% per annum on an average basis, and for component exports by 31% per annum since 1995 when the MIDP was introduced.

In 2000, the government introduced another incentive for the industry, to be based on the level of investment - the Productive Asset Allowance (PAA). The PAA allows firms undertaking qualifying investment in the automotive industry to claim back 20% of the value of invested assets in rebates. PAA benefit is spread over a period of five years. Productive assets qualifying for the PAA were defined to include capitalised Research and Development (R&D). The objective of the PAA was to enhance the motor industry's contribution to economic growth of the country through increased international competitiveness, productivity, employment in the industry, and economies of scale; also to compensate for the reduced protection due to the lowering of import duty on CBUs.

Though it is premature to judge the impact of the PAA as an MIDP incentive (Barnes and Black, 2003, p.29), there is growing interest in the PAA as the only supply-side incentive for the industry under the MIDP dispensation. South Africa is under pressure to ensure that the industry incentives do not contravene WTO trade protocol following concern on a potential challenge by the Australian government on South African leather exports benefiting from the rebate system (Olivier, 2007).

There is also a recognised gap in supporting industry Research and Development (R&D) up to commercialisation stage. It was envisaged that the PAA could potentially help fill the R&D support gap.

1.2 Challenges facing South African automotive industry

1.2.1 Benefits vis-à-vis costs of the MIDP

The offer of investment incentives to the automotive industry is a global phenomenon. Because many countries perceive the industry to have economic importance and significance to a host region, the industry is often a recipient of state aid to cushion or offset the effect of market forces (Rhys, 2000, p.22). Though the success of the MIDP in increasing automotive exports is not disputable, some analysts have reservations on describing the programme as a complete success (Bell and Madula, 2003, p. iii-viii). Key areas of concern that have emerged in the past 10 years of the MIDP program relate to the

cost of the program to Government, limited job creation realised thus far, deteriorating industry trade balance, vehicle affordability, and skewed benefits of the programme in favour of OEMs.

Benefit passed on to the industry by way of import rebate credit certificates generated via the Import-Export Complementation arrangement and the PAA facilities is explicit and quantifiable, but the cost of the MIDP has never been scientifically documented or quantified. As such, whether the programme is meeting its objectives at acceptable cost levels to the national treasury remains unresolved among major stakeholders. This has become a source of tension in efforts to take forward government support of the automotive industry. Flatters (2002, p.1), one of the main critics of the MIDP, argues that the MIDP makes vehicles expensive in the domestic market because the only way rebate recipients can benefit from the MIDP is by charging a price higher than that which is commensurate with duty free imports. He further points out that the direct cost per job created in the industry appears to be too high and the export expansion has not filtered through to local component manufacturers. According to Barnes and Black (2003, p.26) the major effect of the MIDP thus far, has been to increase automotive exports from South Africa without necessarily increasing local content used and with minimum integration and benefit to local component producers.

1.2.2 Deteriorating industry trade balance

The South Africa automotive industry has remained a net foreign exchange user since the inception of the MIDP, contrary to one of its objectives. Industry trade deficit had reduced from R14.1 billion in 1996 to R9.1 billion in 2003, but the deficit increased to R 27.7 billion in 2005, up from R18.8 billion in 2004 (Figure 1).

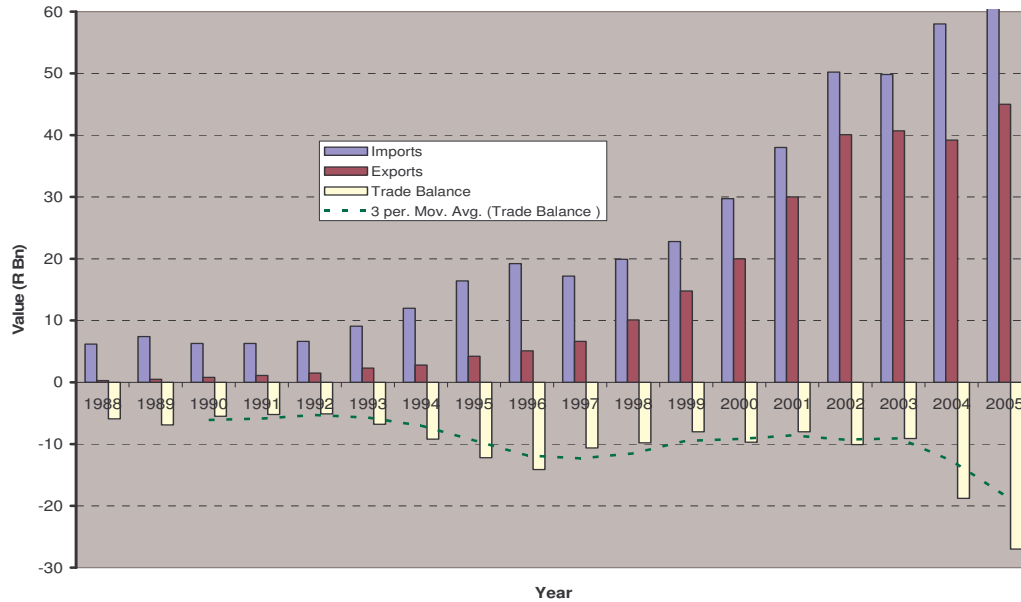


Figure 1: Automotive industry trade balance: South Africa
(NAAMSA, 2006, p.14)

The number of vehicle imports accounted for more than 50% of the domestic market in 2006 (Figure 2). There is a possibility that the deficit will narrow down as new vehicle exports gains momentum, but if the existing deficit trend is to continue, a need may arise for government take proactive steps to limit imports. The deteriorating trade balance has a potential to crowd out domestic production and its subsequent benefits in the long term. In this debate on the widening industry trade deficit, what is not well articulated by stakeholders is whether the MIDP structure could be the cause of the status quo and if so how to revisit the structuring of the MIDP.

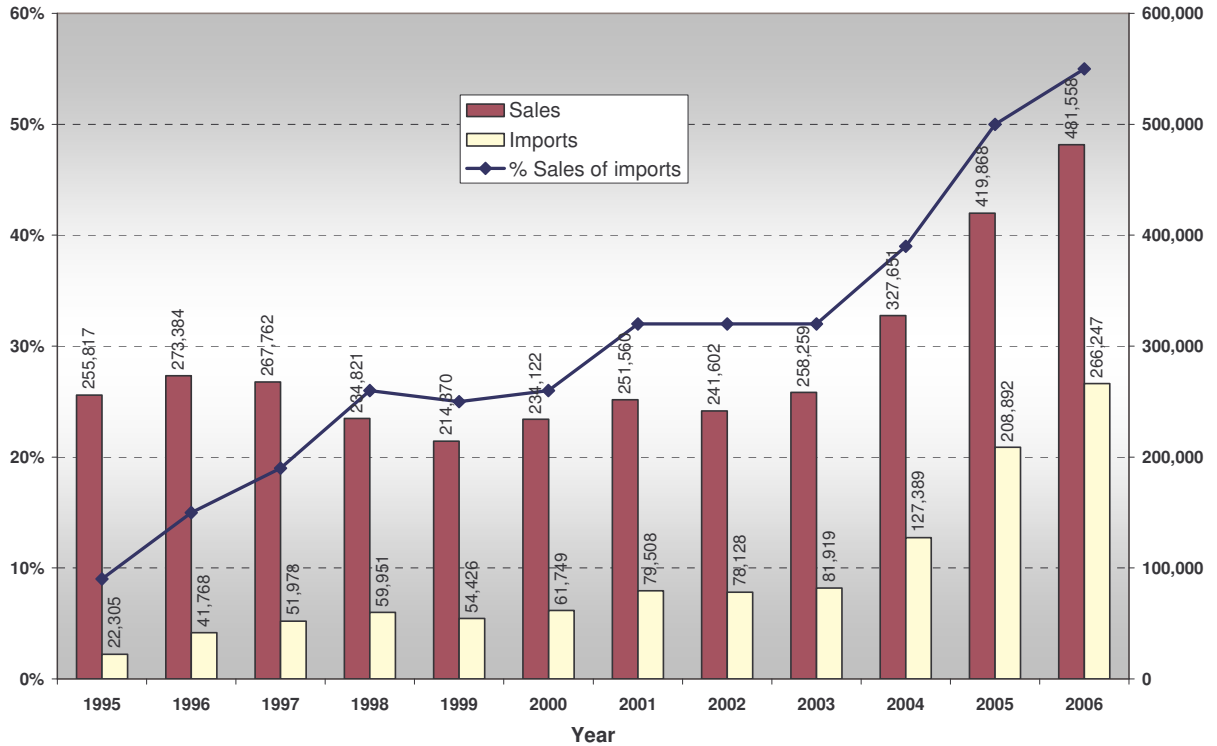


Figure 2: Imports as a percentage of total passenger vehicle sales in South Africa (KPMG, 2007))

1.2.3 New requirement on automotive component supply

South Africa has no vehicle brands hence it is through the supply of automotive components to global brands that the local industry is enabled to participate into the global automotive business. Supply of components to global brands is highly dependent on the global structure of the automotive industry and the strategic goals of vehicle assemblers vis-à-vis component suppliers. The global automotive industry is structured in such a way that at the top of the hierarchy are vehicle assemblers (OEMs), followed by the Original Equipment Suppliers (OESs). The OESs manufacture automotive parts and accessories directly to the OEMs. They must have technology capabilities to meet performance and interface requirements set by assemblers. At the lower level of the hierarchy are the second and third tiers suppliers (Figure 3).

