

The Complementary Role of Industrial and Technology Policy in Job Creation in South Africa's Automotive Industry

Martin Kaggwa

Creation of decent jobs has been at the centre of industrial policy among many African countries. It is presupposed that such policy supports local manufacturing efforts and subsequently creates decent jobs for the citizenry. Specific to South Africa, the use of industrial policy to re-integrate its automotive industry into global business is one of the few success stories on the continent in recent times. Despite the success, the industry has struggled to create jobs at a rate that is commensurate with its growth. This brief makes a case for the implementation of industrial policy together with technology policy if jobs are to be sustained and created in the South African automotive industry.

Introduction

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. As from 2000, average industry contribution to the country's GDP has been 6.9%. The industry comprises of 7 passenger car assemblers (all of them subsidiaries of multinational corporations), twelve medium and heavy commercial vehicle assemblers, 8 independent importers and over 270 first-tier

component suppliers. The industry is a key employer.¹ Total employment in the sector was estimated at 130 000 in 2009. Most of the major global vehicle brand manufacturers are represented in South Africa. These include Toyota, BMW, Volkswagen, Mercedes-Benz, Nissan, General Motors and Ford. Many of the models produced are for both the domestic and export markets. Based on its contribution to national GDP, level of employment and its status as an export-oriented manufacturing sector, the automotive industry in South African is of key importance to national development. In

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addition, its success provides a useful reference point for many other African countries using industrial policy to stimulate local manufacturing activities.

Integration of SA Automotive Industry in Global Business via Industrial Policy

Industrialisation in the wake of globalisation has turned out to be a big challenge in many developing countries. The automotive industry was one of the many manufacturing industries that were faced with competitiveness pressure following South Africa's opening up of the domestic economy to external competition in 1994. A selective industrial policy for the industry, named the Motor Industry Development Programme (MIDP), was conceived and implemented by government as from 1995. The MIDP was aimed at assisting the industry to grow in spite of the new competitiveness challenges. The overarching objective of the MIDP for light vehicles was the improvement of industry's competitiveness to such an extent that it would survive in the long-term under less protection. The specific objectives of the programme were:

- To improve the automotive industry's international competitiveness.
- To stabilise employment levels in the industry.
- To improve vehicle affordability in the domestic market.
- To encourage growth in vehicle and component manufacturing, particularly through exports.
- To create a better industry foreign exchange balance.

Under the MIDP dispensation, automotive production in South Africa was sustained post-1994 liberalisation of the national economy. The previously protected local industry was reintegrated into the global automotive value chain as evidenced by an exponential increase in the value and volume of automotive exports. In the period 1995 to 2008 the value of automotive exports from South Africa to the rest of the world increased 19-fold, from R4.8 billion to some R92.0 billion. In this regard, many commentators have described the experience of industrial policy

intervention as the most successful on the continent in recent times.²

The MIDP was to be reviewed periodically to ascertain that the industry was on course to attain international competitiveness under the programme. At the time of writing this brief, a successor programme had been approved to commence in 2013. The successor programme is not fundamentally different from the MIDP; as such the likelihood of it drastically changing industry performance dynamics compared to the MIDP is low.

The Challenge of Job Sustenance and Creation in the Automotive Industry

Despite the increase in automotive production and the subsequent exponential increase in automotive exports from South Africa, job creation, particularly for the vehicle assemblers, has remained a challenge. In stating MIDP objectives a compromise to tone down on the employment objective was reached between government, organised labour and the industry. It was stated that the programme intended to stabilise rather than create employment. The level at which employment was to be stabilised was not stated. Even so, between 1995 and 2000, headcount for the vehicle assembling sector decreased from 38 600 to 32 300 people and from 47 000 to 38 500 people in the components manufacturing sector. Overall, direct employment in the vehicle assembling sector dropped by some 21% from 38 600 in 1995 to some 30 600 in 2009 (Table 1).

The major concern is that the general decrease in employment was against the background of the industry, realising consistent growth in overall production and exports.

In addition, during the global economic slowdown of 2008–2009, the automotive industry – vehicle assemblers and the component manufacturing sector, lost more than 40 000 jobs through retrenchment. The slowdown exposed yet another dimension of the industry's employment. Automotive employment in the country was vulnerable to international market shocks. Therefore, this aspect has not received adequate attention in the industrial policy discourse yet. It has a strong bearing on sustenance of jobs in the industry.

