

Article

Industrial policy under democracy: apartheid's grown-up infant industries? Iscor and Sasol

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Abstract

The apartheid state's selective intervention to shape South Africa's industrial development around the minerals energy complex included the establishment and support of state-owned enterprises in chemicals and steel in the form of Sasol and Iscor. Both of these companies were privatised at the end of the 1980s and appear to be infant industries that have grown-up. Under democracy, we find the corporate strategies of the two companies to have been very important in the continued skewed resource and energy oriented industrial development path of South Africa. Our evaluation of industrial policy through the lens of its engagement with, and impact on, the decisions of these two companies reveals it has largely failed to come to terms with the interests and power of these companies and the implications for the economy.

Introduction – the infant industries that 'grew up'

This paper looks at industrial policy and the minerals-energy complex (MEC) over the past decade and a half through the cases of two firms established as the result of an accommodation by the mining conglomerates and the ruling Afrikaner political and economic interests, working through the state and market (Fine 2008). For broadly similar reasons, Sasol and Iscor were nurtured as state-owned enterprises by the apartheid state. They were viewed as strategic (and hence were state-owned) due to their main products – liquid fuels and steel – without which the apartheid state could not ensure its prolonged life through military and other means. The firms also had strong linkages to minerals and energy in the form of coal and iron ore.

The apartheid state ensured that both Sasol and Iscor vertically integrated

into the mining of their essential input minerals rather than having to source them from private mining houses. On the output side there were also important linkages. In addition to liquid fuel, the basic chemicals businesses of Sasol included explosives, as the main producer alongside Anglo-American's AECI. Iscor's steel products were also supplied to the mining industry, however, again there were Anglo-American companies in the form of Highveld Steel & Vanadium and Scaw Metals supplying basic long and flat steel products aimed at mining applications.

Both firms were firmly embedded within the state, receiving state support in various ways. As will be shown below, they were guided by the government objectives of the apartheid state and not strict profit making imperatives. Following their privatisation in 1989 and 1990 they have continued to emphatically dominate the industrial landscape, and have been at the forefront of internationalising South African industry albeit through quite different mechanisms.

On the face of it, Sasol and Iscor appear to represent the success of the apartheid state's industrial policy, on its own terms, and to be examples of infant industries now grown up. The tariff protection for steel and basic chemicals has been sharply reduced and, in the case of steel, eliminated completely. Iscor and Sasol have, however, performed well, particularly in terms of investment and profitability, while investment in manufacturing as a whole has remained stubbornly low. They are now major internationally competitive businesses, Iscor being acquired by Mittal Steel and becoming one of its lowest cost subsidiaries, while Sasol expanded its operations internationally through acquisitions and joint ventures to exploit its technological capabilities in producing liquid fuels.

The state support and protection thus appears to have nurtured the development of competitive capabilities. But, the industrial development opportunities are not just the capabilities at the level of basic steel and basic chemicals; it is the role these play in more diversified industrialisation through exploiting the possible linkages. These opportunities depend on the conduct of the firms, which suggests the need to employ proactive policy levers. In addition, it is important to recognise that support for these firms not only develops capabilities but supports particular interests which increase in influence. These interests, or agencies, will work to set agendas to protect and extend their influence including in terms of the regulatory framework (as for liquid fuels), as well as to maintain support in other ways such as access to incentives and subsidised finance.

The cases of Iscor and Sasol therefore pose very interesting questions for industrial policy. In particular, their cases are related to understanding the extent and nature of path dependency, and the evolution of the MEC as a system of accumulation. They are also key to understanding the linkages from core MEC sectors, diversification from the MEC base (or lack thereof), and the conduct of large firms in these developments. As such the two cases directly bear upon the major objectives of industrial policies after 1994 including to strengthen the capital and energy intensive upstream activities while simultaneously supporting the downstream segments of the value chains and to support industrial restructuring for improved firm-level competitiveness. Key policies to achieve these goals were trade policy reform, supply-side support measures, and competition policy. It is not the intention of this paper to evaluate these overall policy programmes, but to reflect on the ways in which policies have impacted on the decisions of the two dominant firms in basic steel and chemicals, Iscor and Sasol, and the ways in which Iscor and Sasol have influenced the policy agenda. We include in this analysis examples of direct engagement with the firms in the form of an attempt to negotiate a developmental steel price and a study into a possible windfall tax on liquid fuels. We also reflect on competition cases concerning Iscor and Sasol.

This article therefore examines key questions of relevance to the policy debates. First, export diversification and beneficiation, which can be viewed as emphasising linkages. Second, are agency issues relating to the political economy of industrial policy, illuminated through the evolving interests and power dynamics in these two cases.

The National Industrial Policy Framework and Action Plan adopted in 2007 maps out structured interventions by sector, according to government's over-arching goals, including increasing local beneficiation of resource-based products such as steel and basic chemicals. It is too early to evaluate this new policy framework. What these case studies demonstrate is the necessity for any sector-based policy approach to take account of historic and political economy dynamics that are specific to the sector or value chain. In addition, these cases highlight the importance of situating sector based approach within a wider political economy understanding of industrial development, as represented by the MEC framework.