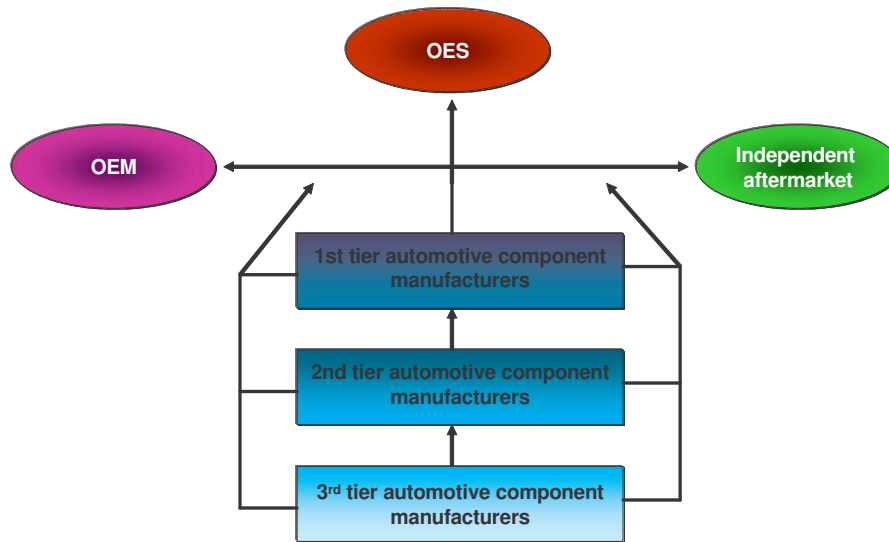


Figure 3: Global automotive industry structure
(UNIDO 2003, p.x)

Automotive component manufacturers in South Africa fall in the category of the lower tier component manufacturers who supply manufactured parts and accessories to OEM's, OESs and the independent aftermarket. Up the early 1990, the design and innovation capabilities dictated to the lower tier component manufacturers were within the competency of the South African local component sector. Since mid 1990s, however, OEMs have been delegating more design activities to component manufacturers. For such components, OEMs supply the overall performance specifications and information about the interface with the rest of the car and the supplier is required to design a solution using its own technology. There has also been a shift towards the supply of complete functions rather than individual components. First-tier suppliers have become responsible not only for the assembly of parts into complete units, but also for the management of second-tier suppliers. The new component supply requirements necessitates that the local component sector acquires high levels of technological competencies. Many of the South Africa component manufacturers are struggling to keep pace with these new technological requirements to supply OEMs. The situation is exacerbated by the follow-design and follow-sourcing strategies in the automotive components supply under which preference is given to the use the same suppliers in many difference locations. These strategies have been a logical consequence of the supplier taking more responsibility for design and for the increasing

commonality of models between markets. There is a possibility that South Africa's automotive industry participation in the global automotive value chain will decline over time unless the MIDP empowers the local component sector to acquire technological competencies in line with OEM new supply requirements. The increase in South African supplier competitiveness has an added advantage of encouraging long-term business relationship with OEMs (Moos et al, 2006).

1.2.4 WTO compatibility of MIDP incentives

The Import-Export Complementation arrangement, under which the industry was enabled to break into international markets, is a demand-side incentive. It enables local exporters in the automotive industry to become more competitive in the international market based on the indirect subsidy they receive from Government. Export subsidies are, however, vulnerable to challenge under the WTO trade protocol on free trade as they are considered trade distorting. Under the WTO Agreement on Subsidies and Countervailing Measures (SCM Agreement), subsidies based on export performance are not prohibited but are actionable for developing countries. That is, if export subsidies are found to be causing injury to the domestic industry of the importing member country, the importing country can impose countervailing duties (Ahuja, 2005, p.4). It is likely that the South African government will restructure the incentive in the way that makes it less vulnerable to countervailing duties or come up with an alternative incentive model that will offer the same benefits as the IEC benefits to the industry.

The need to address the limited benefit of the IEC arrangement to component manufacturers, the creation of sustainable employment, improvement of the industry trade balance account and the risk that the IEC arrangement could be challenged by South Africa's trading partners under WTO regulations, create a case for examining the use of supply-side incentives, as alternatives, under the MIDP. Supply-side incentives focus on supporting production, though they may also indirectly influence the demand side and lead to competitiveness by bidding down factory prices through cost reductions. Because

supply-side incentives have no direct influence on trade, they are not at risk of challenge with WTO regulations relating to eliminating barriers to trade in goods and services.

1.3 Research logic and broad issues for investigation

1.3.1 Research problem statement

Offer of investment incentives under the MIDP to support industry competitiveness has:

- Increased the industry trade deficit from R 12.2 billion in 1995 to R 27 billion in 2005, an increase of 121%.
- Not led to investment in R&D as a necessary process towards long term competitiveness. Investment in R&D has remained below 10% of total industry investment in the period 1995 to 2005.

1.3.2 Research question(s)

What is the effect of change in the PAA structure on the trade balance of the South African automotive industry? How should the incentive be structured if it is to contribute significantly to the industry competitiveness and subsequent production growth?

1.3.3 Purpose of study

The purpose of the study was to determine the effect of changes in the value and basis of the PAA on industry competitiveness in general, and on industry trade balance in particular. Simulated scenarios are used as a basis for recommendations on how the incentive should be structured to benefit all stakeholders in the motor industry, without compromising on the already achieved gains.

1.3.4 Objectives of the study

Specific objectives of the research project were as follows:

1. To analyse performance of South Africa's automotive industry under the MIDP and the prospects of the PAA in supporting the industry competitiveness objective.
2. To explore the body of theoretical literature underpinning the offer of industry investment incentives in general, and assess how it informs the case of the South African automotive industry.
3. To review the structure and performance of the Productive Asset Allowance as a competitiveness supporting incentive.
4. To develop a system dynamic model of the PAA and use it to simulate effects of changing the incentive policy rules on industry trade balance and competitiveness.
5. To recommend from the simulations results how the PAA could be structured in order to mitigate against continued deterioration in industry trade deficit and to contribute towards industry competitive objective.

1.3.5 Hypothesis

The offer of MIDP incentives, specifically the PAA, is a significant contributor to the deterioration of the automotive industry trade balance in South Africa. By changing policy rules relating to the incentive, industry competitiveness can be enhanced via increased R&D investment, and the industry trade deficit trend can be reversed.

1.3.6 Study rationale

Governments all over the world give incentives or some form of support to the local automotive industry. The expectation, therefore, is that the South African government will continue supporting the automotive sector. Limitations in achieving objectives set out at the inception of the MIDP, coupled with the potential of challenge to the current incentives under the WTO free trade regulations, call forth creative ways by Government to support the industry. The PAA as the only supply-side incentive of the MIDP could be the most

appropriate alternative; however, there is limited understanding of the overall impact of the PAA in the short and long run. Further still, the inclusion of capitalised research and development expenditure under productive assets qualifying for the incentive has created another important dimension to the incentive, which is yet to be investigated. There is an opportunity to contribute to the current and future reviews of South Africa's Motor Industry Development Programme by modelling the effects of possible policy interventions relating to the PAA.

Can the PAA be structured in a way that provides the same benefit to industry yet without exacerbating industry trade balance? Can the incentive substitute the current demand-side IEC incentives in the industry? If so, to what extent? The study attempts to answer these questions, among others.

1.3.7 Research approach

A system dynamics (SD) approach was used in this study. Developed in the 1950s at the Massachusetts Institute of Technology (MIT) by Forrester (1961), SD is a computer-based methodology for building quantitative and qualitative models of complex situations so that they can be better understood and managed (Caulfield & Maj, 2001, p.26). SD allows experimenting with and studying of behaviour of the models over time. The approach facilitates understanding of the relationship between the behaviour of a system and its underlying policy decision rules through four distinguishable stages: a) identifying the problem; b) exploring existing information on the problem; c) using feedback control concepts to organise available information into computer simulation models and; d) revealing behavioural implications of the described model (Sterman, 2000, p85-87).

1.4 Synthesis

The study formalises an intuitive incentive into a simulation model, thus coming up with a policy tool that can test industry reaction to policy decisions on the PAA and the IEC within an acceptable confidence interval and which can be improved upon. It further provides an interface between an economic and system dynamics approach to policy work.

In so doing, the study contributes towards enriching economic policy analysis with system dynamics theory. Study outcomes should be of interest to policy-oriented academicians in terms of approaching a policy problem from two different theoretical perspectives. Policy makers involved with industry incentives will find it useful in providing a formal framework to guide their policy decisions.

In its answers to the research question, the study is particularly useful in informing future decisions on the PAA and MIDP incentives in general. Most importantly, the study was intended to bring a new perspective to understanding the offer of sectoral investment incentives in South Africa.

