

The Economics of MIDP and the South African Motor Industry

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Introduction

The Motor Industry Development Program (MIDP) is widely regarded as a major success of South Africa's post-apartheid trade and industrial policies. The program was introduced in 1995, has been modified and/or extended several times, and is currently scheduled to continue until 2012. A DTI-funded review, the third since the program's inception, is now under way and is considering further adjustments to and possible extensions of the program after 2012. At the same time high-level discussions are under way in several ministries and agencies about future industrial policy strategies for South Africa. The MIDP's success makes it an obvious model for new approaches to industrial policy, and in particular for increased emphasis on sectoral strategies and interventions.¹

While most popular discussions focus on MIDP's successes, questions have been raised about some of its unintended impacts. Following complaints about the failure of prices to respond as expected to the appreciation of the Rand, the Competition Commission conducted an investigation of domestic motor vehicle pricing. The Commission has pointed to the possible role of the MIDP in restricting consumer choice and maintaining prices at higher levels than in other markets. The motor industry, supported by a recent study by industry specialists,² has disputed these claims.

Despite its importance there has been surprisingly little analysis of MIDP's economic benefits and costs. Black (2001) and Black and Mitchell (2003) did some useful historical analysis of the program and discussed some of its economic impacts. Barnes et al (2004) provided a very sympathetic review of the program but did not fully explore some of its key impacts and furthermore appear to have misunderstood some of its important features. Based on a more thorough economic analysis, a few recent papers have taken a more critical view of the program.³

This report draws on and updates this recent work to explore and explain some of the MIDP's neglected and/or misunderstood economic impacts. It is shown that the MIDP provides very large subsidies to the automotive sector, that these have substantial economic costs, and that some of the program's alleged benefits, especially in terms of consumer interests and employment, have been overstated.

The failure of policy makers to appreciate the costs of such an important program raises serious questions about the government's capacity to design and manage sector specific policies, and about the transparency and accountability of processes for monitoring and reviewing them. The design of industrial policy requires knowledge of what is happening "on the ground" and this requires informed communication with stakeholders in the private sector. But to make and manage policies in the broader national interest, policy makers need the capacity and the independence to filter, augment and analyze the information so obtained. Otherwise policy making processes are prone to being captured by vested interests.

The results of the analysis reported here suggest that an independent review of MIDP's economic benefits and costs is long overdue. It is recommended that such an exercise be conducted and that its findings be taken into account in making any changes to the program and in considering MIDP as a model for more general industrial policy strategies in South Africa.

In a more positive light, the MIDP has provided time and generous assistance for the motor industry to adjust to liberalization of the domestic market. The industry has responded with major internal restructuring. There have been substantial investments, accompanied by rapid growth of both exports

¹ This can already be seen in a draft DTI strategy document for the garment sector, and it has been mentioned in public discussions in connection with a wide range of other sectors.

² See Barnes et al (2005a and 2005b).

³ See Flatters (2002, 2003 and 2004) and Kaplan (2003 and 2005).

and imports. In that sense the program can be considered a success. However, taxpayer and consumer subsidized adjustment cannot and should not go on forever. What is an appropriate schedule for finalizing this adjustment after 2012, the program's current expiry date? The Australian motor industry program, after which MIDP is modeled, would be a useful example to consider.

Background: The Rationale for MIDP

The MIDP was initiated in 1995 to help the motor industry adjust to South Africa's reintegration into the global economy. Prior to that time the industry was protected by tariffs in excess of 100 percent and burdensome local content requirements. Unsurprisingly it produced a very wide range of products at low scales of output and at high cost. It was a very inefficient import substitution sector that could not have competed either domestically or internationally in the face of immediate trade liberalization.

The MIDP was designed to help the industry adjust and increase its competitiveness in the new post-apartheid trade policy environment. The program comprised four principal elements:

- a gradual reduction in import duties on both vehicles and components,
- an export-import complementation scheme under which vehicle and components exporters can earn tradable "Import Rebate Credit Certificates" (IRCCs) to offset duties on imported vehicles and components,
- access to the standard duty drawback program for exporters, under which all import duties paid on components and intermediate inputs used in exported vehicles and components can be rebated, and
- a duty free allowance on imported components of 27 percent of the value of vehicles produced for the domestic market.

The incentives in respect of components apply only to those sold directly to OEM manufacturers. This excludes from the program after-market components, a sector in which South Africa might have some regional and maybe even global comparative advantage.⁴

The idea of the program was to provide incentives to rationalize production into a smaller range of products and achieve economies of scale through exporting them. All other products would be imported.

The MIDP has been reviewed and extended twice. It now is scheduled to continue until 2012. It has been expanded to include a direct investment subsidy in the form of a "Productive Asset Allowance" (PAA) that provides import duty credits equal to 20 percent of the value of qualifying investments.⁵

The industry benefits as well from a wide variety of other initiatives by national, provincial and local governments. These range from restrictions on imports of used cars to provision of infrastructure, factory facilities and special financial arrangements. This report concentrates only on the MIDP and does not analyze the economic impacts of any of these other programs and policies. In other words, this report significantly understates the degree of public assistance given to the domestic motor industry.

Post-1995 Motor Industry Performance

The general patterns of motor industry performance since 1995 are quite well known. The highlights are summarized in Figure 1.

Vehicle exports grew from negligible amounts in 1995/96 to well over 100,000 units per year now. Imports grew from about 20,000 units per year in 1995 to 120,000 in 2004. Investment in the vehicles

⁴ Despite the absence of any MIDP support some South African firms are exporting after-market parts competitively to Europe and elsewhere.