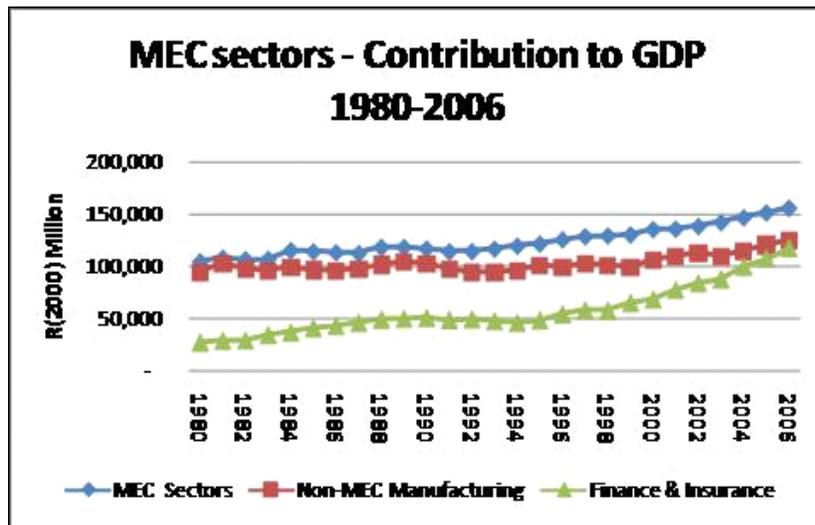
We start by briefly reviewing apartheid industrial policy and the development of heavy industry in the MEC in the next section. The third and fourth sections assess the industrial policies impacting on these firms and

their performance since 1994. The final section draws some implications for understanding the evolution of the MEC over the past decade and a half and the role of government, as well as suggestions for a future agenda taking into account insights from looking at industrial development through the lens of the MEC.

The MEC in heavy manufacturing – a brief re-cap of apartheid industrial policy and the development of the steel and basic chemicals industries

From a **sectoral** point of view, South Africa’s industrial development trajectory has been based on and around mineral extraction industries. Fine and Rustomjee (1996) has identified a set of interlinked economic sectors comprising of the mining, energy-intensive and mining-related manufacturing activities and electricity, which have grown collectively and which continue to contribute a disproportionate quantum of South Africa’s GDP¹.

Figure 1: MEC Sectors – Contribution to GDP 1980-2006



Source: Quantec

Note: MEC sectors include Coal, Gold, Uranium and other mining, Coke & refined petroleum products, Basic chemicals, Other chemicals, Rubber products, Glass & glass products, Non-metallic minerals, Basic iron & steel, Basic non-ferrous metals and Electricity.

MEC sector growth has outpaced that of non-MEC sectors, although the latter's relatively stagnant performance between 1980 and 1998 has improved somewhat since then.

From a **corporate structure** perspective, the MEC growth path up to the early 1990s consisted of an intertwining of a number of visible processes:

- The growth of a number of mining companies in the pre- and post-war period and the subsequent diversification of these companies into other economic activities. Initially, such companies were owned and controlled largely from the English-speaking section of the white population;
- The conscious and organised efforts of Afrikaner capital to consolidate economic interests on a large scale across a number of economic sub-sectors including mining, manufacturing and finance through a mixture of competition and collusion with English capital, giving rise to a number of large conglomerate companies;
- The erosion of the hegemonic position occupied by what has been characterised as the English-speaking fraction of capital to accommodate Afrikaner capitalist interests and a gradual amalgamation of these interests;
- The construction and expansion of state-owned enterprises across a number of economic sectors, largely achieved through judicious forms of coercion of, and cooperation with, private (English and Afrikaner) domestic capital and transnational capitalist interests;
- Increased ownership concentration during the apartheid era as a result of foreign disinvestment, economic sanctions and tariff protection.

The evolution of MEC sectors, in relation to other economic sectors, is to be seen as part of **a system of accumulation** which has involved, shaped and has been shaped by, the interaction of various public and private interests in and around the specific sectoral and sub-sectoral components of the economy.

In the post apartheid era the major conglomerates took advantage of the liberalisation which they had vigorously promoted to further internationalise their operations and to list offshore. Interestingly, listing in overseas stock markets brought greater scrutiny of their corporate structure and pressure from international investors to rationalise it. Anglo American is the most prominent case, having unbundled many of its diversified interests following listing in London (see Chabane et al 2006). This does not mean that concentration diminished in any given industry. Indeed, the reverse has sometimes been the case, and vertical integration has also increased in several notable examples such as paper & pulp.

The evolution of the steel industry around the parastatal Iron and Steel Corporation of South Africa (Iskor) and the growth of the liquid fuel and associated components of the chemical industry, explored further below, aptly reflect the framework outlined above. We briefly describe their evolution under apartheid before examining in more detail the developments since 1994 and the implications for industrial development.

Case study of Iscor/Mittal

The steel industry in the early twentieth century consisted of two main steelworks, based on railway scrap feedstock. The largest users of steel were the mining industry followed by the railways. Under the 1928 Steel Act, and the formation of Iscor as a state-owned corporation (with the acquisition of a controlling interest in Union Steel Corporation in 1930), the state supported investment in steel-making as well as in downstream steel products. Growth in demand for armaments around the second world war and the expansion of mining in the 1950s together with continued state support underpinned expansion of steel production.

The local requirements of the mining industry and the rapid expansion of infrastructure, coupled with the fear of sanctions, drove major expansions at Iscor's Newcastle and Vanderbijlpark works in 1969 and 1970. Anglo-American also established Highveld Steel and Vanadium in the 1960s.

In the 1990s major investments supported by the state continued to be made, led by Columbus Stainless Steel (a joint venture of Highveld, Samancor and the IDC) and Saldanha Steel (an Iscor and IDC joint venture). These both got major tax breaks in the form of the 37E incentive as well as cheap electricity and support with the necessary infrastructure.

Under the 37E tax incentive firms undertook to price at a level which did not yield a higher income than that obtained from exported products. In the case of Saldanha Steel this appears to have been effectively circumvented by not selling directly to any local customers.² Both of these major projects came on-stream into a difficult global environment in the 1990s, with low international prices. Saldanha also had major production problems and built up a substantial debt, ultimately leading to it being absorbed into Iscor. Columbus was taken over by a multinational producer (now Acerinox).

While the apartheid state had favoured the production of downstream steel products such as bolts, rails and mesh, it had not encouraged competitive steel pricing as part of providing inputs to diversified manufacturing. The significance of steel is reflected in input-output data which indicated that (in the 1990s) it accounted by value for over 50 per cent of the inputs to

Fabricated metal products, 21 per cent of the value of General machinery and 31 per cent of the value of Machinery and Electrical Machinery.