2 The Advent and Prospects of Investment Incentives in the South African Automotive Industry with Reference to Comparable Economies

2.1 Introduction

After almost seven decades of protection through high tariffs and stringent local content requirements, South Africa opted for a gradual liberalisation process of its automotive industry in 1995 (Barnes, 2000, p.9; Barnes and Black, 2003, p.5). The Motor Industry Development Programme (MIDP) provided the framework for the industry liberalisation process. In lifting the protection curtain, Government exposed the industry to global competitive pressures, together with international trade obligations as stipulated and enforced under the World Trade Organisation (WTO) protocol (Barnes, 2000, p.9). The MIDP was to be reviewed periodically to ascertain that the industry was on course to ensure international competitiveness. Based on the industry performance of the first five years of the MIDP, the then Board of Tariffs and Trade (BTT), now the International Trade Administration Commission (ITAC) recommended the introduction of an investment incentive for the industry – the Productive Asset Allowance (ITAC, 2000).

Investment incentives can be broadly defined as financial or fiscal inducement provided by national or regional governments to induce investors to establish presence, to expand an existing business, or not to relocate anywhere else (UNCTAD, 2003a, p.18). Investment incentives can be broadly categorised as:

- Financial incentives, such as cash grants to an investor
- Fiscal incentives, such as tax holidays and tax rebates based on specified criteria
- Other incentives that could take the form of subsidised infrastructure or services, market preferences and regulatory concessions.

Globally, incentives are one of the policy tools used to attract inward investment by national governments. According to the United Nations Conference on Trade and Development (UNCTAD, 1996, p.3-4; UNCTAD, 2003b, p.24), the number of countries granting investment incentives and the range of possible incentive measures has been on

the rise since the 1990s. The choice of which incentives to offer is often dependent on the fiscal vibrancy of a particular country, expected effectiveness and appropriateness, and more recently, compliance with the WTO regulations. Many developing countries opt to offer fiscal incentives because they cannot afford outright financial grants. Though the South African automotive industry has been a beneficiary of all three categories of incentives, fiscal incentives have been by far the most significant (UNCTAD, 2003b, p.24).

Introduced in 2000, the PAA is a fiscal incentive intended to support investment in state-of-the-art productive assets. As such, it contributes to national efforts in making the local industry globally competitive. In order to further the competitiveness objective, vehicle manufacturers that wanted to benefit from the PAA had to reduce the number of models manufactured domestically – rationalisation of production. It was envisaged that rationalisation would reduce average production costs and enhance global competitiveness of the industry, especially that of the component-manufacturing sector, which had been limited by small order volumes. Starting as a relatively small incentive, the PAA has attracted interest as a possible and sustainable means by government to support the automotive industry in the light of global trade obligations and innovative industrial policy that emerged in the 1990s. This chapter takes a historical review of the PAA and provides a foundation for policy action pertaining to the incentive in light of its elevated importance to the industry. The chapter ends with a comparative analysis of international experience on automotive industry development policy in Australia, Thailand and Argentina

2.2 The Motor Industry Development Programme (MIDP) of the South African Automotive Industry

2.2.1 Historical perspective

In 1992, the South African government decided to appoint a special task team – the Motor Industry Task Group (MITG), comprising industry experts to advise government on long and short-term strategies for the future of the industry. The appointment of the MITG was

necessitated by challenges and limitations of using local content requirements¹ as a policy tool to sustain the growth of the industry in light of domestic and global development in the automotive industry.

MITG submitted its report in 1994, which included specific recommendations for the light motor vehicle and heavy vehicle categories. MITG recommendations were published in the Government Gazette of 29 April 1994. The National Association of Automobile Manufacturing of South Africa (NAAMSA), the National Association of Automotive Component and Allied Manufacturers (NAACAM) and the National Union of Metal Workers of South Africa (NUMSA), the major stakeholders in the industry, did not support MITG recommendations, specifically those on affordability of vehicles, duties, rationalisation and Import-Export complementation facility.

The Board of Tariffs and Trade was then tasked to formulate a Revised Customs Dispensation Programme for the industry for both light and heavy vehicles based on recommendations by MITG, taking into consideration feedback received on the initial report. The Board's first proposals were published for comment in the Government Gazette of 9 December 1994. A final draft of the revised dispensation was adopted and implemented as from 1 September 1995 (ITAC, 1994). The BTT Revised Customs Dispensation for the Motor Industry of September 1995 came to be formally known as the Motor Industry Development Programme (MIDP).

2.2.2 Initial recommendations of the MIDP

The overarching objective of the MIDP for light vehicles was improvement of the industry's competitiveness to such an extent that it would survive in the long term under less protection. For heavy motor vehicles, the objective was to reduce their costs, with a

¹ As a means of developing the local industry, the South African government had legislated local content requirements for the industry. Domestic CBU manufacturers would offset part of the excise duties, based on the level of local content use. By 1994, the industry was implementing phase VI of Local Content Programme which had commenced in 1989. In phase VI, local content was measured based on value rather than weight. Phase IV had been preceded by various phases of local content requirements as far back as 1960, during which local content was measured in terms of mass.

commensurate reduction in the costs of input used to manufacture heavy vehicles (SA, 1995:2). Under the revised dispensation for light motor vehicles, customs duty on Completely Built Units (CBUs) was reduced from 70% in 1994 to 65% ad valorem in 1995. The duty was to be gradually phased down to 25% ad valorem by 2002. Duty on OEs (Original equipment for use in CBU manufacturer) was reduced to 49% and was to be brought down finally to 30% in 2002. Duties for medium and heavy commercial vehicles were to be phased down too, to reach a 20% for CBUs and 25% for OEs by 2000 (Table 5).

Effective Date	Light Vehicle Segment		Medium and Heavy Vehicle Segment	
	CBUs (%)	Components (%)	CBUs (%)	Components (%)
January 1, 1995	65.0	49.0	40.0	50.0
January 1, 1996	61.0	46.0	37.5	45.0
January 1, 1997	57.5	43.0	35.0	40.0
January 1, 1998	54.0	40.0	30.0	35.0
January 1, 1999	50.5	37.5	25.0	30.0
January 1, 2000	47.0	35.0	20.0	25.0
January 1, 2001	43.5	32.5	-	-
January 1, 2002	40.0	30.0	-	-

Table 5: MIDP phase down of import duties
(ITAC, 1994, p.66)

The phased approach in reducing import duties was to allow industry time to adjust to increase in competition. Economic theory predicts that a reduction in tariffs has an equalising effect of domestic to world market prices. Protected industries tend to produce less efficiently and charge higher prices due to lack of competition. Opening up of the industry can lead to replacement of domestically produced products with cheap imports. If the situation were to be left to market forces, a domestic industry can collapse. It was, therefore, critical to implement a phased approach in opening up the industry.

The MIDP included additional recommendations for the light vehicle category:

- i. Introduction of an International Trade Duty Rebates facility under which the following rebates were applicable:
 - Light vehicle manufacturers were entitled to a 35% International Duty Free Allowance (ITDFA). Both Completely Built Units (CBUs) and Original Components (OEs) imported in the country would qualify for the rebate. The ITDFA was to be calculated based on total value of sales.

- Import-Export Trade Balance: The rebate allowed locally based OEMs to use foreign exchange earned from exports to offset duty payable on imported CBUs and OEs net of the duty free allowance. Component manufacturers could also benefit from the facility.
 - Export Facilitation Scheme: Any exporter could earn export credits under the scheme. The credits could be used by local vehicle manufacturers to reduce duties payable on imported CBUs and OEs. If earned by a component manufacturer or any other importer, they could be used to import replacement or after-market components or ceded to an OEM.
- ii. Local content requirement on CBUs was abolished. Component local content was to be based on a component being wholly or partly manufactured in South Africa. Not less than 25 percent of the factory or component cost had to be incurred within the Southern Africa Customs Union (SACU). A component would not be considered for the rebate unless the final process of manufacturing was carried out in the SACU area.
- iii. A small vehicle incentive in the form of an additional duty free allowance was to be granted to OEMs in respect of motor vehicles below a net ex-factory selling price of R40,000. The incentive was to be phased out over a period of three years (ITAC, 1994, p.68).

The MIDP adopted a separate development programme for the medium and heavy commercial vehicle category. The main reason for a separate dispensation for this category was the fact that commercial vehicles were considered capital equipment – input to the country's production processes (ITAC, 1994, p.70). Under the revised dispensation,

- i. On duties payable:
- Excise duties on the vehicle category were discontinued.
 - An initial rate of customs duty of 40% on commercial CBUs was to apply. The duty was to be scaled down to 20% over a period of six years. Duty of 50% was to be levied on imported OEs (Table 5).
 - Vehicles imported in a condition other than completely knocked down (CKD) would be subject to 40% customs duty.

- Imported OEs for the manufacture of medium and heavy vehicles would be exempt from the payment of surcharges.
 - Provision was made for a rebate of duty on subcomponents for the manufacture of OEs.
- ii. Local content requirements were abolished.
- iii. An import-export trade balance rebate facility, as in case of light vehicles, was introduced.

These recommendations constituted the first MIDP. The programme has been periodically reviewed to fine-tune policy levers to meet the stipulated objectives based on observed performance and changing market dynamics. Though there have been changes on the levels of duties payable, calculation of rebates and introduction of new incentives, increasing industry competitiveness remains the overarching objective to achieve.

2.3 Trend of key industry variables in the first five years of the MIDP

The MIDP was to support and facilitate the continued growth of the industry in the light of domestic market conditions and global influences. The emerging trends of key industry variables after five years of a gradual liberalisation process were to inform the Board of Tariffs and Trade on how to take forward the industry incentive dispensation, given the objectives that it set out to achieve. This section examines industry performance trends and changes in the industry profile in the first five years of the MIDP.