Table 1 Vehicle assemblers headcount (1995–2009)

Year	1995	1997	1999	2001	2003	2005	2007	2009
Headcount	38 600	37 100	32 000	35 128	33 637	34 430	38 600	30 600

Source: Naamsa, 2009

Technology and Employment Opportunities in SA Automotive Industry

Technology is playing a very important role in automotive manufacturing globally. It is one of the key factors driving the automotive business. The automotive industry happens to be one of the most integrated industries globally. One cannot talk about the South African automotive industry, but rather the automotive industry in South Africa since all the major vehicle assemblers in the country are subsidiaries of international companies. Critical decisions by the subsidiaries on how to produce and do business are made by the parent companies in Europe or America. This status quo limits the extent to which a national government like that of South Africa can influence local subsidiaries to make production decisions that support national interests.

In the internationally integrated automotive industry, irrespective of where the actual production of vehicles takes place, labour productivity plays a key role in determining labour demand. Despite the fact that labour productivity has been increasing in South Africa from less than 10 vehicles per annum in 2000 to 15.5 vehicles per annum in 2008³ – an improvement of about 55%, the productivity is not yet on par with that of the workforce in developed countries. Labour productivity is a function of technology and accompanying skills needed to man the technology. The gap between labour productivity in South Africa compared to the rest of the world can be attributed, in part, to the skills gap due to the fact that the technology used to manufacture a particular vehicle model is to a large extent harmonised across all the manufacturing plants. The skills gap in South Africa is confirmed by the number of foreign experts brought into the country and expenditure on international consultants by vehicle assemblers during the preparatory period of introducing a new model. For the local labour force to remain relevant in automotive manufacturing, it needs to keep pace with the rapidly changing technology within the industry. There should be direct efforts to track and forecast upcoming technologies in the industry and to take proactive steps to ensure that when such technologies come into effect, the local labour force is found capable and relevant.

It is important to note that due to technological advancement, vehicles are becoming integrated high technology units. What used to be periphery parts or components are continuously becoming an integrated part of the vehicle unit. The components need to be manufactured at a level of technological sophistication that allows them to

interface with all other parts of the vehicle. Herein lies the challenge of employment sustenance and creation in the country's automotive component sector. South Africa does not have its own vehicle brand. A vital way through which the country benefits from having domestic vehicle assemblers is by enabling its local automotive component manufacturers to supply to these assemblers. With the increasing integration of vehicles into high technology units, local component manufacturers need to keep up to date with vehicle technologies, and produce components that can interface with ever-improving vehicle technologies that are externally driven. Without the tracking, acquiring and mastering of the most up-to-date automotive technology, the likelihood is high that local component manufacturers will lose business in the long term.

The emerging sourcing strategy followed by local vehicle assemblers, whereby they invite their international suppliers to establish supply plants in close proximity to their plants in developing countries, is a cold reminder that the assemblers are prepared, if needed, to replace local component manufacturers. Yet, it is the component manufacturing sector that has been creating more jobs than the vehicle assemblers in South Africa. Loss of business for the sector would lead to significant job losses. To overcome potential job losses, the local component sector has to be supported to acquire the right technology, the right training for its labour force and technology licences if need be.

Ultimately, the rapid speed at which technology is improving and changing is creating new employment opportunities but also making some jobs obsolete. It is unimaginable that one can sustain and create jobs in a manufacturing industry whose core business is driven by technology without taking proactive steps to assess the extent to which the changing technology will impact on future employment. The Department of Trade and Industry (DTI) in South Africa, the custodian of the automotive industrial policy, needs to work hand-in-hand with the Department of Science and Technology (DST) on the strategy of sustaining and creating jobs in the automotive industry. Although the DTI has a special unit that deals with technology and innovation, the unit's role and visibility in the automotive sector policy formulation has been minimal. The technology and innovation unit ought to keep industry stakeholders well informed about global technology developments and how these may influence the competitiveness, sustainability and subsequently future employment in the country. From such information, relevant technology policy that takes cognisance of the opportunities and threats of the identified technologies to the country's

manufacturing sector, should be developed. The technology and innovation unit did actively participate in the formulation processes of the MIDP. As such, the implications of technology progress on automotive industry performance were not explicitly considered.

On the other hand, research on future technologies and how these could affect the country was done by the DST. The DST, under the Technology Foresight Project, undertook a study to assess the extent to which future technologies were likely to affect South Africa's manufacturing sector in general.⁴ Under the project, attempts were made to identify key technologies and how these technologies were likely to impact the manufacturing sectors' contribution to the quality of life of and wealth creation for the country and its broader population. The effect of the identified technologies on industry employment in particular was however not considered.

Ideally, outcomes of the technology forecast project should have informed the country's industrial policy pertaining to the automotive sector and the sector's employment, but this was not the case. The limited attempt by the automotive industry, in isolation, to take into account the effect of technology on industry performance was to develop a Strategic Investment Matrix. Industry stakeholders met periodically to deliberate on the upcoming technology in the industry with a view of attracting some of the involved firms to invest and establish a presence in the country. Employment was again not a key area of focus of the matrix. Moreover, the work on the Strategic Investment Matrix did not take into account what the DST was doing as regards to technology. As a result, necessary synergies were not created between the industrial policy under the DTI and the technology policy under the DST.