Notwithstanding significant investments by Anglo-American, Iscor accounted for over two-thirds of local sales of all basic carbon steel products over the past decade, and 80 per cent of flat steel products. State ownership of the dominant producer was both part of the strategic goals of the apartheid state to have domestic capabilities in key sectors such as those providing inputs into arms manufacture, as well as being necessary given the large-scale investment expenditures required.

The South African steel industry is very large in relative terms, accounting for over 8 per cent of manufacturing output in 2006. By comparison downstream manufacturing, such as the metal products sector, is relatively under-developed in South Africa. Measured by value-added the metal products sector is less than two thirds the size of the basic iron & steel sector while in industrialising countries such Chile, Malaysia and South Korea it is of similar size or greater (Machaka and Roberts 2003).

After the privatisation of Iscor in 1989, the sector was subject to the programme of trade liberalisation pursued by South Africa throughout the 1990s, with tariffs on steel reduced sharply from 30 per cent in 1994 to 5 per cent in 1996. The basic iron & steel sector continued to perform well in terms of value added and exports, with annual growth in value-added averaging 7.3 percent between 1994 and 2006, and around half of output being exported each year.³ This performance reflects low production costs of steel in South Africa given abundant high quality iron ore and coal. Of the main inputs, only coking coal is less than that required by the steel mills and some has to be imported.

Changes in ownership, strategy and orientation

The trade liberalisation, following privatisation of Iscor, stimulated a major rationalisation in operations. Under state-ownership Iscor had produced a wide range of products and grades in order to meet local needs and prices were set on a cost-plus basis. In addition, delivery times and quality were poor with Iscor itself admitting to fewer than 40 per cent of deliveries being met on time in the mid 1990s and rejections on quality grounds being as much as 15 per cent of deliveries (IDC 2000).

The restructuring involved closure of approximately 2.5 million tonnes of capacity in the mid-1990s (including the Pretoria works) spurred by weak domestic demand. Rationalisation of operations also involved a halving in the number of grades produced which enabled greater economies of scale

and throughput (see also Fine 1998). Employment was cut sharply, by over one-third in the second half of the 1990s, while value added grew strongly from 1999 following major investments. Delivery time and quality improved dramatically with close to 80 per cent on-time delivery by Iscor in 2001. Process execution improvements also meant direct cost savings. These have resulted in an internationally competitive iron and steel sector with a low cost base.

A second major dimension of restructuring was the unbundling of the mining and steel-making operations of Iscor and the identification of an international partner. The difficult conditions in the international steel industry, together with Iscor's exposure to it and the problems at Saldanha, underpinned the motivation of shareholders, financiers, senior management and the government and IDC to improve the financial performance of Iscor. The shareholder and financiers, together with senior management promoted the unbundling of the mining assets to realise the shareholder value that such assets represented. The government and IDC were more focused on the long term sustainability of the steel operations. The major banks which were exposed to Saldanha also had a stake in this as, at one point, Saldanha's future was in question. Under the strong pressure from the IDC as a major shareholder (17 per cent), the unbundling was agreed in 2000/2001 with the formation of Kumba Resources, holding the large coal and iron ore assets of Iscor. However, Iscor retained ownership of rights to 6.25 million tonnes of iron ore per year to be supplied by Kumba for 25 years at local production cost plus a 3 per cent management fee.

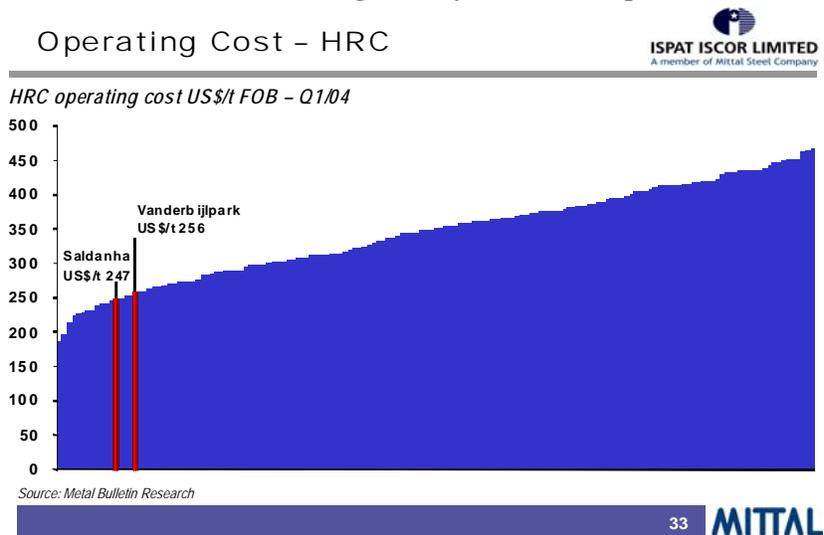
In 2001 a deal was concluded for the acquisition of almost 35 per cent of Iscor's equity by one of the world's largest steel companies, Lakshmi Mittal's LNM (later renamed Mittal Steel), under a strategic business assistance agreement that provided for the option to acquire a further 10 per cent when certain performance targets were met. LNM subsequently raised its stake to 47 per cent, aside from the shares available through the business assistance agreement. Through the additional shares LNM then acquired control in 2004, and Iscor subsequently became part of the Mittal group.

Alongside the vertical separation of mining and steel production has been consolidation within steel. The major development is the outright acquisition of Saldanha Steel by Iscor in November 2001. Saldanha was established in the mid 1990s as a joint venture between Iscor and the IDC, with substantial state support, as an export oriented plant utilizing the most advanced technology then available. It was, however, beset by technical problems to the advanced Corex furnace. Following a costly relining of the

furnace in 2001/2002, and under Iscor ownership, Saldanha then exceeded its design capacity of 100 thousand tonnes per month and in the year to June 2003 produced a total of 1 160 thousand tonnes.⁴ Indeed, the improvement in Saldanha's operations caused the realisation of R2.6bn of goodwill by Iscor in 2002, reflecting the reversal of a negative provision made at the time of acquisition to take account of the difference between the net asset value of Saldanha and the cost of the shares acquired.⁵

In effect, Mittal acquired one of the lowest cost steel producers in the world, with the capital investment having been made by the state (in the form of the IDC in the case of Saldanha). And, the extremely low production costs of Mittal's operations due to cheap inputs (Figure 2) were expected to be reduced still further by investment in replacing and upgrading its capital stock, projected to increase production by close to 30 per cent, and lead to a substantial reduction in average costs (of more than \$50/tonne overall measured in 2004/05 terms). Low costs are also reflected in high profit margins, around two to three times higher than for the Mittal Group as a whole in 2005 (Roberts 2008).