2.3.1 Investment

Increased and sustained investment in the automotive industry, though not an explicit objective of the MIDP was critical in the realisation of the programme's success. Economic theory is unfortunately ambiguous on the relationship between liberalisation and investment. Depending on market conditions, the opening up of a previously protected market may or may not increase investment. The theory of 'jumping' the tariff barrier is, however, well documented in international economics; firms that face significant barriers to enter a particular market opt to create subsidiaries to produce within the protected

market as a way of avoiding the barriers. In accordance with the tariff-jumping argument, trade liberalization measures decrease the cost of trade and could therefore reduce inward investment (UNCTAD, 2003b, p.13). At the commencement of the MIDP in 1995, despite the protected regime under which the industry had been operating, seven global OEMs – BMW, Daimler Chrysler, Volkswagen, Toyota, Fiat, Ford and Nissan had invested and were operating in the country. General Motors and Peugeot had previously withdrawn. The highly protected South African automotive industry had been successful in attracting major global OEMs prior to 1995. It was important that the liberalisation of the industry should not lead to less investment. OEMs could potentially fall back to producing at cheaper locations overseas and simply import products into South Africa under the relaxed trade regime. Investment in the industry was, therefore, an important variable to keep track of as the industry opened up. Table 6 presents trend in investment by the domestically based OEMs for five years before and after the introduction of the MIDP. It is noticeable that from 1990 to 1995, investment by OEMs was on a downward trend, reaching a record low of only R400 million in 1993. By the end of 1994, industry investment had decreased by more than 25 per cent compared to the investment in 1990. At the inception of the MIDP in 1995, there was an urgent need to come up with a policy to rejuvenate investment in the industry.

The MIDP seemed to reverse the falling investment levels. OEM investment jumped from R492 million in 1994 to R1,171 million in 1996, an increase of 138%. By 1999, investment by OEMs had reached R1,511 million but seemed to level off at this point. Between 1996 and 2000, the average annual growth rate of investment by OEMs was 7.5%. At the end of the first five years of the programme, the MIDP seemed to have been effective in stimulating industry investment.

Year	Investment (Rm)
1990	660.00
1991	697.00
1992	858.00
1993	400.00
1994	492.00
1995	847.00
1996	1,171.00
1997	1,265.00
1998	1,342.00
1999	1,511.00
2000	1,562.00

Table 6: Investment expenditure by South African vehicle assemblers
(NAAMSA, 2001, p.5)

2.3.2 Employment

Employment is an important factor in judging the performance of an industry, particularly in developing countries. Despite the rather contradictory objective of production efficiency through the acquisition of state-of-the-art technology on one hand and sustaining jobs on the other, the success of the South African automotive industry could not be adjudicated without considering employment created. Global evidence shows that an automotive industry on a growth path is not always a significant employer, particularly the vehicle-manufacturing segment. Using the case of the Argentine automotive industry, Miozzo (2000, p.659) shows that growth of the automotive industry could be accompanied by job losses. Nevertheless, there are exceptions to the view that the automotive industry is not a job creator. McAlinden et al (2003, p.7), using the case of the United States, assert that the automotive industry is and can be a significant employer and an important contributor to the economy. Applying the concept of employment multiplier to quantify indirect employment created, McAlinden concludes that for each direct job created in the US automotive industry, 2.9 more jobs were generated, down and upstream, in the economy.

Unlike McAlinden, the analysis of employment trends in this study takes a conservative approach to industry job creation – only direct employment in the industry is considered. Conclusions reached might understate industry impact on job creation, and potentially

overlook some policy levers that could grow industry proxy employment, but the approach is less blurred by uncertainty and subjectivity from calculations and estimations.

In stating MIDP objectives, a compromise to tone down on the employment objective was reached between Government and the industry. It was stated that the programme intended to stabilise rather than create employment. However, the level at which employment was to be stabilised was not stated. It was against this background that Barnes and Black (2003) in the MIDP Review Report indicated that the employment stabilisation object had been achieved despite head count decrease from 38,600 to 32,300 between 1995 and 2000 in assembly plants, and from 47,000 to 38,500 in the component sector. Overall, direct employment in the industry had dropped by 1.7% from 1996 to 2000 (Table 7).

Year	Assembly Industry	Component Industry	Tyre Industry
1995	38,600	47,000	11,000
1996	38,600	45,000	10,000
1997	37,100	44,000	9,500
1998	33,700	40,000	9,100
1999	32,000	39,000	9,000
2000	32,300	38,500	8,600

Table 7: Employment in the South African automotive industry - 1995 to 2000
(NAAMSA, 2001, p. 5)

Based on the less than expected job loss, the Board on Tariffs and Trade considered the employment trend as acceptable after five years of the MIDP. It should, however, be noted that employment statistics did not distinguish between permanent and casual employment. Inability to distinguish between the nature and structure of employment created can potentially bias conclusions on industry employment.

2.3.3 Production, import and export, and domestic sales

2.3.4 Production

Although investment was to be the driving factor for the industry's growth, it had to do so through increased production levels. The logic here was that investment would increase

production capacity and subsequently industry output. Increased production would lower average costs through the realisation of economies of scale. Low average costs would contribute towards industry competitiveness and consequently a larger market share in both domestic and international markets – the industry would be put on a high growth trajectory. Demand for factor inputs would increase, more people would be employed and sourcing of local components would rise.

Unlike investment, which increased drastically after the inception of the MIDP, the level of production moved in the opposite direction. On average, production (units of vehicles produced) decreased by 1.4% per year between 1995 and 2000. Production reached a record low of 310,333 units in 1998, 78,109 units lower than production level of 1995. Units produced in 2000 were 8.4% lower than at the inception of the MIDP (Table 8). It was clear that the MIDP was not meeting its goal in stimulating domestic production. This was an irony that the policy makers of the MIDP had to contend with; the programme was delivering on investment but the effects of increased investment were not being realised in terms of increased production levels. If productivity was not decreasing, which was less likely because increased investment is associated with improved technology, the production trend presented an anomaly that required further investigation.

2.3.5 Imports and exports

Trade liberalisation permits equalisation of global prices for commodities and services. Consumers in high cost producing locations are afforded the opportunity to get goods and services at lower global price levels in the absence of trade barriers. Prior to 1995, the automotive industry in South Africa had been producing too many models at low and inefficient scale. The opening up of the industry led to competition between domestically produced and imported automotive products. Against the background of low economies of scale, vehicle imports increased drastically in the first four years of the MIDP. By 1997, vehicle imports to South Africa had increased to 74,666 units from 22,305 units in 1995. Within the same period, vehicle exports were increasing but at a lesser rate than imports. The trend changed in 2000 when for the first time export levels surpassed vehicle imports; 66, 413 units were imported compared to 68,038 units exported. Viewed independently,

vehicle export increased from 25,896 units in 1998 to 59,716 units in 1999 reaching 68,031 units in 2000, an almost threefold increase (Table 8).

Improving industry trade balance was one of the MIDP objectives on which the success of the programme was to be adjudicated. Though exports recorded a significant increase in the first five years of the programme, their positive contribution to the industry trade balance was offset by increasing level of imports. The increase in imports was attributable to relatively lower global prices of automotive products and implicitly on the design of the MIDP import-export complementation arrangement. Under the import-export complementation arrangement, OEMs are awarded import rebate credits based on the level of exports. OEMs can only benefit from the arrangement by importing vehicles or components and offset duties payable using the received credits. The import-export complementation arrangement created an additional incentive to import. After five years of the MIDP, industry trade balance had not improved.

2.3.6 Domestic sales and market

Market potential or the existence of effective demand – the desire for a product accompanied by the means to buy it, is an important factor considered by investors when deciding where and how to invest. According to Rhys (2000, p.1), the three conditions necessary for the survival of a modern automotive industry are best use of available resources at any level of production (lean production), economies of scale, and the existence of an effective market. Investment incentives are only marginally important when making investment decisions. Investment by major OEMs in South Africa under the protected market regime was mainly due to the existence of a small but effective automotive market in the country. Limited competition meant that OEMs could price vehicles high enough to make profits despite producing at low levels. With the opening up of the industry to global competition, market share for individual OEMs had to shrink as imports entered the local market unless mitigated by domestic market growth. For new OEMs and those that had already made investment in the country, domestic market growth and the process of industry liberalisation had to be considered when making decisions on long-term investment.

Between 1995 and 2000, the size of the domestic market as reflected by the level of local sales declined by an average 2% per annum. Vehicle sales did pick up in 1997 increasing to 421,076 units from 399,967 units in 1996, but thereafter domestic sales declined. Total domestic vehicle sales in 2000 were 11% lower than sales in 1995 (Table 8). Decline in sales was mainly in the car category. By 2000, it was evident that the domestic market could not support rapid industry growth and the subsequent realisation of economies of scale by the locally based OEMs. If the industry was to continue on a growth path, stakeholders had to come up with creative means of penetrating markets outside the country. The move towards an export-oriented policy was motivated partly by the domestic market constraint. For long-term survival, industry growth had to be de-linked from domestic market expansion (Bell and Madula, 2003, p.iv).