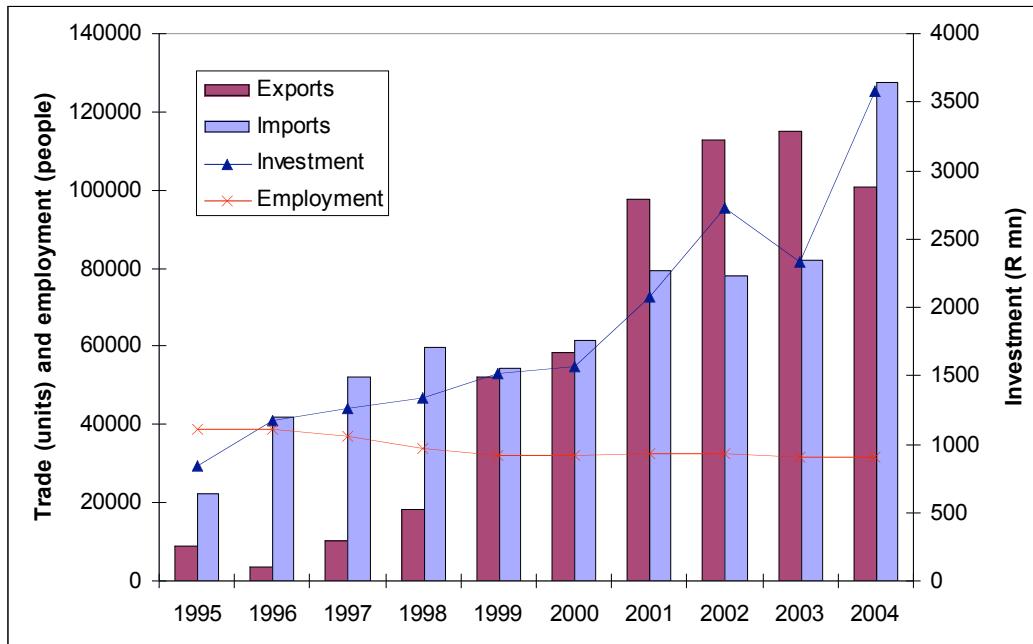
⁵ These credits can then be used in five equal annual instalments.

sector has been substantial and has grown steadily, from less than R1 billion in 1995 to over R3.5 billion in 2004, and has exceeded R2.5 billion in every year since 2001.

Components exports have grown in a similar fashion and are now in excess of R22 billion per year. While a wide variety of products are exported, over 50 percent of the total is accounted for by just two, catalytic converters (38 percent of the total) and stitched leather seat covers (14 percent).

Employment growth has been much less rapid, but that topic is left to a later section.

Figure 1. Vehicle Assembly in South Africa



Source: Compiled from NAAMSA data.

How MIDP Works

The MIDP creates substantial incentives to invest and to produce for export and for the domestic market.

Producers for the domestic market benefit from tariff protection against imports and from the DFA, which offsets the cost-raising effect of import duties on components.⁶ Consumers pay for this through prices that are higher than they would be in the absence of the import duty on vehicles, and the National Treasury pays by foregoing customs duties on components.

Firms producing vehicles or components for export qualify for duty drawbacks on all imported components and also receive IRCCs in proportion to their exports. These allow them to import motor vehicles (and components) duty-free and sell them domestically at the duty-inclusive price. The value of the IRCCs depends on the price mark-up permitted by the tariff. Without this price mark-up the principal MIDP incentive would be of no value to vehicle and components exporters.

It might be argued that the MIDP creates a duty-free environment for South African consumers—i.e. that importers pass on all the duty savings from their use of IRCCs to domestic buyers and that consumers in effect face world prices in the South African market for motor vehicles.⁷ A corollary of

⁶ They also benefit from a virtual ban on the import of used cars.

⁷ See Barnes et al (2004 and 2005).

this view would be that the MIDP does not provide subsidies to vehicle and components producers in South Africa. This would contradict basic principles of economics as well as the facts in South Africa. As long as some vehicle importers are paying import duty (and many are), market dynamics will ensure that the domestic price reflects the duty-inclusive cost of importing. Sellers would be foolish to sell at a duty-free price as long as some are having to pay duty, and if they did, no one would buy from the sellers who were subject to duty.

Evidence from the South African motor vehicle market confirms that consumers are paying at least a duty-inclusive price.

- Vehicle sellers often pay 80 to 90 percent of the face value of import rebate credit certificates and have been complaining recently about shortages of IRCCs in the market. Why would they pay such a high price for these certificates if they had to compete with cars being sold at a duty-free price?
- Vehicle producers have been virtually unanimous in their chorus of announcements and press releases about the necessity for a continuation of MIDP to induce them to continue to produce in South Africa after 2012. This would appear to contradict the claim that the MIDP incentives are of no value to them, as would be the case if duty savings were being passed on to consumers.
- Discussions of market pricing with South African vehicle sellers suggest that current prices are higher, not lower, than the duty-inclusive price. According to them domestic prices can be thought of roughly as the sum of the c.i.f. cost of importing, all import duties and taxes, all domestic distribution and sales costs, including a normal return to all capital invested, plus another 10 percent, making South Africa one of the most profitable vehicle markets in the world at the moment.

In summary, the MIDP works by subsidizing production of vehicles and OEM components for both the domestic market and for export. The subsidies are paid for by domestic consumers of vehicles in the form of restricted choice and higher prices. The system of duty credits on exports means that consumers subsidize not only vehicles produced for the domestic market, but also those produced for export. The import duties that the Treasury foregoes in honoring export IRCCs do not lower the prices paid by domestic consumers. Rather, they subsidize vehicle and components exporters while domestic buyers still pay (at least) a duty-inclusive price.⁸

Size of the MIDP Subsidies

The MIDP subsidies are large. From 1996 to 2003 automobile producers received and used IRCCs worth over R55 billion. In 2002 and 2003 alone their value exceeded R15 billion per year. This is roughly equal to South Africa's total customs revenue collections and it is 50 percent higher than the national government's total annual expenditures on higher education. Over the first eight years of the program two German auto producers made use of over R21 billion in IRCCs.

These amounts do not include the subsidies received in the form of duty drawbacks, duty free allowances or productive asset allowance. They do not include the implicit subsidy paid by consumers on purchases of domestically produced vehicles as a result of the protection provided by import duties and the effective ban on the import of used cars. And they do not include any of the assistance provided by other government departments and agencies at the national, provincial and local levels.

⁸ Some MIDP supporters observe that IRCCS are only pieces of paper that can be used in lieu of import duties, but cannot be used to buy anything else. Since they are not a cash outlay from the government budget, they argue, they are not really a subsidy. By this test, neither a prohibitive import duty nor a ban on vehicle imports would be considered a subsidy to domestic producers. Defining subsidies solely as cash outlays is very different from common usage in economics.

Regardless of what label one might wish to apply, the IRCCs provided by the MIDP are of real value to exporters and have real effects on their cash flows. The price-raising effect of the associated import duties on vehicles have a real impact on vehicle buyers.

It is clear that the aggregate amount of subsidy provided to the motor industry is large. What kinds of incentives do the MIDP subsidies give to individual producers and investors?