Figure 2. World cost curve for Hot Rolled Coil, all plants ranked in order of ascending costs, by volume of output



Source: Ispat Iscor Presentation 'Annual results for the 12 months ended December 2004', www.Iscor.com

The other significant development in corporate structure since 1994 is the joint venture between the largest South African steel trader MacSteel and Iscor to create MacSteel International BV in 1996, registered in the Netherlands. MacSteel International has exclusive rights to Iscor's exported steel which enables Iscor/Mittal to ensure that steel sold to export customers can be effectively segmented from that sold to local customers.

From the early 1990s Iscor has unilaterally set prices of flat steel in the local market at import parity levels, while realizing much lower prices on its substantial export volumes (Competition Tribunal 2007a). The import-parity price is calculated by Iscor by taking the cheapest import source, such as steel from the Black Sea region, and adding on the various costs associated with transport to South Africa, including agent's commission of 2.5 per cent, import duty of 5 per cent (until 2006), the costs of forward exchange cover that would be incurred by an importer, the 'hassle factor' of importing (set at a further 5 per cent), and the overland transport cost from Durban to inland customers. This has meant a mark-up over the free-on-board price used as the base of the calculation of around 30 to 40 per cent or more. This compares with the price received by Mittal for its exported steel on which actual transport and related costs must be incurred. When the import parity and export prices are compared, the net price for steel sold to local customers at the import parity level has been some 60 per cent or more above that received for steel sold to export customers.

The large net exports mean that there is a strong incentive to offer discounts below IPP (but still above the net export prices) if this will lead to increased local sales and will not undermine the IPP priced sales for the majority of the local sales. Iscor has long had a range of discounts and rebates aimed at achieving just this, including value added export rebates and strategic industry rebates.

The pricing practices did not change with the take-over by Mittal. However, following pressure from the DTI, Mittal moved in around 2006/7 to pricing against an 'international basket', although it appears as if these prices differ little from the import parity price which represents the effective ceiling to its market power. Mittal also appears to have been more proactive in identifying customers to whom discriminatory pricing will be to its advantage. Such arrangements include special pricing deals for the auto and white goods industries. These are implemented with a complex system of administration required to prevent arbitrage by customers, amounting in effect to a private industrial policy (Competition Tribunal 2007a and b).

The role of the state, industrial policy and competition cases

Steel is a key input for many downstream manufacturing products and is at the centre of industrialisation. But, despite improvements, the South African industry continues to have weak downstream links, with the relationships characterised by a focus on maximising short-term price and profit rather than long-term dynamic gains. Users of steel pay prices which bear no relation to the very low costs of steel production such that South Africa remains an exporter of minerals and energy intensive basic products, and has failed to diversify into more labour-absorbing manufacturing activities. As indicated above, the acquisition of Iscor by Mittal did bring a tight focus on cutting costs and improving production efficiencies, quality and delivery. Through a series of changes Iscor moved from a state-owned combined steel production and mining operation, to a streamlined subsidiary of the world's largest global steel producer.

The government's strategy has appeared to involve a number of phases, albeit not necessarily planned as such, as follows:

- Iscor was privatised in 1989 and state support continued for its expansion, with a more 'outward' orientation while protection of the local market continued. This notably included support under the General Export Incentive Scheme from 1992 to 1997 from which Iscor received incentives of around R175m per year.⁶ It also included the 37E incentive for Saldanha Steel, amongst other major projects;⁷
- Sharp liberalisation of protection from 1994 to 1996, and the associated 're-engineering' of Iscor to be more competitive including rationalisation, quality improvements, and large-scale employment reductions;
- Consolidation and restructuring driven by the state through the IDC from 2001 to 2003, together with bringing-in multinational participation in South African firms through direct equity and incentives for achieving performance improvements. In addition, ongoing subsidies and support have been provided, such as through the Strategic Investment Programme (SIP). The international strategic equity partner (as with other privatisations) was apparently motivated by access to technology, although in reality it was largely limited to a management role in the form of a shareholder contract.

Market power and sources of discipline on Iscor – competition cases and government engagement

Beyond the reductions in import tariffs, addressing Iscor's exertion of its

market power has been left largely to the competition authorities, with little actual impact to date, as we discuss.

The steel industry has been one of the sectors which has occupied the competition authorities most. The previous Competition Board, effectively a division of the DTI, evaluated the Iscor and MacSteel joint venture to form MacSteel International BV, registered in the Netherlands. The Competition Board had conducted other enquiries into the steel market, such as into the large steel traders.

The new competition authorities established in 1999 under the Competition Act of 1998 were meant to improve the effectiveness of competition policy in addressing anti-competitive behaviour (see Hirsch 2005). The high level of scrutiny of the industry continued, however, the impact is much less clear.

The acquisitions of Saldanha by Iscor and of Iscor itself by LNM were both evaluated by the authorities. The Competition Tribunal approved the first on condition that Duferco, that purchased steel coil from Saldanha for further processing (mainly galvanizing), could sell freely into the local market. The acquisition by LNM was approved unconditionally, with the Tribunal merely noting how little information had been provided by LNM on its strategy and intentions for Iscor (LNM claimed not to have written documents in this regard). The DTI had voiced its support for the LNM acquisition on condition that LNM would enter into discussions to agree a 'developmental pricing' arrangement following it acquiring control.