Year		Production	Imports	Exports	Domestic Sales
1995	Cars	242,488	22,305	8,976	255,817
	LCVs	133,719	4,034	6,356	131,397
	MHCVs	12,235	950	432	12,753
	Total	388,442	27,289	15,764	399,967
1996	Cars	235,359	41,768	3,743	273,384
	LCVs	135,641	4,559	7,125	133,075
	MHCVs	14,252	1,050	685	14,617
	Total	385,252	74,666	11,553	421,076
1997	Cars	226,242	51,978	10,458	267,762
	LCVs	121,204	4,550	8,000	117,754
	MHCVs	13,870	1,000	1,111	13,759
	Total	361,316	57,528	19,569	399,275
1998	Cars	193,212	59,951	18,342	234,821
	LCVs	104,862	5,122	6,806	103,178
	MHCVs	12,259	1,300	748	13,511
	Total	310,333	66,373	25,896	351,510
1999	Cars	212,291	54,426	52,347	99,669
	LCVs	101,907	4,343	6,581	103,178
	MHCVs	11,024	1,500	788	122,928
	Total	325,222	60,269	59,716	325,775
2000	Cars	230,577	61,749	58,204	234,122
	LCVs	113,269	4,114	9,148	108,235
	MHCVs	12,404	550	679	12,275
	Total	356,250	66,413	68,031	354,632

Table 8: South Africa vehicle production, import, exports and domestic market size - 1995 to 2000

(NAAMSA, 2006, p.19)

Notes: a: LCVs - Light commercial vehicles
b: MHCVs - Medium and heavy commercial vehicles.
Domestically produced cars and LCVs total represent a proxy for aggregate local production.
Information based on data collected by NAAMSA and estimates of non-NAAMSA sales. GDP growth rate represents GDP annual changes at market prices in real terms.

2.3.7 Supplier development

The MIDP had to facilitate the integration of domestic component manufacturers into the global automotive value chain. It was envisaged that through the support of OEMs to supply to international markets, taking advantage of supply contracts negotiated and facilitated by parent OEMs, domestic suppliers would be afforded an opportunity to

participate in the global automotive business. Interactions between domestic suppliers and domestic subsidiaries of global OEMs would also have positive spin-offs in terms of technology transfer and ex-efficiency. The pre-1995 low production levels by local OEMs could not support a vibrant, locally based automotive component sector. In the automotive industry, the component sector often has a bigger potential to create jobs and to stimulate domestic technological capabilities through spill over effects (Humphrey & Memedovic, 2003, p.19). Supplier development, therefore, had to be part of the overall industry development strategy.

The extent to which supplier development had taken place within the first five years of the MIDP was an elusive aspect. No explicit data is kept by industry or government on this aspect. Assessment of local supplier development could only be done using proxies, such as local content use and component exports. Although supplier development could also be evaluated using other proxies, like the level of training that component manufacturers had received and the level of other positive externalities emanating from component manufacturer's interaction with the OEMs, relevant data was not obtainable and where available, it was unreliable. Local content use and domestic component sourcing remained the most feasible parameter to judge the extent to which domestic suppliers were enabled to participate in the global value chain of the automotive industry. The extent to which multinational OEM subsidiaries sourced from domestic suppliers and local content utilisation in domestically produced CBUs was taken to be indicative of local supplier development.

The share of locally sourced components used in domestic OEM assembly was on the decline from 1992 to 1994. It remained low but stable between 1994 and 1995 (Bell and Madula, 2003, p.28). There was substantial reduction in the share of locally sourced components as a proportion of total component usage from 40.1% in 1996 to 33.8% in 2000 (Table 9). By implication, local component manufacturers were proportionally benefiting less from vehicle production by the OEMs. If the proportion of local components per each manufactured CBU were to continue on the same declining trend of 1996, it would mean the MIDP would become less and less effective in supporting local

component manufacturers despite of industry growth that had started to pick up in 2000 (Table 9).

Year	Imported OE/Total OE	Local OE/Total OE	Imported OE/WVT ^a	Local OE/WVT	Total Local Content/WVT
1996	59.9	40.1	41.9	28.1	58.1
1997	61.2	38.8	42.8	27.2	57.2
1998	58.3	41.7	40.8	29.3	59.2
1999	60.0	40.0	42.0	28.0	58.0
2000	66.2	33.8	46.3	23.7	53.7

Table 9: South Africa's automotive component sourcing - 1996 to 2000

(Derived from data from the Trade and Investment South Africa (TISA) presented in Bell and Madula (2003, p.26)

Notes: a- WVT - Wholesale vehicle sale turnover

- 1) Total OE component usage relate to CBUs assembled for the domestic and export market.
- 2) The last three columns were derived on assumption that the non-material portion of local content (labour, cost, overheads, etc. was 30% of wholesale turnover. See previous note

Total local content – both material and non-material was on a down-swing between 1996 and 2000, but at lower rate than material local content viewed in isolation. Total local content (material and non-material) declined at an average annual rate of 1.9% between 1996 and 2000, while the material local content decline rate was 3.8% per annum. The trend in local content use seemed to indicate that local OEMs were systematically reducing components sourced from local manufacturers. Other production costs like labour costs and overheads were also declining. Bell and Madula (2003, p.31) contend that even after accounting for foreign exchange bias on the valuation of imported OE, the decline in local content and sourcing of domestic OE was evident across the board.

The declining trend of local content use and domestic OE sourcing by OEMs was expected to worsen as duties on imports decreased. Cheaper imports could find their way to the domestic market and would put more pressure on domestically produced components. Supplier development was yet another deliverable on which the MIDP had not succeeded five years after the inception of the programme.

2.3.8 Vehicle prices

From 1995 to 1998, new vehicle price increases remained well below the domestic inflation rate measured in terms of the consumer price index. The years in question were characterised by relative exchange rate stability, significant reductions in levels of protection and increased competition through the advent of new importers and distributors in the local automotive industry (NAAMSA, 2006, p.7). The trend could not be sustained; as from 1999, cars prices in the country were above domestic inflation according to the national inflation rate and vehicle price indexes (Table 10). The failure of the MIDP to make cars affordable for domestic consumers has since become a point of contention between the trade unions and industry. The trade unions contend that the MIDP has skewed benefits in favour of locally-based vehicle manufacturing subsidiaries, with little benefit to workers and the general public. Their position gets support from some researchers that argue that MIDP incentives have been costly policy errors and that the attention given to the sector exceeds its contribution to output, export and employment (Flatters, 2002, p.2).

Year	Inflation (% change in consumer price index for metropolitan areas)	% in vehicle price index for metropolitan areas
1995	8.7	8.2
1996	7.3	2.7
1997	8.8	6.3
1998	6.7	4.3
1999	5.2	6.0
2000	5.4	7.2

Table 10: South Africa's consumer and vehicle prices indexes
(NAAMSA, 2006, p.7)

A major limitation in adjudicating whether the MIDP was successful in reducing domestic prices of vehicles was the realisation that vehicle prices in the country were a function of a number of factors, namely interest rates, financing options and packages, insurance premiums, and disposable incomes. Vehicle financing institutions, vehicle dealers and the insurance industry had an impact on the pricing of vehicles in the country. Hence, vehicle prices could not be adequately addressed within the confines of the MIDP policy framework only. Apart from the factory price to which MIDP had a direct bearing,

insurance charges, interest rates and dealership costs were key determinants of market prices for vehicles in South Africa.

It is a fact, however, that MIDP incentives create a business case for local manufacture/assembly of vehicles to supply to global markets. By implication, the MIDP incentives are significant enough to reduce factory prices of locally assembled vehicles to the extent that they can be competitively marketed in the global automotive market. The incentives in general have significant effect on the cost assembly of vehicles in South Africa. However, the vehicle price effect of the downward cost pressure of MIDP incentives is dependent on a number of factors some of which are outside MIDP policy framework. MIDP incentives provide “a bottom line cushion” to local car assemblers and hence mitigate against drastic vehicle price increases in the country.

To make vehicles affordable to domestic consumer’s required collaborative efforts from industry, government departments – the department of Trade and Industry, South Africa Revenue Services, National Treasury and other vehicle service providers, specifically, banks and insurance companies.

In this respect, making vehicle affordability an explicit objective of the programme, without further qualification, might have been an unrealistic expectation on the part of the MIDP policy formulators.

Another important dimension on vehicle pricing emanated from the import-export complementation incentive of the MIDP. The incentive acted as an indirect export subsidy, by way of its calculations being based on local content value exported. Exporting vehicle manufacturers were benefiting over and above the actual price paid for each vehicle bought in the international market. The extra benefit on each vehicle exported disadvantaged domestic consumers in that the exporting company would be less willing to accept a lesser benefit than that obtainable from a global market sale. Economic theory postulates that export subsidies raise domestic prices, reducing consumption but raising output and export levels. Goods would be exported for less than society’s marginal production cost and for

less than the marginal benefit of domestic consumers (Begg et al, 2003, p. 447). This seems to be case for South Africa's automotive industry.

The MIDP was a well- intentioned programme intended to usher a previously protected industry into a competitive global environment, in order to take advantage of its benefits without losing achievements made thus far. On the whole, at the end of the first five years of implementation, an unqualified statement about the programme's success could not be made. Of all the stipulated objectives on which the programme was supposed to deliver, it was only on the exports expansion and investment increase that the success of the programme was undisputable. Improvement of the industry trade balance, stabilisation of employment, domestic supplier development and affordability of vehicles in the domestic market had to a large extent not been achieved. Further still, the increase in exports was based on 'improvised' competitiveness of an indirect export subsidy. Among the many challenges that confronted policy-makers after five years of the MIDP were the explicit achievement of industry competitiveness, ensuring linkages between success of one objective with others and a clear understanding of cause and effects of policy action on major industry variables were. The potential for the programme to lead to unintended and undesirable consequences was a significant risk at the time.