Their effects are complex. Their value for any particular investor or exporter depends on many factors, including the rates of import duty on components and vehicles and a wide variety of firm-specific characteristics such as the mix of domestic and export sales, the relative importance of imported components in production and the size of annual sales revenues relative to the amount invested. Their value has changed over time as import duties on vehicles and components have fallen and as some of the parameters of the program, most importantly the value of IRCCs granted per Rand of vehicles and components exported, have been reduced. Details of the import duty schedules and other parameters of the MIDP incentives are shown in Table 1.

Table 1. Main Parameters of MIDP Incentives, 1995-2012

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
MIDP Tariff Rates (%):																		
Cars	65	61	57.5	54	50.5	47	43.5	40	38	36	34	32	30	29	28	27	26	25
Parts	49	46	43	40	37.5	35	32.5	30	29	28	27	26	25	24	23	22	21	20
Ratios of Exports to Imports																		
Car Exp/Car Imp	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Car Exp/Parts Imp	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Parts Exp/Car Imp	0.95	0.9	0.85	0.8	0.75	0.7	0.7	0.65	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Parts Exp/Parts Imp	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Deemed Value of Exports	1	1	1	1	1	1	1	1	0.94	0.9	0.86	0.82	0.78	0.74	0.7	0.7	0.7	0.7
Converters:																		
Qualifying PGM Content	1	1	1	1	0.9	0.8	0.6	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
IRCC Values (%):																		
Car Exp/Car Imp	65.0	61.0	57.5	54.0	50.5	47.0	43.5	40.0	35.7	32.4	29.2	26.2	23.4	21.5	19.6	18.9	18.2	17.5
Car Exp/Parts Imp	49.0	46.0	43.0	40.0	37.5	35.0	32.5	30.0	27.3	25.2	23.2	21.3	19.5	17.8	16.1	15.4	14.7	14.0
Parts Exp/Car Imp	61.8	54.9	48.9	43.2	37.9	32.9	30.5	26.0	21.4	19.4	17.5	15.7	14.0	12.9	11.8	11.3	10.9	10.5
Parts Exp/Parts Imp	49.0	46.0	43.0	40.0	37.5	35.0	32.5	30.0	27.3	25.2	23.2	21.3	19.5	17.8	16.1	15.4	14.7	14.0
Catalytic Converters:																		
Parts Exp/Car Imp	61.8	54.9	48.9	43.2	34.1	26.3	18.3	13.0	9.1	8.6	8.2	7.7	7.2	7.0	6.7	6.5	6.2	6.0
Parts Exp/Parts Imp	49.0	46.0	43.0	40.0	33.8	28.0	19.5	15.0	11.6	11.2	10.8	10.4	10.0	9.6	9.2	8.8	8.4	8.0
DFA (%):	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27

We report here on two different measures of the size of the MIDP incentives for individual producers and investors.

The first is the *effective rate of protection* given to producers of vehicles and components. This is a measure of the percentage increase (or decrease) in domestic manufacturing costs made possible by tariffs and MIDP incentives relative to what manufacturing costs would be necessary for the firm to be able to compete in the absence of any import duties on vehicles and components and in the absence of any MIDP incentives.⁹

This is a standard indicator of protection used in international trade policy analysis. It measures the level of protection given to existing producers, assuming capital costs are already sunk. It is indicative of, but does not really measure the incentive to invest. It is not able to capture the incentive provided by the Productive Asset Allowance, since the duty credits received under this part of the MIDP are not a function of current levels of production, but rather on past levels of qualifying investments.

A more comprehensive measure of the MIDP incentives is the *net subsidy to investments* in the sector as a result of import duties and MIDP incentives. The measure reported here is an estimate of the increase (or decrease) in the net present value of investments in the sector as a result of tariffs and MIDP incentives, calculated as a percentage of the total amount of the initial investments. It takes typical investments and resulting cash flow profiles in the sector and compares their net present value at domestic prices under existing incentive programs with their net present value at world prices, or in

⁹ Alternatively, the effective rate of protection is an estimate of the percentage increase (or decrease) in domestic value added in the presence of prevailing import duties and incentives relative to what it would be under free trade and in the absence of incentives.

the absence of the import duties and other incentives provided by MIDP. The difference, calculated as a percentage of the initial investments, gives the net subsidy provided by MIDP.

Both the effective protection and investment subsidy measures were estimated with actual MIDP parameters and for investments that were typical and illustrative of the kinds of incentives provided by the program. The stylized facts on the industry were derived from government documents, press reports, NAACAM and NAAMSA publications, and interviews with industry experts in both the vehicle and components sectors. In the case of the investment subsidies, discussions with industry experts suggest that the parameters used in the estimates have erred considerably on the conservative side in terms of the resulting subsidy magnitudes.

Table 2 shows effective rates of protection (ERPs) given to vehicles produced for both the domestic market and for export for each year from the beginning of MIDP to its scheduled end date of 2012. The estimates are all based on the assumption that export IRCCs are used to import built-up vehicles (CBUs).¹⁰ The effective rate of protection for domestic sales depends on the share of imported inputs in total production costs, and ERPs are shown for low (30 percent), medium (50 percent) and high (70 percent) levels of import content.

Estimates of effective protection provided to OEM components exports are shown in Table 3. Catalytic converters are subject to a slightly different regime that is designed to eliminate the export subsidy for their precious metals component. Therefore separate ERPs are presented for converters and for other OEM components exports. As with vehicle exports, the effective protection provided to components exports depends on whether IRCCs are used to import CBUs or other components. ERPs are shown for both cases.

Table 2. MIDP: Effective Protection for Motor Vehicles (%)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	
Export Sales	65	61	58	54	51	47	44	40	36	32	29	26	23	21	20	19	18	18	
Domestic Sales																			
Import Share	30%	106	99	92	86	80	74	68	62	58	55	52	48	45	43	42	40	39	37
	50%	125	116	109	101	94	87	80	73	69	65	61	57	53	51	49	47	45	44
	70%	175	163	152	142	132	121	111	101	95	89	83	77	71	69	66	64	61	59

Table 3. MIDP: Effective Protection for OEM Components Exports (%)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
IRCCs used for CBUs																		
Converters	62	55	49	43	34	26	18	13	9	9	8	8	7	7	7	6	6	6
Other Exports	62	55	49	43	38	33	30	26	21	19	18	16	14	13	12	11	11	11
IRCCs used for Parts																		
Converters	49	46	43	40	34	28	20	15	12	11	11	10	10	10	9	9	8	8
Other Exports	49	46	43	40	38	35	33	30	27	25	23	21	20	18	16	15	15	14

The results show several clear patterns of protection provided by the MIDP.