Policy Recommendation

One aspect that has eluded the successful use of industrial policy in South Africa's automotive industry has been significant job creation commensurate with government support, provided to the industry and industry growth. Yet job creation is, at heart, national industrial policy.

Two aspects are critical to sustenance and creation of jobs in South Africa's automotive industry. Firstly, the industry should maintain and continuously improve on its competitiveness. This will ensure sustained business through international export. This is a necessary but not a sufficient condition. The second condition is that industry

growth should be accompanied by increasing employment opportunities for the local labour force. These two aspects lie in the sphere of both industrial and technology policy. Industrial policy in isolation may be to achieve short- to medium-term growth of the industry, but for long-term sustainability it has to be implemented hand-in-hand with a well thought-through technology policy. The technology policy should include, but is not limited to industry technology management and forecasting as well as technology acquisition.

Hence, to sustain and create employment in South Africa's automotive industry, the industrial policy has to be implemented with a technology policy. While the former will ensure that it still makes business sense to have an automotive industry in the country, the latter will prepare and match local labour force to be relevant to automotive manufacturing in the country. Without this complementation, the local labour force will become more and more irrelevant to automotive manufacturing as vehicles continue to become integrated, high technology units. More so and over time, many local component manufacturers will find themselves unable to meet technology requirements of supplying to global vehicle brands, which will lead to their demise.

Setting the direction and pace of competitive technologies should be a responsibility of a national government, particularly in the early industrialisation periods. It should be well co-ordinated across all relevant government departments. The Japanese government, for example, spearheaded a national technology development strategy pre and post-World War II. The state identified national priorities for industrial development, provided guidance and direction, and was directly involved in directing industrial development, especially through emphasis on improving technology capability.⁵ It is critically important to keep track of emerging technologies within the automotive industry, how these may affect local employment and taking proactive steps to align the local labour force with the new technology. Technology monitoring and forecasting for policy design purposes is not a new phenomenon in developed countries but it is an aspect that has not yet received much attention in South African public policy discourse. Yet, therein lies the possibility of maintaining or even creating jobs in any modern manufacturing industry.

Conclusion

The success of the South African automotive industry to become a global player in the global

automotive industry using industrial policy, could be a useful reference point to other Africa countries struggling to industrialise. Its usefulness is lessened, however, by the fact that industry job creation has not been as significant as expected. Some commentators have gone to the extent of claiming that the cost of government intervention in the automotive industry outweighs benefits to the national economy.⁶ Whereas the costs of the policy are easily quantifiable, the benefits from it remain contentious. Significant job creation would have been a strong argument against those who feel that the intervention is a costly exercise. Some of the policy interventions that support job sustenance and creation in the automotive industry lie outside the scope of the industrial policy but within the domain of technology policy. That is why it is important to implement the industrial policy and technology policy in tandem. This will increase the likelihood of the industrial policy achieving the national objective of job creation by the automotive industry.

Notes

- 1 Naamsa. 2009. National Association of Automobile Manufacturers of South Africa. *Annual Report*. Pretoria.
- 2 Barnes, J. Kaplinsky R. and Morris M. 2003. *Industrial Policy in Developing Economies: Developing Dynamic Comparative Advantage in the South African Automobile Sector*. Institute of Development Studies.
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- 5 Fan, P. 2006. Catching up through developing innovation capability: evidence from China. Telecom-equipment industry. *Technovation* 26 (2): 359–368.
- 6 Flatters, Frank. 2005. The Economics of MIDP and the South African Motor Industry. Trade and Industrial Policy Strategies. (http://www.tips.org.za/files/ff_economics_of_midp.pdf accessed August 2010).



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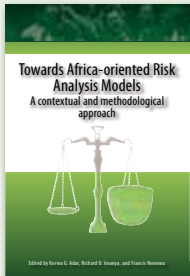
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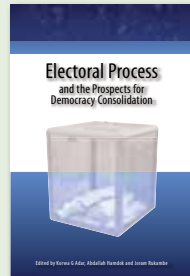
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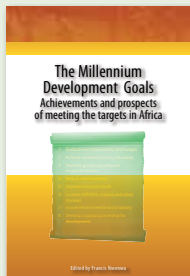
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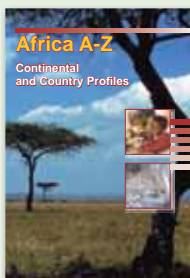
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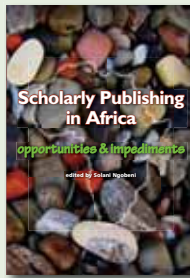
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