2.4 The Productive Asset Allowance (PAA)

The PAA is an import rebate earned by manufacturers of specified light motor vehicles, registered with the South African Department of Trade under the MIDP, and by component manufacturers contracted to supply components to such manufacturers, on investment in productive assets. The rebate is non-tradable between companies and may be used only by approved motor vehicle manufacturers to import specified light motor vehicles. The PAA was intended to further support the achievement of global competitiveness of the industry through domestic production rationalisation. The main motivation for this support instrument was to encourage manufacturers of specified light motor vehicles to reduce the proliferation of light motor vehicle models produced, through the importation of low volume niche products rather than attempting to produce these models domestically, and

for localisation of original equipment components for fitment to these rationalised models and for export (ITAC, 2005, p.5).

The PAA provides OEMs in the Southern Africa Custom Union (SACU) with 20% of the value of investment in new productive assets. The benefit is spread over a period of five years. For component manufacturers undertaking investing in the SACU region, the instrument provides for an effective 16 per cent of the value of capitalised productive investment via consenting OEM(s).

2.4.1 Criteria for benefiting from the PAA

According to the PAA Guidelines (ITAC, 2005), in order to qualify for the support instrument, qualifying OEMs have to meet the following conditions:

- Investment in new productive assets; these could be land and buildings, or/and plant and machinery. Capitalised expenditure on research and development would also qualify.
- Rationalisation of models domestically produced.

PAA applications are holistically assessed based on:

- Substantial increase in production levels per platform per annum for existing OEMs. For new OEMs, a production volume of 20,000 units have to be reached within two years after the commencement of production
- Support for local manufacturing through sourcing and development of domestic OE manufacturers
- Contribution towards reduction in net foreign exchange use in the industry
- Support of consumer interest, for example, by making quality vehicles available at affordable prices
- Contribution towards employment and technology enhancement.

Qualifying component manufacturers have to meet related, but not completely the same, conditions as OEMs. For a component manufacturer to qualify for the PAA it has to meet these conditions:

- Supply components to an already qualifying OEM under the programme, supported by contract or a letter of intent to supply
- Investment should be made for the manufacture of original equipment components for fitment to a rationalised range of specified light motor vehicles manufactured for both the domestic and the global market. The investment has to relate to new plants or approved plant expansions.

The PAA applications for component manufacturers are assessed on the same criteria used on OEMs.

2.4.2 Exclusion and non-qualification for the PAA

The PAA is mutually exclusive of any other investment incentive provided in the SACU region. Manufacturers from the region obtaining investment incentives from respective governments would be excluded from the PAA for the investment in question. The exclusivity condition of the PAA means that investors tend to opt for the incentive only when it provides superior benefits compared to any other available investment incentive obtainable in the region, or where it is the only incentive available.

The following assets do not to qualify for the PAA, but exclusions may not be limited to these assets:

- Commercial vehicles
- Passenger cars, including station wagons and minibuses
- Loose implements like hand tools classifiable under Chapter 82 of the Customs and Excise Act, 1964.

Adjudication on other assets is based on whether an asset is seen as productive, new and related to an approved project.

2.4.3 Qualifying value of productive assets

The qualifying value of productive assets means the value of the productive assets as capitalised in the balance sheet according to generally accepted accounting practices. Rented and leased assets are valued at the capitalised official interest rate as published by

the South African Revenue Service for the year of application. Where the actual value of asset capitalised exceeds or is projected to exceed the approved amount, the applicant is required to make a supplementary application to the Department of Trade and Industry.

2.4.4 Application and claiming process for the PAA

To access the benefits of the PAA, qualifying OEMs and component manufacturers have to submit an application to the International Trade Administration Commission (ITAC). Completed applications must reach the Department not later than 180 days prior to commencement of production.

Applications should include a business plan outlining marketing and sales plan, a production plan, budget, income statements and balance sheets for a period of 5 years as from the start date of production. ITAC assesses whether the planned investment contributes towards the realisation of MIDP objectives based on the business plan and the other documentation submitted with the application. Project approval is adjudicated in a holistic manner; an application cannot be turned down based on one factor. Information submitted at the application stage forms the basis for future decisions on release of subsequent year certificates as the project is implemented. The application process is presented in Figure 4 below.

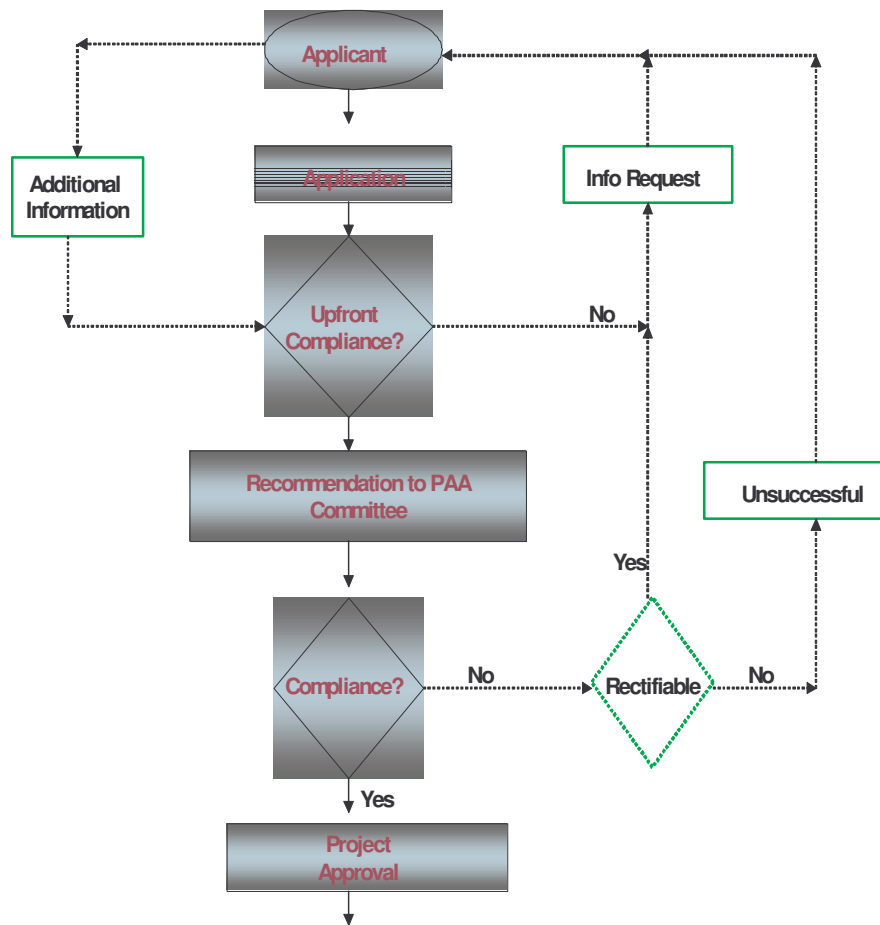


Figure 4: The Productive Asset Allowance application process
(Steyn, 2002)

Claims for the PAA can only be submitted after the approval of the project by ITAC. The approval of the project provides certainty that rebates will be received on investment undertaken under the approved project and within the maximum capitalisation value allowed for the project. Assets included in a claim for a particular year of capitalisation have to be audited by an external auditor. An unqualified auditor's report on the claimed assets must accompany a claim. In addition, a claim has to be accompanied by a detailed factory layout, showing the productive assets to be installed, presented in a way that can allow technical assessment by a qualified engineer. ITAC appoints engineers to visit the site to certify that the claimed investment qualifies for PAA. Based on the information provided in the claim, plus the unqualified external auditor and consulting engineer's

report, a decision to issue certificates is made. Figure 5 summarises the claiming process. For each year of capitalisation, a separate claim has to be submitted.

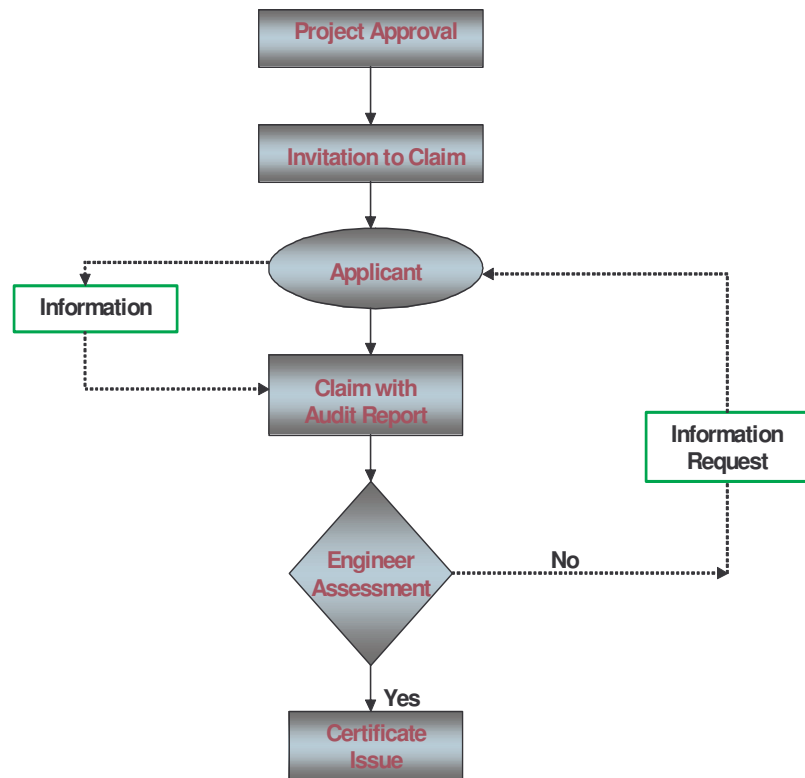


Figure 5: Productive Asset Allowance claiming process
(Steyn, 2002)

To get their subsequent certificates, claimants have to provide updated information on their business plan, company ownership, most recent financial statements and a tax clearance certificate. The issuing of follow-on certificates could be terminated if there are significant performance deviations from the business plan submitted at application stage. Claimants are obliged to motivate performance deviations of more than 10 per cent on the business plan upon which the adjudication of the project approval was based (ITAC, 2005).