- Very high levels of protection are given to all activities—domestic sales, exports, vehicles and OEM components.
- The anti-export bias of pre-MIDP motor industry policies has been eliminated. In the early years of the program the effective protection for vehicle and components exports exceeded 60 percent, a

¹⁰ Estimates for the case where IRCCs are used to import components are also available on request, as are the spreadsheets for all these calculations.

far cry from the negative protection due to tariffs on industrial raw materials and components and the further burdens of compulsory local content requirements under the earlier regime.

- The highest levels of protection are still given to production of vehicles for the domestic market. In its early years, MIDP gave production for domestic sales effective protection well in excess of 100 percent and it remains as high as 83 percent even after ten year of operation of the program.¹¹
- Declining import duties together with the gradual discounting of IRCCs relative to the value of exports supported mean that effective protection is declining over time. Nevertheless, after 10 years of operation, effective protection remains high—29 percent in the case of vehicle exports, 52 to 83 percent for domestic vehicle sales and 23 percent for exports of components other than catalytic converters (for which the ERP is currently 11 percent). At the end date of the program vehicle exports will still receive protection at a rate of 18 percent and domestic sales will be getting 37 to 59 percent.

A more comprehensive view of the MIDP subsidies is given by the increase in the net present value of investments in vehicle and components production due to the MIDP incentives. Table 4 shows the size of this subsidy for several motor industry investments. These estimates are for typical investments in both the very early years of the program and more recently, in 2005.

The precise magnitude of the subsidies depends on a wide variety of investment parameters, including the ratio of exports to total production, the share of imported materials in costs, the size of annual revenues relative to the amount invested, the international competitiveness of the investments and the time horizon of the investment. The estimates are based on a deliberately short time horizon of six years, which certainly understates the profitability of investments. But it does seem to reflect the approach of at least some current investors in the industry. The other parameters are chosen on the basis of information from a variety of industry and non-industry sources. A wide range of parameter values have been used in the background research, and the results are generally quite robust with respect to variations in them. Nevertheless, the model could be used to reflect parameter values that are felt by experts to better reflect the characteristics of any particular venture. Further discussions with industry experts with a view to refining and improving the accuracy of the estimates shown in the table would be most welcome.

Table 4. MIDP Subsidies to Several Typical Investments

Investment	Subsidy Provided (% of amount invested)
Automobile Assembly, 1996	494%
Automobile Assembly, 2005	269%
Components Production, 1996	681%
Components Production, 2005	264%

The rates of investment subsidy given by MIDP are very large, even for investments taking place in 2005 when MIDP benefits have declined substantially and are planned to continue to do so over the investments' time horizons.

In effect, investors in the South African motor industry have been built to produce two joint products—vehicles (or components) and IRCCs. The high value of the IRCCs means that investments can be quite uncompetitive in the manufacturing business and still highly profitable. This is because losses from vehicle and/or components production can be offset by high-value IRCCs. Detailed examination of the cash flows of the investments shown here demonstrates that factories might better

¹¹ This does not take account of the substantial protection to domestic market sales provided by the virtual ban on the import of used cars.

be viewed as producers of IRCCs rather than vehicles or components. In terms of contribution to profits, IRCC production is really their core economic activity.

Some Economic Implications

The MIDP has given large subsidies to investment and exports. The motor industry has responded as expected, with many new investments, especially in export-oriented, IRCC-generating activities. This has resulted in substantial growth in exports of vehicles and components. As was also intended, imports have grown rapidly as domestic production has been rationalized into fewer production lines and exporters have made profitable use of IRCCs. Despite considerable rationalization, however, continued protection of the domestic market has made it possible for the range of domestically produced vehicles, relative to the size of the domestic market, to remain too large to take full advantage of economies of scale in production.¹² Export subsidies make it possible to compete regardless of whether they achieve international efficiency levels.

Consumer Prices

Gradually declining vehicle import tariffs have reduced the gap between South African and international prices. But import duties in excess of 30 percent and a virtual ban on used car imports still make car prices much higher than necessary. The constraints on consumer choice at the budget end of the market are illustrated as well by the continued profitable production of two obsolete models that have been discontinued in almost all of the rest of the world for decades. Local production of a third such obsolete model was finally discontinued a couple of years ago, and continued duty reductions will eventually lead to the discontinuation of the others.

The value of MIDP incentives to producers for both exports and domestic sales depends on tariff-induced price mark ups on vehicles in the domestic market. Despite this fact and a variety of direct evidence on market behaviour in South Africa, some industry supporters (Barnes et al 2005a and 2005b) have attempted to use indirect information based on international price comparisons to prove otherwise. Based on a number of comparisons they allege to have shown that, except at the budget end of the market, South African prices are not inflated by MIDP. The comparisons are flawed and misleading.¹³

- They compare retail rather than factory prices. Lower costs of the non-traded services in distribution and sales in South Africa would tend to make retail prices lower in South Africa even if factory costs were higher. The MIDP affects factory and c.i.f. import prices, and these are the relevant prices for any international comparisons.
- They compare South African prices with prices elsewhere, rather than South African prices under MIDP relative to what they would be without MIDP. The value of IRCCs lies in the rent they provide by allowing firms to import duty free and sell at a duty inclusive price. Firms would not buy IRCCs for up to 80 to 90 percent of the face value if domestic prices were not based on a duty inclusive price. And importers that pay import duty (and many do) would not be able to compete against those that benefit from duty free imports unless domestic prices were set on a duty inclusive basis. The import duties associated with MIDP have kept prices higher than they would be otherwise. Further duty reductions will certainly reduce prices further.

¹² A senior Ford executive has referred to the unique complexity of their South African operations due to the large number of products produced in a single plant. A logistics hub in Rosslyn serves several OEM manufacturers, whereas in other countries such hubs serve only one. General Motors is building a factory to assemble 11.000 Hummers per year for export. The resulting inefficiencies and high costs would be unlikely to be sustainable in the absence of MIDP and other government support. Black (2001) provides other examples from the components sector.

¹³ For further explanation see Kaplan 2005.

Subsidy-Induced Economic Waste

Large subsidies such as those given by the MIDP distort production and investment decisions. They can make socially wasteful activities privately profitable. Losses from activities whose costs far exceed their revenues can be made financially sustainable by offsetting MIDP subsidies.

The costs of the inefficiencies bred by MIDP can be estimated by using the subsidy numbers calculated in the previous section.