The pricing of Iscor itself has also been directly challenged under the provision in the Competition Act prohibiting excessive pricing. However, this case was not brought by the Competition Commission to the Tribunal but by a private complainant, Harmony Gold.⁸ The Competition Commission had decided not to refer the complaint made by Harmony in September 2002 after assessing it for more than a year. In such circumstances the Act provides for a complainant to refer the complaint itself. In 2007, the Tribunal found Iscor's pricing to be excessive, imposed a fine of 5.5 per cent of turnover, and ordered that it must not export to create artificial conditions of scarcity in the local market and must refrain from imposing conditions which prevent the resale of product (see Roberts 2008, for a review of the competition evaluation in the case). The company, now ArcelorMittal SA, appealed the Tribunal ruling, and the process is continuing following a Competition Appeal Court ruling remitting the matter back to the Tribunal for further consideration.

Despite the seven years that have passed since the complaint was first

made, there has as yet been no direct impact of the Competition Tribunal's scrutiny, with a lengthy appeal process still to run its course. The DTI also appears on the face of it to have been similarly unsuccessful. Negotiations on the developmental pricing model are reportedly still underway some four years after the commitment being made. Mittal claims to have changed its pricing structure from one of import parity to one of setting prices against an international basket but the DTI do not appear to see a significant difference in the prices charged. The most impact has perhaps been from the removal of the remaining 5 per cent import duty and the removal of the sizable anti-dumping duties imposed on certain products.

Case study of Sasol

In the case of the liquid fuel industry, the National Party used the enabling 1947 Liquid Fuel and Oil Act (liquid fuel self sufficiency) to create the first Sasol oil from coal plant (utilising adapted German WWII technology) using IDC financing in the 1950s.

Liquid fuel self-sufficiency led to government's decision, following the 1973 oil price increase, to construct Sasol 2. A further increase in global pricing prompted the decision in 1979 to construct Sasol 3, following immediately after the commissioning of Sasol 2 at Secunda. At the same time, Sasol was partially privatised, partly in order to raise the capital required to construct Sasol 3.

From the 1950s, the development path of South Africa's chemical industry was dominated by large scale domestic capital in a close relationship with government and specialist state institutions, often acting in partnership with leading multinational and transnational corporations. From 1960 onwards, South Africa's corporate structure increasingly took a conglomerate form, with the state supporting the active and conscious consolidation of smaller chemical firms into larger capital structures. The process of creating Sentrachem in 1967, which then became the second largest chemical company after Anglo-American's AECl, was actively assisted by the IDC. It was only in the 1980s that the expanded Sasol behemoth truly was able economically to challenge AECl, as a notional representative of Afrikaner capitalist aspirations in the chemical sector.

Since then, Sasol has dominated the basic chemical sector and has become a major domestic supplier of liquid fuel. In the Gauteng region, Sasol created an industrial gas pipeline network during the 1980s, expanding this to the Durban region by leasing the disused crude oil pipeline, owned by

Transnet and previously used to route oil into the strategic stock reserves in disused coal mines in Mpumalanga province.

In the 1990s, Sasol invested in the Pande/Temane gas fields and, in partnership with its creator, the Central Energy Fund, constructed a gas pipeline to transport the gas to its plants in Sasolburg and Secunda. diversifying its input away from coal. Sasol has also consciously internationalised its shareholder base and has sought to diversify globally, buying into the downstream chemical industry in Europe and in initiating two capital intensive gas-to-liquid (GTL) plants in Nigeria and Qatar and a petrochemical complex in Iran in partnership with other trans-national corporations. Furthermore, the recent global oil price spike is underpinning plans for another major Sasol plant in the Waterberg, likely with substantial state support and participation if it is to go ahead.

Currently an upstream liquid fuel and chemical sector dominated by Sasol has emerged which exercises considerable market power on the downstream segments of the value chain, acting to impede the competitive growth of many downstream industries.

Sectoral linkages and downstream diversification

The production of liquid fuel and basic chemicals take place through largely integrated processes both at traditional oil refineries and at Sasol's coal-based plants at Secunda and Sasolburg. Sasol has thus been subject to government's liquid fuel policies as well as by other industrial policies relating to the chemicals value chain.

Liquid fuel policy – Inherited from its apartheid creators, the architecture of the regulatory system guarantees the profitability and the financing of every segment of the fuel value chain, including retail station owners. The statutory import parity (inland) basis of the rents on liquid fuel generated by Sasol has been a significant contributor to the company's balance sheet, particularly during periods between 1994 and 2008 when global oil prices rose above \$16 per barrel.

Sasol also succeeded in lobbying government during the 1990s to abolish the floor and ceiling mechanism which protected Sasol during low oil prices but which provided the state with a windfall tax of sorts once prices rose above \$30 per barrel.

In 2006, these circumstances prompted the Minister of Finance to initiate an inquiry into the merits of implementing a windfall tax on Sasol. In its report, the task team justified and recommended the imposition of a windfall tax but

the National Treasury, while accepting the findings of the justification for imposing a windfall tax, decided not to impose it in the expectation that Sasol would further expand its South African coal-to-liquid fuel plants.⁹

Chemical sector policy – Diversification away from the MEC core has been an important component of government's industrial policy after 1994. In the case of liquid fuels and chemicals, policymakers have referred to this as the challenge of beneficiating primary processed chemical feedstocks further down the value chain.

Policies were targeted at different stages of the value chain. At the upstream stage 2 (basic chemicals and refining) level, The DTI's Chemical sector Industrial strategy in 1996/7 included encouraging a crude oil-based naphtha cracker investment to create a domestic production surplus of competitively priced stage 2 and stage 3 (primary plastic polymers) chemical commodities as the basis for the growth of stage 4 beneficiation of these commodities. Investment incentives that were developed during this period were crafted with an intention to provide support for private investors willing to implement government's strategy for petrochemicals. The aim was to undermine the import parity pricing practised by the major producers (Sasol, AECI-Polifin and Sentrachem) who carefully matched capacity expansion investment with domestic market growth. Their associated practice of import parity pricing contributed to de-incentivising stage 3 and 4 production.