2.4.5 Industry benefit from the PAA

With the industry investment increasing at an annual compound rate of some 14%, the expectation is that the value of PAA qualifying investment and hence the value of PAA certificates generated will continue increasing at an almost similar annual growth rate. The number of vehicles that OEMs will be able to import annually using PAA certificates to offset duty payable will increase at an even faster rate given that the imports duties are decreasing over time. To the extent that such imports will be the low volume niche models that support local OEM rationalisation strategy, the PAA's role in support of the industry competitive objective of encouraging domestic production of fewer models at large scale could be achieved.

It is not easy to make an unqualified statement on the effect of the PAA on industry investment in isolation; however, even if the realised investment would have taken place, companies had an additional motivation to invest in the most efficient means of production, since such expenditure was subsidised. The possibility to claim for R&D expenditure, under the PAA dispensation has a potential to motivate component manufacturers to engage more in R&D as a means to meet the ever-increasing technological expectations of OEMs. On the margin, the incentive could also motivate some OEMs to consider locating part of their R&D in the country, a process that is conspicuously missing, yet critical to industry growth.

What is not disputable is that the PAA has directly contributed towards the monitoring of the industry rationalisation process. Applicants for the incentive have to present business plans in which they have to state a planned rationalisation process. Subsequent issue of follow-on certificates is dependent on limited deviation from information provided at the application stage. Effectively thus, the PAA provides a mechanism through which Government keeps track of the performance of OEMs and components towards achieving MIDP objectives.

The rationalisation process as motivated and monitored through the PAA administrative process could also have had positive spin-offs to component manufacturers, though

supportive quantitative data on this is not readily available. The move towards specialisation in few models could have created a bigger market for locally produced OE components. Local content accountability imposed on the OEMs further motivated increase in demand for locally produced components. Component manufacturers have also benefited from the “subsidy” on productive investment used in the production of components to fit rationalised models. OEMs have to pay a qualifying component manufacturer a fixed price of 80% of the value of the certificate issued by ITAC. PAA incentivised tooling purchased by OEMs but stationed at OE component manufacturers premises could have provided another positive spin-off for some OE component manufacturers.

2.5 Comparative international experience on automotive industry development policy

2.5.1 Australia

2.5.1.1 Background of Australian government assistance to the Australian automotive industry

Australia started the process of liberalisation of its automotive industry in 1985. The opening up of the Australian automotive industry increased competitive pressure in the domestic market. Locally based OEMs and OE component manufacturers were compelled to match world prices. Competitive pressure encouraged rationalisation of the industry as a way to reduce production costs. By 1997, the number of OEMs in Australia had fallen from 5 producing 13 models to 4 assemblers producing 5 models in 4 plants (Australian Productivity Commission, 2002; Clarke et al, 1998, p.5). Industry rationalisation was accompanied by job losses; between 1990 and 2001 employment declined by 30%. On the positive side, the reduction of tariffs and the subsequent competition pressure in the domestic market benefited local consumers by bidding down prices and creating greater choices.

Despite the reduction in tariffs from 30% in 1994 to 15% in 2001, the country sustained domestic production. Imports did, however, increase from 25% in 1985 to 60% in 2001.

Faced with the increasing market share of imports, the industry had to focus on the export markets as a source of growth.

2.5.1.2 The Australian Automotive Competitiveness and Investment Scheme (ACIS)

The ACIS of Australia is the industry-support programme most comparable to the PAA. The ACIS commenced in 2001, replacing the Export Facilitation Scheme (EFS) that had previously provided duty free imports on CBUs and OE based on the value of exports. One motivation for the termination of the EFS was that it was potentially challengeable under WTO rules (Clarke et al, 1998, p.19).

The ACIS was intended to be a temporary measure to support the Australian automotive industry in the transition period to lower tariff levels. The scheme provides eligible participants with tradable import duty credits based on production, R&D, and investment activities.

Under the ACIS, motor vehicle producers are eligible for the following duty credits:

- i. 25% of total production of motor vehicles, engine and engine components, multiplied by the automotive tariff rate
- ii. 10% of investment value of approved plant and equipment used in the production of motor vehicles, engines and engine parts

Component producers, automotive machine tool and automotive tooling producers, and automotive service providers were eligible for duty credits based on:

- i. 25% of the value of investment in approved plant and equipment
- ii. 45% of the value of investment in approved R&D

Automotive component producers for other components, other than engine and engine parts and automotive services for third parties could also qualify for 25% rebate on investment in plant and equipment and 45% on R&D expenditure (Australia, 2002).

The ACIS was designed to deliver the same support to the industry as the previous arrangements in a manner that conformed to the WTO trade protocol. The programme removed the link between exports and industry assistance, to a general production subsidy,

not tied to any particular end use. The incentive extended support to R&D, which is not contentious under the WTO. Australia had gone through the experience of their support to the industry being challenged in the WTO and the ACIS was designed to avoid the same challenges in future (Australian Productivity Commission, 2002).

As with the PAA, the assessment of the impact of the ACIS is difficult because it has been operational for a short period of time and its effects are mixed up with a range of other factors and incentives that impact on industry performance. One of the major benefits of the scheme cited by OEMs and component suppliers, however, was its support to R&D. The programme has so far proved useful in attracting R&D to the country, which would have otherwise been based at the parent company or in other countries (Australian Productivity Commission, 2002). The incentive is also indicative of Australia's commitment to continue supporting the industry, creating certainty to potential investors in the country.

On the whole, under the ACIS Australia has managed to attract reasonable investment for the automotive industry through the offer of investment incentives both on national and regional levels. Coupled with other favourable factors that characterise the Australian passenger motor vehicle industry, such as highly skilled human capital, well-developed design capabilities and relatively low labour costs (Clarke et al, 1998, p.1), Australia has managed to maintain a vibrant and competitive domestic automotive industry with all major world producers being represented. By designing vehicles for specific consumer tastes, Australia has so far been able to occupy particular niche markets (Clarke et al, 1998, p.2). Though the industry is still under pressure to compete globally with minimum incentives, the government in Australia has a clear role in supporting the automotive industry particularly through the provision of research infrastructure and support of quality OE development and production (Riemens, 2002, p.2). The country is still re-adjusting its competition strategy to consolidate its production for niche markets by taking advantage of its competitive factors.

South Africa is more likely to take the Australian ACIS approach of industrial policy in mapping out the future roles of the MIDP against the background of recent questioning of its import-export complementation arranged initiated, not surprisingly, by the Australians.

2.5.2 Thailand

2.5.2.1 Thailand's automotive policy under a protected regime

The early success of Thailand in attracting global automotive makers to the country is attributable to its Industrial Investment Promotion Act of 1962 (Higashi, 1995). The Promotion Act provided a privilege package, which included 50 per cent reduction of import duty on CKD for five years, corporate tax exemption for 5 years, free foreign exchange repatriation, and a liberal immigration policy that facilitated easy acquisition of foreign expertise.

Though Thailand was successful in attracting investment in the automotive industry, the investment was not effective in meeting the intended objective of developing the domestic industry. In fact, the combined effect of the investment promotion package was the crowding out of local production. CBU imports increased, there were too many small assembly plants that could not realise economies of scale and OEMs could manipulate the local content formula by inflating prices of locally purchased components. The government was forced to implement a rationalisation and localisation process through legislation. In 1978, Thailand announced the prohibition of the establishment of new car assembly plants. An import ban was also imposed on CBUs. As a result of the new legislation, approved car passenger models were reduced from 84 to 42 series in 1984 (Higashi, 1995).

The period 1987 to 1990 was characterised by rapid growth of the Thai economy. Local demand for vehicles increased due to increased purchasing power. Automotive sales grew by 23% in 1987, reaching 38% in 1990. The growth in domestic production to meet domestic demand created demand for domestically produced components. By 2003, total automotive production had reached 750,512 units with domestic sales mounting to 533,176 units (Chiasakul, 2004, p.16). Large automakers found it more profitable to have their sub-

contractors set up production lines in Thailand to take advantage of cost effective labour, shorter time delivery, and closer access to suppliers. Thailand again realised an investment boom in OE manufacturing within the period.