The effective rate of protection (ERP) is a measure of the amount of inefficiency that is possible to maintain in domestic production and yet still remain competitive and profitable in South Africa. Consider exports. An ERP for exports of over 60 percent in the first few years of the program means that domestic exporters could assemble vehicles at 60 percent higher cost than producers elsewhere and still be able to export profitably. The resulting export earnings might appear to be a saving of foreign exchange for South Africa. However, each R100,000 of export earnings would actually use R160,000 of South African resources. Rather than saving foreign exchange, each R100,000 of exports was actually wasting R60,000 of domestic resources. As the ERP for exports has gone down, the amount of such economic waste has diminished. But even at today's ERP of 29 percent, each R100,000 of export earnings could actually be costing R129,000 of South African resources and still be profitable for the exporter.

The effective protection given to production for the domestic market is even greater—in excess of 100 percent in the early years of the program and still more than 50 percent. The potential economic waste in producing for the domestic market is thus even higher than in the case of exports. With an ERP of 100 percent, a domestic assembler could be using up to R200,000 of South African resources to produce vehicles worth only R100,000 and still make normal profits. And an ERP of 50 percent would permit them to produce cars worth R100,000 at a cost of R150,000 and still be profitable.

It is possible, of course, that domestic assemblers are more efficient than indicated in these examples. In that case, the high levels of protection provided by the MIDP would simply bloat manufacturers' profits—a transfer that might result in less productive inefficiency but still saddles consumers with high prices and discourages them from buying vehicles that they would be willing to buy if they were sold at levels closer to world prices. This is also economic waste. Furthermore, to the extent that excess profits accrue to foreign shareholders, this is still a net loss to South Africa.

Another perspective on the economic costs of the program is given by looking at the estimates of the net subsidies MIDP gives to motor industry investments. As shown in Table 4 above, the magnitude of the subsidies has been very large.

What is the economic impact of these incentives on investment in South Africa? Consider two extreme cases. The first is the investments would be competitive in the absence of any incentives. These investments would have taken place anyway, and the only effect of the incentives is to create rents for the investors, at the expense of South African consumers and/or taxpayers. For such an investment there is no direct economic waste created on the investment side; the investment is competitive and would have taken place in the absence of the incentives. The main effect of the MIDP is to transfer income from South African consumers to shareholders of the company making the investment. As Table 4 shows, the transfers in all cases are several multiples of the amounts invested.

While a subsidy given to an otherwise competitive investment does not create any direct waste by encouraging inefficient investments, it does encourage other kinds of inefficiency. First, of course, is its effect on domestic purchases of automobiles, as buyers are discouraged by tariff-protected high domestic prices. Second, the existence of large rents arising from government policies almost certainly encourages firms to devote their energies to lobbying for such programs. Such lobbying has no social value; but as the examples show, it can yield very large private profits. Third, to the extent that the subsidies accrue to foreign shareholders of the auto and components companies, they are a net loss to the South African economy. They represent a transfer from South African consumers to European and American shareholders. While this does not represent any inefficiency in the global allocation of investment resources, it certainly is a large economic cost to South Africa.

Finally, such large incentives undoubtedly will and already have attracted investments that would not be competitive in their absence. Let us now assume that the four investments shown in Table 4 were just barely competitive with the assistance of the MIDP incentives.

In this case, the subsidies provided by the MIDP are pure economic waste. They represent transfers from South African consumers that are necessary to cover the excess cost of producing vehicles or components in South Africa rather than obtaining them at world prices. For the examples shown in Table 4, the amount of economic waste created for each billion Rand invested in this case are shown in Table 5.

In summary, for investments that would be competitive in the absence of MIDP, the subsidies illustrated in Table 4 are a pure rent—a transfer from South African consumers to the firms' shareholders. To the extent that any of the shareholders are foreign, this is net economic cost to South Africa. At the other extreme, for investments that are just able to earn a normal rate of return in the presence of MIDP, the subsidy represents pure economic waste—the transfer from consumers just covers the excess costs of producing in South Africa rather than elsewhere.

Table 5. Economic Waste in Non-Competitive Projects Due to MIDP

Investment	Economic Waste per Billion Rand Invested (billions of Rand)
Automobile Assembly, 1996	4.9
Automobile Assembly, 2005	2.7
Components Production, 1996	6.8
Components Production, 2005	2.6

The effect of the MIDP on South African motor industry investment is some mixture of pure transfer and encouragement of economic waste through uncompetitive investments. The extent to which they have subsidized investments that were and remain internationally competitive will be revealed as the MIDP benefits are gradually phased down.

According to the two main industry associations continuation of some kind of MIDP benefits is a key to their continued presence in South Africa. The greater the truth of this claim, the more relevant is the scenario shown in Table 5—i.e. the greater the amount of economic waste being subsidized by the MIDP. The recent declines in the market availability of IRCCs reported by various industry sources suggests that at least the rate of growth of components production, and maybe even its levels might be beginning to decline. Reports of financial difficulties by some major components producers are also consistent with the view that at least some producers are uncompetitive even with the large incentives currently on offer, and hence would be even less likely to be able to compete as the program continues to phase down.

Reports of declining profitability need not be alarming. First, it is quite naturally in the interest of the industry to plead for a continuation of very valuable incentives, even if they are able to compete without them. Second, even if the reports are true and they are representative of the entire industry, there surely are limits to the interest of South Africa in continuing to subsidize inefficient investments in this or any other sector. In light of the magnitude of the incentives it would be highly unlikely that at least some investors did not come in simply to “enjoy the ride” provided by the MIDP, with no illusions about ever being internationally competitive. While their closure or diminution might have unfortunate consequences for employees, their concerns could be accommodated at a cost that would be only a very small fraction of that of continuing the MIDP incentives.

Employment

This raises the question of job creation. While the economic costs of MIDP might be high, maybe they have been necessary to generate badly needed employment growth. Has there been a payoff in terms of employment? Table 6 shows that for the first five years of the program, employment in the

manufacture of both vehicles and components declined by 17 percent. Since 2000, employment in vehicle production has more or less stabilized, but has not grown. Investments in excess of R12 billion since 2000 have resulted in virtually no job growth in vehicle assembly. Employment in components production (including tires) has grown by a modest 6 percent, or barely over 1 percent per year, over the same five-year period.