Unfortunately, a large Durban oil refinery-based cracking investment to anchor a petrochemical-plastics-automotive component hub did not happen. Other cracker options were also pursued, particularly the geopolitically-driven Taiwanese offer to invest in a turnkey petro-chemical refinery in the region of Coega/ Port Elizabeth/ East London, in a bid to avert democratic South Africa's recognition of the PRC.¹⁰

While pursuing beneficiation objectives, government also tried to address the issue of synfuel protection. In 1996 the system was modified and agreement was reached between Sasol and government to retain protection should oil prices fall below \$16/ barrel, in exchange for Sasol agreeing to create 50,000 sustainable downstream jobs. It is not clear what happened as Sasol did not succeed in honouring its commitment by 2000, when the system was to be reviewed again. Around 1998, the inland refinery Natref (70 per cent owned by Sasol) embarked on a major 20 per cent fuel capacity expansion and no petrochemical cracker investment took place. Petrosa also invested significantly in the EM field gas feedstock project in 1999.

Increasing aromatic basic chemical production from crude oil refining was also identified as a policy objective in 1997/8. One of the possible projects included the cooperation of Durban refineries to pool BTX feed-streams into a common aromatics extraction facility so as to facilitate downstream production of commodity and speciality polymers, including polyester, polystyrene and ABS. This was also unsuccessful.

The downstream Plastic Products sub-sector has been acknowledged by a number of studies to have considerable potential to grow and the Basic Chemical to Plastics value chain has been the subject of considerable policy scrutiny in recent years.¹¹ It was identified by Crompton (1995) as an important potential employment-intensive growth sector. The subsequent PARAS (1998) study, carried out on a tripartite basis under the Nedlac Fringe fund outlined strategies to develop the value chain, with the emphasis on downstream exports as being the main avenue for growth.

Industrial policy agencies

As an agency, furthering industrial policy, the IDC has played an important supportive role and the financial impact of various incentive programmes on the individual stages of Chemicals beneficiation has been considerable.

It would appear that the 1994 government policy objective of consolidation and expansion of stage 2 intermediate polymer commodities was achieved, with the IDC, as government's main industrial financing agency, providing Sasol and other large firms with finance for a large proportion of upstream and capital-intensive intermediate value chain investments which occurred during the 1990s. As Dobreva et al (2005) observe, there is now considerable excess intermediate product that is produced on a globally competitive basis and exported, with significant domestic consumption. Dobreva et al (2005) also conclude that the key impediment to translating the upstream stage 2 and 3 competitive advantage into stage 4 beneficiation growth is the uneven power relationship between oligopolistic upstream industry which practices import parity pricing (IPP) on those parts of the downstream domestic industry that cannot organise themselves to exert countervailing power. As shown above, in some parts of the downstream industry, polymer constitutes more than 50 per cent of input costs to finished products.

Apart from the unequal power relations between polymer suppliers and converters, and the import parity pricing of polymer chemicals, government's strategy for growing this downstream chemical value chain was impeded by two additional factors. First, it also had little focus on downstream industry

skills and technology requirements; and, second, it appears that there was insufficient follow-through by the DTI in implementing the value chain recommendations proposed by PARAS.

Not all downstream firms are powerless though. For example, the Packaging sector, constituting 50 per cent of the downstream market has not been significantly affected by import parity pricing because the sector is dominated by large firms who are able to pass on costs to downstream users, since much of packaging is non-traded and who can exert countervailing market power on upstream domestic suppliers. A component of future sector strategy should therefore include measures which address the uneven power relations across this value chain.

There were some exceptions. The lack of economies of scale and difficulties in downstream industrial sub-sectors also contributed to contraction in chemicals stages 3 and 4. For example, the Sasol acrylic fibres plant in Durban, serving the textile industry (stage 4) which was unable to absorb the relatively high fibre input costs, and was closed in 2001.

The drivers of the more differentiated stage 4 beneficiation industries have varied. Ownership changes have also played a role. During this period, transnational corporations have acquired large parts of RSA's national chemical production capacity. In 1997, Dow bought Sentrachem and proceeded to rationalise production. AECI has refocused and consolidated its activities mainly in stages 3 and 4 chemical beneficiation activities. The MIDP has driven restructuring in parts of the plastic and chemical sector supply chain. In recent times, national legislation on plastic bags has had an impact on stage 4 sectors.

Sasol case study conclusions

During the period 1994-2008, the following trends are noteworthy in Sasol's evolution:

- There has been a significant growth of investment in, and output from, the liquid fuel and basic chemical sectors, in which Sasol's dominant role has been further entrenched, contributing to the disproportionate growth of core MEC sectors in the economy;
- Viewed from the perspective of corporate strategy and structure, Sasol has evolved very rapidly, experimenting with a range of strategies including:
 - o Diversifying downstream by acquiring Condea, part of its market in the EU;

- o Diversifying upstream into oil and gas exploration and development;
- o Attempting to further entrench its dominant position in various RSA markets, including a range of chemical and fertiliser markets, the liquid fuel market and through its attempts to control of oil and gas pipeline access;
- o Making significant investments in South Africa and Mozambique, and Sasol has grown significantly in Europe, the middle east and Nigeria, with plans to start operations in India, China, and other countries.
- The influence of its previously dominant shareholder, the RSA state, has eroded as the proportion of private international shareholding has increased and as the regulatory conditions under which Sasol has operated has been relaxed. Sasol's ownership has shifted from being largely domestically owned to having close to 50 per cent of its shares being held by transnational shareholders, of which European and US-based investment funds are very prominent.

Sasol's financing dependence on the IDC has reduced, but it has successfully lobbied for the retention of import parity pricing in the regulated fuel price for the strength of its balance sheet

Much thought and analysis was carried out in the 1990s by government, organised business and labour. Policies and strategies that promoted beneficiation were developed and implemented and there is evidence of success in competitive restructuring and increasing the level of beneficiation at all stages of the chemicals value chain. Considering the relatively uncompetitive state of the value chain in 1994, the outcome is not insignificant.