2.5.2.2 Liberalisation of Thai Auto Industry

The automotive liberalisation process in Thailand came in 1991. The change of policy stance was a strategic step toward the long-term survival of the country's automotive industry by forcing local manufacturers to improve efficiency, technology and product quality so as to compete with the rest of the world. The government lifted the ban on CBU imports and in 1998; all local content requirements on the industry were abolished.

Government established a Board of Investment (BOI) to be the principal agency to provide incentives to stimulate investment. The BOI designed investment incentive packages to attract foreign automakers, while at the same time promoting the country's industrial competitiveness under the liberalised industry regime. Thailand has maintained leadership in the South Asian countries in both automotive production and sales. It is important to note that Thailand chose to target its production of pick-up trucks for a niche market. In 2004, the country was the second largest pick-up truck market in the world after the United States. Through positioning itself as a niche high quality automotive producer, especially with the pick-ups, Thailand has enhanced its competitiveness, enabling the country to compete with China in attracting investment. To complement this strategy, the country maintains a coherent industrial development policy and quality workforce (Wiriyapong, 2004, p.1; Chiasakul, 2004, p.33).

Thailand presents a success story of using investment incentives in a less protected automotive industry, but not in isolation of a supportive regulatory policy framework like duties allowable and strategic decisions such as production for a niche market.

The fundamental difference between the Thai automotive industry development trend and that of South Africa is the stage of industry growth when the liberalisation process commenced. Thailand had already achieved a high level of localisation of its automotive

industry compared to South Africa before embarking on the liberalisation process. In Thailand, global OEMs established joint ventures with domestic companies as a means to further the localisation process. In the case of South Africa, global OEMs producing in the country have maintained their autonomy even buying out the minority shares that had been previously owned by local companies. The investment incentive offer in South Africa is therefore subject to different dynamics, particularly the low linkages between global and local manufacturers in the country.

2.5.3 Argentina

2.5.3.1 Argentine automotive policy

The automotive industry in Argentina is a significant contributor to the national economy, as in the case of South Africa. Argentine's industry support approach was two-phased: first the stimulation of local demand and at a later stage the industry was re-oriented toward exports. The major move toward export promotion was embarked on in 1988. Two main initiatives were responsible for the success of the Argentine automotive industry in the 1990s under a liberalised trade regime, namely, an industry-government-labour agreement and the implementation of a commercial partnership with Brazil (Miozzo, 2000, p.661; Humphrey & Memedovic, 2003, p.13). Argentine did not have an explicit investment incentive.

The Argentine automotive policy approach combined income, industrial and trade policy tools in opening up the industry while still protecting the domestic industry and encouraging modernisation efforts.

The income policy as part of an industry-government-labour agreement involved the stimulation of local demand by cutting down vehicle prices through tax reduction on vehicle producers, setting long-term wages for the industry, and reduction of commissions payable to vehicle producers, component suppliers and dealers. Further still, there was a 30% reduction in employer contribution to social security.

The industrial and trade policy involved an undertaking and motivation of vehicle producers to embark on long-term investment, rationalisation and the endeavour to produce for the export market.

The objective of government was to make automotive production in Argentine very profitable to vehicle producers and thus motivate more investment. This multifaceted policy was initially successful; national vehicle production in Argentine increased more than five-fold from 100,000 to 450,000 units between 1990 and 1997. Employment was the only area of interest that did not respond positively to the policy. Industry headcount reduced, which was partly attributed to an increase in average industry productivity (Miozzo, 2000, p.659).

The commercial partnership of Argentine with the Mercosur region in general and Brazil in particular played another important role in the development of their automotive industry (Chudnovsky et al, 2003, p.2). The agreement sought to manage bilateral trade and the progressive liberalisation process. Markets of the two countries were to be integrated through a system of compensated exchange and gradual increase in imports. The formation of the Mercosur region was of strategic interest to global OEMs against the background of circulated markets in developed countries. Mercosur provided the largest market outside Europe without the stiff Japanese competition.

Direct policy intervention by the Argentine government and partnership with Brazil under the Mercosur framework created a conducive environment for automotive industrial growth. The initiatives led to rationalisation of production through OEM mergers (in 1987, Ford and Volkswagen merged to form Autolatina; the Argentine Antelo Group bought Renault subsidiary to form Ciadea) and elimination of duplicate investment. The agreement was also accompanied by new investments and acquisition of state-of-the-art technology for OE production. Miozzo (2000, p.652) contends that export expansion in Argentine was not due to liberalisation per se, but to the Mercosur region influence and the compensated trade agreement with Brazil. These policy measures were made in the context of

internationalisation and transnational integration based on geographic specialisation and global sourcing.

Another factor responsible for the success of the Argentine automotive industry in the 1990s was the national policy related to acquisition of domestic technology and organisational capabilities. The integration of local suppliers in the OEM production process was, however, limited. This was attributable to the lack of capacity by locally based OE manufacturers to develop technological competence to design OEs. As a result, whenever a new model was to be launched, use of local content decreased while imported components increased drastically. Miozzo (2000, p.675) reports on an unfavourable and skewed relationship between OEMs and component suppliers in Argentina, which benefits the OEMs without developing OE suppliers. Lack of integration of local OE component manufacturers was exacerbated by the phenomenon of ‘importing’ of suppliers that had a strategic historical and capability relationship with the OEMs at the cost of domestic component manufacturers. This led to the weakening of domestic technological and organisational capabilities (Miozzo, 2000, p.676; Novick et al, 2003, p.16; Albornoz and Yoguel, 2004, p.634). The liberalisation process seemed to have moved too fast to allow OE suppliers to acquire the technological capabilities required in the global automotive business (Lall, 1993, p.720).

Despite the initial success in attracting investment in the 1990s by addressing the economic fundamentals, the Argentine automotive industry has since slowed down. Local OE manufacturers are struggling to participate in the international automotive value chain because global OEMs have not sufficiently facilitated the process. Costs and benefits of the industry liberalisation process have been uneven, with component suppliers bearing much of the cost and vehicle producers getting much of the benefits. At the heart of the slowdown is failure by the country to build local expertise and to acquire the relevant skills and technology to facilitate business links between global OEMs and domestic producers.

2.6 Prospects of the PAA for the South African Automotive Industry

On the surface, the PAA seems to be contributing towards its underlying goal, achievement of MIDP objectives. However, there are critical issues to be addressed before an unqualified statement on the effectiveness of the incentive to the industry can be made.

In attracting investment, investment incentives do not operate in isolation, they play only a marginal role (Rhys, 2000, p.1). The reasonable investment in the South African automotive industry by global OEMs, despite comparatively low levels of investment incentives, points to the fact that some other fundamentals necessary for attracting investment were in place. According to Bezuidenhout (2005), the major contributing factors for above average growth of the South African automotive industry in 2005 were low inflation and interest rates, strong consumer sentiments and business confidence, low vehicle price inflation and attractive sales and marketing packages. The PAA is not operating in isolation of other MIDP incentives and general policy framework. The theoretical underpinnings of the MIDP are complex, and the dynamic relationship between various incentives and industry performance indicators are unclear. It is quite difficult to identify the cause and effect of the various industry variables of the MIDP policy framework (Flatters, 2002; Barnes and Black, 2003; Bell and Maduna, 2003). The PAA adds to this complexity. How to structure the incentive to become more efficient in achieving the desired goal requires untangling the complexity of all factors at play in the industry as a starting point.

Another dimension to this debate is that authors on the subject have tended to overlook whether all productive assets are equally productive. Is machinery as productive as embedded new technology? Whether all “productive assets” should be considered the same across the board is an issue that could bring new perspective in understanding the potential role of the PAA to the industry. Industry stakeholders have reservations that the incentive in its current form can significantly influence decisions in the industry. According to the NAACAM Directory 2004, there were other government incentives, not industry specific, which could offer benefits superior to those of the PAA. For investment of less than some R60 million, the Small and Medium Enterprise Development Programme (SMEDP) offered

better benefits than the PAA. The discretionary nature and time constraints imposed on benefiting from the incentive tend to make the PAA a less dependable basis of long-term investment decisions.

2.7 Synthesis

Overall, the success of using the PAA as an investment incentive for sustained growth of the South African automotive industry through enhanced competitiveness is dependent on supportive domestic measures that augment the expansion of the domestic market. It will also depend on the export potential of South Africa, geographical economies of scale and the extent to which the incentive is aligned to strategic interests of global OEMs and mega OE suppliers. Increased investment in the industry should be accompanied by deliberate efforts to integrate local OE suppliers into the global automotive value chain. The integration of the local industry into the global value chain will significantly depend on the acquisition of skills and technological capacity required to meet ‘new’ supply requirements that are being placed on OE manufacturers. In general, international experience of countries like Argentina, Thailand and Australia seem to indicate that success of the PAA in contributing to the competitiveness objective will depend on the extent to which the incentive will effectively motivate technological innovation in the country’s automotive industry.

In mapping out the way forward for the use of the PAA, policy makers need to have a fair understanding of the possible effects of structuring the incentive. This process could benefit from a structured understanding of the dynamics that underpin interaction of Government with private OEMs through the offer of investment incentives. The process should be cognisant of the role of technology in taking the automotive industry to the next stage of development. It should be guided by a formal model capturing industry performance as a system, in which dynamics, feedback systems and delays jointly influence realised outcomes. Otherwise, the incentive may not be useful in achieving its intended objectives and this would, in the long run, come at a high cost to the National Treasury and the economy as a whole.