Of far greater importance in terms of employment is the “motor trade,” which is the service industry involved in sales, distribution, maintenance and operation of motor vehicles. Engine repair and maintenance, panel beating, petrol pumping and vehicle sales are all much more labour intensive than vehicle and component assembly and as a result this sector accounts for twice as many jobs as in vehicle and components production together. This does not include the downstream transportation service sector, another employment intensive activity.

Employment in the motor trade depends primarily on the stock of motor vehicles on the road in South Africa, regardless of where they are manufactured. The biggest constraint to growth in motor vehicle use has been high prices, which are due in turn to the import duties and the ban on used vehicle imports through which the MIDP supports the assembly industry. The recent boom in domestic sales is due in large part to the significant reduction in import duties that has occurred since the start of MIDP. The potential for future growth has not gone unnoticed by the OEM manufacturers and other major players in local sales. These firms have begun to invest heavily in “lifestyle” sales and service centres, each of which supports a significant number of jobs relative to the amounts invested.

Further liberalization of the vehicle market through tariff reductions and eliminating restrictions on used car imports would lead to continued growth in associated downstream motor trade and transportation service industries. Resulting employment growth in these sectors would offset considerably and quite probably outstrip any reductions in employment in vehicle and component assembly.

Table 6. Employment in the Motor Industry

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Assembly	38600	38600	37100	33700	32000	32300	32389	32370	31700	31500
Components	47000	45000	44000	40000	39000	38500	39000			
Components					67200	69500	72100	74100	75000	74500
Tyres	11000	10000	9500	9100	9000	8600	8700			
Tyres					6670	6575	6300	6000	6000	6000
Motor Trade	178000	180000	180000	170000	175000	180000	182000	185000	191000	194000

Note: The breaks in the series for the components and tyre industries are a result of statistical reclassifications undertaken by NAACAM, the association of components manufacturers.

Technology

Has MIDP provided “external” benefits in terms of transfer of new technologies that might have uses beyond the immediate auto industry?

Competitiveness indicators for the components sector developed by B&M Analysts and reported in Barnes et al 2004 are meant to demonstrate that as a result of the MIDP South Africa has built or is in the process of achieving a world class and internationally competitive motor industry.¹⁴ While these do not address external technological benefits, they are interesting nevertheless.

The data show that there was a significant improvement in the indicators between 1998 and 2001. The accompanying discussion pays less attention, however, to the levels of the indicators. A particularly interesting benchmark for this purpose is the set of indicators for components producers

¹⁴ No data are provided for the vehicle assembly industry.

in other emerging economies.¹⁵ A comparison of the levels achieved in South Africa in 2001 with those in other emerging economies shows South Africa to be lagging behind, and substantially so in many cases, in all but one or two of the 13 indicators.¹⁶

Is there other evidence of the adoption of new technologies of more general benefit to the South African economy?

As mentioned earlier, components exports have been dominated by a very narrow range of products, most importantly leather seat covers and catalytic converters.

Leather seat covers are technologically similar to up-market garments, with the main operations involving cutting and sewing. The leather is mostly sourced locally. But other inputs such as the electrical heating elements in seats for foreign markets are imported. The leather used in seat covers would almost certainly be utilized in footwear or other similar products if it were not used for this purpose.¹⁷

Much of the domestic catalytic converter production is small scale and quite low tech. According to industry sources some of the assembly activities take place in factories that are not much more than simple garages with capital equipment that could be disassembled and taken out of the country in a matter of days. The technology for converters that are becoming the norm for vehicles with diesel engines is much more advanced and is not available in South Africa.

Locational advantages and implicit incentives to increase local content of vehicle production up to a point¹⁸ have resulted in the development of much smaller scale production of a number of other components for local CBU assembly. But almost none of this is internationally competitive. There is growing evidence that even the large-scale export production of seat covers and catalytic converters that has been fostered by MIDP is not competitive. Despite large (but decreasing) incentives to export and local availability of the main raw materials for these products, a number of producers have been facing financial difficulties recently. Products that could be exported profitably with the huge subsidies in the early years of MIDP can no longer compete at the current (and still large) levels of policy support.

In the case of CBUs, there is considerable pride in the ability of South African plants to produce high quality and relatively defect-free high-end BMWs and Mercedes Benz for export to Europe and America. But could this be sustained on a profitable basis without continued MIDP support? The other end of the market includes examples that are closer to technological regression than advance—the continued production for the local market of the Citi Golf and the Tazz, vehicles that have been phased out and replaced by several new generations of higher quality vehicles in most other markets over the past two or three decades. Two recent surveys¹⁹ of South African automobile buyers reveal

¹⁵ See final column of Table 2 in Barnes et al 2004.

¹⁶ Barnes et al (2004) refer in particular to problems with inventory control and point out the natural logistical difficulties of trying to operate a competitive industry using world class just-in-time techniques at the southern tip of Africa, far away from international markets for components and final products. To the extent that inefficient logistical, port and customs services aggravate these difficulties, this would be an obvious target for “functional” policy reform measures, but not sector specific subsidies to the motor industry.

¹⁷ Representatives of the domestic footwear industry have complained about difficulties in sourcing leather as a result of the need to compete against the subsidized producers of automotive leather products.

¹⁸ DFA privileges that are unused on imported components as a result of sourcing locally can be used to import vehicles instead. The higher rate of import duty on vehicles than on components means that this gives an implicit subsidy to source locally. The 27 percent limit on the DFAs provides an upper bound to this local procurement incentive.

¹⁹ The vehicle quality surveys were conducted by Synovate (see *Sunday Times* 23 October 2005) and by JD Power (see story by Roy Cokayne in *Business Report* 31 October 2005).

that imports are still of higher quality than locally produced vehicles, and the Citi Golf rated second to last among all cars surveyed, with 281 defects per 100 cars sold.²⁰

The industry continues to develop new techniques and technologies for dealing with the peculiar characteristics of the local market. Ford Motor Company, for instance, acknowledges the challenges of producing in South Africa. Bill Ford, international chairman of the company visited the South African plant earlier this year and is reported to have said “he could not think of another Ford operation that managed as much complexity as the South African operation, where nine different models are made. Typically, other Ford plants manufacture much smaller numbers.” (*Business Day* 20 July 2005.)

The auto supplier hub in Rosslyn is another example of adaptation to unique South African circumstances. The hub has developed a set of processes for delivering locally made components to domestic assembly plants and to the Johannesburg International Airport for just in time export delivery. The difference between South Africa and other locales is that in South Africa the hub has to serve several different OEM suppliers, which apparently has made it necessary for the infrastructure to be funded largely by the local government rather than the firms themselves.²¹

While such adaptations to South African conditions are admirable, the question is whether they are the basis for an internationally competitive industry without continued external support. If not, how can such support be justified?