A range of policy instruments and incentives were developed and offered during this period. The incentives were targeted more according to firm size, rather than at achieving specific beneficiation objectives at particular stages of the value chain, but they had very significant impacts in supporting investment at mainly upstream stages of beneficiation.

A larger quantum of the incentives offered were absorbed mainly in the capital-intensive stage 2. In turn, this process contributed to increasing stage 2's relational power with stages 3 and 4 and in fact impeding the growth of the latter. This was not entirely linear and some countervailing power developed among some stage 4 industries such as packaging. The chemicals sector programme of DTI (2005) appears to address these impediments within a coherent strategy, although the task now is to implement the proposed strategy.

In summary, government has not managed to synchronise beneficiation strategy instruments with the complex regulatory instruments inherited in 1994 to significantly transform, grow and diversify the liquid fuel and petrochemical industry.

Some conclusions and implications

It is critical to understand the MEC as a system of accumulation, which evolves according to the agencies or interests at play, the linkages between activities, and the changing circumstances. Critiques, such as by Bell and Farrell (1997), have focused on the descriptive data on linkages between activities falling within the MEC, rather than on the understanding of the South African economy's development gained through the MEC framework of analysis.

We focus on the evolution of the MEC, highlighting elements of continuity and change in the case studies, given that these two companies were emphatically products of industrial policy under apartheid with which post-apartheid policy-makers had to engage. We group our observations under the two broad headings, of diversification and beneficiation, and of political economy, before reflecting on implications for industrial policy.

South Africa's exports: diversification and beneficiation?

At the outset a very strong similarity in both basic chemicals and steel is the extent to which strong linkages have been maintained with minerals and energy, and the ongoing weakness in downstream linkages. This has meant extremely limited diversification of exports and of beneficiation, while the increased internationalisation and linked focus on productive efficiency has underpinned restructuring and employment reductions (particularly in the case of Iscor) and changes in employment relations (such as a move to labour contracting, where possible).

The weak downstream linkages are directly a result of the firms' market power, their strategies in the pricing of their main products as intermediate inputs to downstream activities, and lack of interest in beneficiation. Specifically, the system of import parity pricing has been entrenched as the norm with embellishments to effectively discriminate where this will increase monopoly profits. An implication of this is quite extensive regulation of customers through contractual arrangements and mutual understandings in order to prevent arbitrage undermining the monopoly pricing. The discriminatory prices include apparently 'developmental' programmes providing concessional prices for new products.

Both Iscor and Sasol have 'grown-up' in the sense of now being internationally competitive without trade protection. However, we should be careful not to overstate the case – both firms have continued to receive support from the state. And, industrial policy reinforced and stimulated restructuring and, as such, international competitiveness upstream. Sasol in particular does receive extensive protection through the regulation of the price for liquid fuels and tariff protection on many other chemical products. Our point is that it would be perfectly sustainable without this protection and with a different regulatory framework for liquid fuels.

Industrial policy in both cases had objectives of supporting downstream industries, but in practice there was a reluctance to use the necessary levers to achieve this. In the case of steel and, to a lesser extent, liquid fuels and basic chemicals, a slump in the international markets was a reason for the state being more preoccupied in the late 1990s with the sustainability of the upstream industry than with the medium term industrial policy objectives. In basic chemicals, the post-1994 policy objective to incentivise domestic production of a surplus of competitively-priced stage 2 and 3 chemical commodities succeeded in producing such a surplus in certain product lines, but policy makers did not anticipate the extent to which upstream market power could still succeed in maintaining import parity pricing. Similarly, state influence through ownership did not effectively extend to the firms' strategic role in the economy.

Political economy of industrial policy – the evolution of interests and power and the need to address the positions of these companies with industrial policy levers

The two case studies starkly illustrate the issues in translating broad policy objectives into action when it comes to addressing the positions of powerful companies and the interests they represent. First, there is the failure to monitor and enforce conditions that were agreed on for state support, most obviously in the case of 37E tax concessions.

Second, there are examples of the failure to agree on terms for state support, or for these terms to be unenforceable. Examples here include the advantage bequeathed to Iscor in the form of the iron ore supply agreement and the inability to agree on a Developmental Pricing Policy for steel, although the DTI's support for the Mittal acquisition of Iscor had been conditional on this. Both of these examples relate to the state not being able to ensure that substantial cost advantages in steel production are passed

through to steel using industries in relatively competitive steel prices. Nor has competition policy been able to realise this in the timeframe considered here.

While similar questions of pricing power have arisen in the case of Sasol, such as the import parity pricing of some polymers where there are net exports, Sasol is also crucially subject to the regulatory regime for liquid fuels which ensures inland import parity pricing in the formulation of the Basic Fuel Price, plus the guaranteed rate of return for distribution and marketing activities. In addition, the chemicals example includes Sasol's failure to deliver on its 50,000 downstream job creation commitment in exchange for government's modifications to liquid fuel regulation. The regulatory framework and concerns around ensuring local refining capacity mean that relationships with government operate at a different level than for steel. There is a whole section of the Department of Energy responsible for liquid fuels. However, the capacity to engage effectively with Sasol and Mittal to promote industrial development goals is as important in both cases.

In this regard, the diffusion of the power of the state across and within different institutions undermines the coordinated and determined translation of policy objectives into outcomes. Within DTI the granting of incentives is separate from industrial policy and the monitoring of sector development. In the case of Sasol, the regulatory regime rests with DoE, the development of the chemicals sector with the DTI, and financing investment with the IDC. In steel, there is the same diffusion between the DTI and IDC. As already highlighted, the competition authorities, as independent institutions, work separately from government.

The diffusion also opens up opportunities for different interests in the companies to push their own agenda. This was evidenced in the Iscor restructuring. The IDC held a significant shareholding and was highly exposed to an industry that was suffering globally depressed steel prices. The dominant private financial sector shareholders in Iscor, together with Iscor management, were seeking to realise 'shareholder value' by unlocking the perceived premium on the iron ore assets by splitting Iscor into separate steel and iron ore companies, with most of the combined company's liabilities loaded onto the steel company. The IDC challenged this, to protect the productive capacity over the narrow finance capital interests as such an approach by Iscor management was likely to lead to the closure of large portions South Africa's steel production if global price depression continued. As a result, the unbundling was more balanced in terms of the burden of

liabilities, and Iscor also obtained the favourable iron ore supply deal.