Administrative Simplicity and Transparency

The MIDP is highly complex and so administration and compliance are difficult and costly. Even senior financial officers of major firms in the market admit to an incomplete understanding of the requirements and procedures involved. Partial descriptions of the program can be found on the NAACAM and NAAMSA web sites, but complete official descriptions are difficult to find anywhere, including the DTI. Most policy makers and administrators, not to mention potential investors and producers, have at best only a very weak and incomplete understanding of the values of the incentives created, their economic costs and who bears them.²²

Vehicle assemblers participating in the program face special Customs procedures that require them to remit duties on a quarterly basis, based not only on their own imports, but also those of their local OEM components suppliers, and, of course, claims in respect of duty credits and duty-free allowances earned under the program. A small industry of consultants, including a number of former DTI officers, has developed to assist investors through the maze of MIDP requirements.

The WTO Issue

Export subsidies such as those provided by MIDP are forbidden by the WTO. Procedurally, however, a complaint needs to be lodged by a WTO member in order for any action to be taken. Since the MIDP has been designed for the benefit of global OEM suppliers who can source vehicles from South Africa with the assistance of MIDP subsidies and use the resulting IRCCs to earn more profits from sales in the South African market, they have had no particular incentive to launch an action against the South African subsidy.

Recently, however, an Australian components producer facing competition from South African leather seat exports and in danger of losing contracts to local OEM manufacturers decided to issue a

²⁰ This contradicts the claim by Barnes et al (2005) that higher quality and “greater robustness” of the Citi Golf and Tazz compensate for the higher domestic price of these budget cars in South Africa relative to low end vehicles currently sold in the UK. The only vehicle that rated lower than the Citi Golf in the Synovate survey has been discontinued, giving the Citi Golf the dubious distinction of being the lowest quality automobile sold in South Africa.

²¹ Black (2001) describes a number of other examples from the components industry.

²² Some experts who have been closely involved with the MIDP even claim, contrary to the statements of senior industry executives, that there are no subsidies provided by MIDP and that South African vehicle prices are no higher than in Europe (see Barnes et al 2004). As will be seen below, this represents a highly flawed view of how the program works.

challenge. After an initial attempt to cover it up and negotiate a “private” settlement, the DTI acknowledged the problem and the search for a solution is one of the major drivers of the current MIDP review.

WTO compliance is an issue that should be addressed in the design of any trade or industrial policy. However, whether we can “get away” with a policy under WTO rules is certainly not sufficient to ensure good policies. The first question in evaluating MIDP or any alternative is whether it is in the national economic interest of South Africa.

The MIDP Review

Earlier this year the Government initiated a formal and consultative review of the MIDP. This is the program’s third formal review since its inception in 1995. The first review in 1999 extended the duration of the program from 2002 to 2007, and the second review in 2002 extended it to 2012, reduced the speed of tariff phase downs and added a new incentive, the Productive Asset Allowance.

The terms of reference for the task are extremely broad and include a review of achievements to date in light of what are described as the program’s initial objectives, and a review of the objectives themselves. While some specific requirements have been set, the scope for analysis and recommendations is virtually open-ended.²³

The lack of specificity in the terms of reference leaves considerable room for interpretation. The motor industry has not been shy about expressing its preferences—for a clear set of recommendations to continue the MIDP after 2012, to maintain investor benefits at no less than their current levels and to ensure that they are WTO-compliant.²⁴ Lacking alternative guidance from any other sources,²⁵ reports suggest that the Review Task Team has accepted this as its primary mandate.

This narrow interpretation of the terms of reference assumes that the MIDP has been a success and that it should be continued. It assumes no need for an assessment of the program or any alternatives. It assumes that its economic benefits for South Africa exceed its costs and that this will continue to be so for the foreseeable future.

Accordingly, the Task Team has pursued a busy schedule of data collection and meetings with stakeholders, primarily associations and firms in the domestic motor industry. It has invited participation, in the form of attendance at meetings, by a range of other government departments. But it appears to have no clear plans for analyzing the broader economic impacts of the program and alternative sectoral strategies.²⁶

MIDP is an important economic policy for South Africa, both in its own right and as a possible template for other sectors and strategies. It has been in operation for 10 years now, and is planned to continue for another 7 years. There surely is enough evidence now on which to base a serious economic analysis of its costs and benefits. This would reveal it to be the success it is claimed to be and provide informed guidance for its use as a model for other sectors. Or it would reveal some of the program’s unintended and/or underappreciated costs, force them to be justified in terms of other benefits, and provoke a review of ways to reduce the costs or increase the benefits by program

²³ Among the specific tasks are to make recommendations regarding the future of the PAA program, support for medium and heavy vehicles, and the automobile leather sector (presumably in response to the Australian/WTO problem).

²⁴ The continued reference to keeping incentives at current levels suggest that the industry would like to persuade the government to refrain from implementing the previously announced schedule of tariff and other incentive reductions between now and 2012.

²⁵ The Minister of Trade and Industry apparently supported this interpretation at a recent ground-breaking ceremony for a new automotive plant. He is quoted as committing the government to continued support of the automotive sector after the expiry of the MIDP in 2012 and to saying "Our own vision and commitment is really looking beyond 2012 because this is such an anchor sector in our economy." (*Business Day* 1 August 2005)

²⁶ The sole economist on the Task Team is not an industrial policy specialist and has committed only limited time to this activity, primarily to review work on labour market issues.

amendments. To conduct a review without an analysis of MIDP's economic impacts is to base policy on faith and on claims made by those with a vested interest in the program as it now stands.

This is closely related to another important issue, the transparency and accountability of the processes chosen to manage and review the MIDP. The current and the previous (2002) MIDP reviews have been conducted by persons who have been closely connected with the industry and/or the management of the program at the DTI. While this experience provides the consultants with considerable inside knowledge of the program and the industry, it also raises questions about their independence and their own interests in the outcome of the reviews.²⁷ Strong analytical capacities at the DTI or elsewhere in the Government might help to overcome these concerns. In the past few months alone, however, TISA's two most senior motor industry managers have announced their departure from the DTI, one to join one of the two main motor industry associations and the other to work for an industrial estate company that includes the motor industry among its principal clients.²⁸

Both the apparent substance of the current Review Task Team's activities and the processes for managing this and previous reviews raise questions about the extent to which the Task Team will be able to conduct a truly independent review of the economic impacts of the MIDP and provide recommendations that will reflect South Africa's broader national economic interest.