Similarly, negotiating with large transnational corporations requires effective capacity and coordination on the part of the public institutions involved. Participation by a transnational steel corporation in Iscor was part of government and the IDC's restructuring plan for the former state-owned company. At the same time, the government wanted to unlock the benefits of low cost steel production for domestic steel using industries. But, the terms agreed with the buyer, Lakshmi Mittal, did not include any binding commitment to further this objective.

The outcomes of government's interventions reveal success in strengthening the competitive position of the upstream industries but much less impact in translating this into more competitive downstream sectors, notwithstanding government's objectives. As a result, the influence and power of Sasol and Iscor/Mittal has effectively been entrenched. The most obvious difference is that while Sasol's strategy has remained largely captive of the top management and Afrikaner capital that have maintained control under both state and now private ownership, Iscor's acquisition by Mittal has meant it is now run as part of the largest global steel company, looking to supply global markets from many different production sites. In some ways, the strategy followed in the restructuring of Iscor was similar to Telkom, in seeking a strategic equity partner. This reflected concerns about local management in terms of both their orientation and capabilities. Of course, the Mittal group's performance best illustrates what a short-sighted approach to steel that was, albeit a view that was in the overwhelming majority.

Sasol, by comparison, has remained vertically integrated. The control over its input supplies has been a key preoccupation, and one in which it has proactively engaged government, most clearly in the provisions governing natural gas from Mozambique. In the haste to incentivise Sasol to commit to investing in the Mozambique gas pipeline, the governments of South Africa and Mozambique allowed Sasol a ten year exclusive option on the use of the pipeline. This has had the effect of potentially impeding any competitive supplier of gas in Mozambique from using the pipeline to access the RSA gas market. Sasol has also vertically integrated downwards in some areas ranging from fuel distribution to candle making and fertilizer blending and supply. Rather than to support downstream industry, this strategy appears motivated by concerns about the possible countervailing power that could be exerted by large buyers, such as the marketing arms of the other oil

companies in the inland market (as highlighted in the hearings on the proposed Sasol-Engen merger). Mittal has focused on steel production, and has perhaps faced greater scrutiny as a result and, for example, has faced tariffs and anti-dumping duties being removed while Sasol's have largely been maintained after the initial phase-down.

Alternatively, given the simultaneous policy attention to revamping competition policy in the mid-1990s, we could view the continuation of import parity pricing in internationally competitive industries as a failure of the state to strengthen competition policy enough in tandem with strengthening the competitive position of upstream industries. Competition cases and hearings have proved more effective at uncovering corporate strategies and the exertion of market power than at remedying such power and its effects. This suggests that it is but one part of the set of policies which can be brought to bear.

Wider implications for industrial policy

An important reason for supporting infant industries is the opportunities for linkages that open up, that is, the industries are means to an end. But, realising these linkages requires the state to shift focus from ongoing support to the upstream, to the requirements of the downstream. The Iscor and Sasol case studies suggest that policies need to be aimed at balancing the uneven power relationship that has prevailed in favour of the upstream MEC sectors. And, the tendency for upstream resource producers to maximise their rents by exploiting market power in the local market, while exporting commodities in unbeneficiated form, is only reinforced by many now being controlled offshore.

In implementing the Mineral and Petroleum Resources Development Act (MPRDA), the state has effectively nationalised mineral rights, however, it has not followed through on the beneficiation components of the MPRDA. Beneficiation was to be promoted through a range of instruments including a differentiated higher royalty rate for 'dig and deliver' activities, and lower rates if such commodities are further processed in South Africa. The final version of the Royalty Bill removed the differentiated royalty rates by stage of beneficiation in the face of intense lobbying by mining sector interests.

To realise the objective of altering the development trajectory to a broader-based more diversified industrialisation, the state will have to use all the levers at its disposal. In addition to the ownership of mineral rights, these levers include the provision of infrastructure, which has historically

been heavily in favour of resource exports. Rail tariffs apparently continue to incentivise the export of primary bulk commodities, and penalise higher value added products. Closer alignment of transport infrastructure with the country's development objectives is crucial, as is electricity provision and pricing.

Ultimately, for industrial policy to be effective it must be based on strong sector analytical capacity and must be able to draw on the range of levers at the state's disposal. The two case studies analysed here highlight the importance of levers which are generally viewed as outside the narrow range of industrial policy, such as regulatory provisions, logistics, electricity pricing and ownership of resources. The cases also highlight the ongoing strength of interests in the MEC core notwithstanding important changes, especially in their internationalisation.

Notes

1. The growth of finance and insurance is also notable but is not the focus here. However, there is a correlation between the evolution of the financial sector and domestic capital markets and the mineral and energy sectors.
2. The only local customer, Duferco, was subject to the condition only to sell into the export market.
3. Note, this sector data includes stainless steel. The exports of carbon steel by firms such as Iscor have been around 40 per cent of their output (Roberts 2008).
4. Iscor, Audited Results Presentation for the year ended 30 June 2003.
5. See note 2 to the Audited Group Financial Results for the year ended 30 June 2002.
6. See transcript of radio interview of Louis Van Niekerk, Iscor CEO, by Michael Coulson (15 January 2003 SAFM, 'Appleton Market Update').
7. Accelerated depreciation under 37E was estimated to be the equivalent of as much as 5.8 per cent of the selling price of steel into the US market in 1999 to 2000 according to US Dept of Commerce (2001).
8. Roberts was an expert witness for Harmony Gold in this case.
9. National Treasury (2007).
10. In 1996, South Africa rescinded its recognition of Taiwan and formally recognised the Peoples Republic of China (PRC). Following this, the Taiwanese proposal was withdrawn.
11. See, for example, Crompton (1995), PARAS (1998), Dobрева et al (2005), Kaiser-Blueprint (2005).

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