The Way Forward

The MIDP was designed to help an inefficient, high cost and uncompetitive motor industry adjust to South African trade liberalization that began in 1995. It has done so with very generous subsidies. It was intended to encourage firms to orient themselves to global markets and in particular to enjoy the economies of scale and specialization that could occur only by taking advantage of opportunities for international trade. The adjustment period was set initially at seven years.

The program has now been extended twice and is currently scheduled to run until 2012, for a total of 17 years. While the extensions slowed down certain aspects of the adjustment process, the direction of change has never been in doubt. Tariffs on vehicles and components have been falling steadily according to a clear and well-understood schedule, at least until 2012. At that time, tariff rates on vehicles and components will be 25 and 20 percent respectively, much lower than the levels in 1995, but still quite high relative to the rest of South Africa's tariff schedule, where the average rate at the moment is about 6.5 percent.

The industry has undergone a major structural readjustment. However, the incentives provided throughout the life of the program, and especially in the earlier years were almost certainly much larger than was recognized. As a result, the adjustment has not always been accompanied by corresponding increases in competitiveness, and voices in the industry are now calling for clarity on the government's intentions after 2012. Without a continuation of incentives, according to some such voices, the industry, or at least some firms in it, will face serious financial difficulties. Potential new investors with time horizons beyond 2012 also wish clarity on policies after that date.

The aim of the MIDP was to assist the industry to achieve international competitiveness. Firms that have already or will achieve this goal by 2012 will not need further subsidization, and there can be little justification for a continuation of the rent transfers that have been given to foreign shareholders over the past decade. A continuation of subsidies to firms that cannot compete without them will generate even more economic waste, paid for by South African consumers and taxpayers. Workers losing jobs in uncompetitive firms that might close if MIDP subsidies were sharply reduced could be compensated at a fraction of the cost of the subsidies.²⁹ Moreover, declining car prices would increase

²⁷ South Africa apparently has no conflict of interest guidelines or rules related to the movement of officials or advisors between government and industries over which they have regulatory responsibilities while in government.

²⁸ See previous footnote.

²⁹ For instance, a temporary five percent excise tax on all vehicle sales would provide substantial resources to deal with labour market adjustment needs.

employment in sales and service, which is one of the few areas in the overall industry that has experienced substantial employment growth since 1995.

The MIDP, and in particular the export-import complementation program, was modelled on a similar program in Australia that was designed, as in South Africa, to assist the local industry to convert itself from a high cost import substitution structure to an outward oriented one in which firms could reduce costs by producing fewer models at higher scales of output. The program provided a DFA of 15 percent (compared with South Africa's 27 percent) and import duty rebate credits similar to those in South Africa. It ran from 1984 to 2000, by which time the import duty on vehicles had been reduced from 55 to 15 percent. In 2000 the export subsidy was replaced by a general duty credit arrangement that provided credits of 25 percent of the value of production times the rate of duty, whether for export or the domestic market, and it was announced that the import duty would be reduced to 10 percent at the end of 2004.

There is no necessary virtue in emulating the policies of foreign countries. Following the early Australian model in South Africa has generated very large subsidies to the industry. This has resulted in some combination of large rent transfers to motor industry shareholders and economic waste through uncompetitive domestic production. At this stage, however, these are sunk costs, and the Australian model would certainly bear further scrutiny as a means of winding down government support.

It might be difficult and inappropriate to speed up the previously announced phase down of tariffs up until 2012. However, it certainly would be worth emulating Australia by a) eliminating the DFA and IRCC incentives after 2012 and b) a continued phasing down of tariffs on vehicles and components to something like 10 and 5 percent respectively, in line with South Africa's general industrial tariffs at that time. Given the long lead-time, there is no reason not to announce a very rapid, if not immediate phase down after 2012. Since the government's commitment to the PAA even for the next few years, is much less clear, it might be possible to phase it out more quickly. However, the cases examined here suggest that the PAA is worth much less and hence causes much less damage than the export IRCCs, and so the gains from phasing it out might not be very great.³⁰

Fortunately the MIDP has not resulted in significant, indeed if any, increases in employment in the sector. Furthermore, the adjustments fostered by MIDP over the past 10 years have presumably increased the competitiveness of the industry to the point where some, if not many, firms can now compete without continued subsidies. If not, the program certainly would have to be deemed a failure. This means that the adjustment burdens for workers in the motor industry will be no worse and probably far less than they would have been in the years following 1995 if MIDP had not been put in place. Meanwhile, the MIDP and other associated policies have harmed consumers and suppressed the development of much more labour intensive downstream industries that already account for twice as many jobs as in vehicle and component manufacturing.

The South African motor industry has undergone enormous restructuring over the past decade. While total employment in components and vehicle production is not much different than in 1995, this does not mean that there have not been major labour market dislocations. For those who might have suffered from these adjustments, a small fraction of the subsidies provided to firms in the industry would have been sufficient to compensate for and assist in them in dealing with any resulting disruptions. The same is undoubtedly true in looking forward. The economic waste and the rent transfers to shareholders in the motor industry under MIDP are an extremely inefficient and high cost means of dealing with labour adjustment.

³⁰ For the same reason, of course, the protests from the industry should also be much less.

Recommendations

The purpose of the MIDP Review should be clarified. Its tasks should include an independent economic cost-benefit analysis of the MIDP and of any new proposals. This might require an amendment to the current TORs and might also require expertise that is not represented in the current Task Team.

Subsidization of an “infant industry” or “industry in transition” cannot be permanent. Among the policy scenarios considered should be a set of parameters for the final transition of the industry to a normal economic environment. In evaluating alternatives, the review must look beyond producers and examine the national interest, including that of consumers, taxpayers, and workers in downstream industries that have suffered as a result of high prices and restrictions on used car imports.³¹

The Review should recommend a clear time schedule for further reductions of tariffs on imported cars after the MIDP’s current expiry date in 2012. It should provide an assessment of expected growth in car sales and investment and employment in associated segments of the industry, and indicate means of helping workers affected by transitional employment losses, financed through measures such as a modest temporary excise tax on vehicle sales.

At a broader level, the government should reflect on the lessons from the MIDP for the future of sector-specific industrial policies in South Africa.

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³¹ Recall that there are twice as many jobs in these downstream industries than in vehicle and components manufacturing.
