Engineering Deindustrialisation: the Post-apartheid Restructuring of South Africa's Steel and Engineering Sectors

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1. Introduction

Capitalist development since the Second World War ushered in unprecedented rates of capital accumulation and structural change in the world economy through industrialization (Maddison 2007). However, the pace of South African industrialization was poor relative to middle income developing countries, both during the last quarter century of apartheid (Fallon & de Silva 1994; Feinstein 2005; Fine & Rustomjee 1996; Gelb 1991; Joffe et al. 1995) and the first twenty five years of democracy (Bell et al. 2018; Rodrik 2008).

How is mediocre post-apartheid industrialisation to be understood? I tackle this question through the lens of the post-apartheid restructuring of the three private and public conglomerates – Iscor, Anglo American and Rembrandt – that dominated the steel and engineering sectors over South Africa's transition from apartheid to democracy. This focus is justified first, because various development theorists have singled out the steel and engineering sectors as central to industrialisation due to positive linkage, spillover and balance of payments effects (Amsden 1992 p. 198; Hirschman 1988; Mahalanobis 1953; Nolan 2001; Woo-Cumings 1999). Second, steel has been an exemplar of apartheid heavy industrialisation under a "Minerals Energy Complex" (Cross 1994; Fine & Rustomjee 1996) with engineering playing a subordinate role (Rustomjee 1993; Zalk

2017). Third, Anglo American (Anglo) and Rembrandt were the two largest apartheid private conglomerates and, together with state-owned Iscor, collectively dominated the steel and engineering sectors. Anglo and Rembrandt were themselves instrumental in shaping South Africa's post-apartheid economic policies and institutions, which in turn influenced their restructuring in general and that of their steel and engineering operations. Thus not only is the restructuring of these three business groups significant in their own right, it is argued that these processes reflect more generalised patterns in the shifting structure and performance of the post-apartheid economy.

Section 2 of this paper briefly traces the skewed development of the steel and engineering sectors from the early twentieth century to the demise of apartheid. It highlights the mining roots (dominated by Anglo and De Beers) of South Africa's modern economy, its stimulation of a nascent engineering industry and the emergence of state-owned enterprises like steel-maker Iscor as fundamental to subsequent industrialisation. The post-war development of steel and engineering is traced, as illustrative of broader processes of conflict and compromise between Afrikaner political and English economic power out of which major Afrikaner business groups such as Rembrandt emerged. It also reflects the increasing integration between private capital one the one hand and state-owned enterprises on the other. As industrialisation faltered from the late 1970s steel and engineering became increasingly concentrated under the control of a nexus of three business groups: Iscor, Anglo American and Rembrandt. The subordinate role of engineering within these business groups is highlighted and related to the general failure to develop internationally competitive capabilities in this sector by the end of the apartheid era. This is reflective of a more generalised conglomerate inability to develop globally competitive manufacturing outside of heavy industry, of increasing corporate concentration through acquisition, and industrial and competition policy that failed to develop a more diversified industrial base.

Section 3 illustrates how South Africa's dominant business groups forged core bargains over the country's transition from apartheid to democracy aimed at restoring profitability and securing as unfettered as possible freedom to restructure capital. This process involved a combination of rhetorical appeals to "free market" policies, the introduction of narrow asset transfers to politically connected black individuals, and the assertion that deepening Anglo-American style capital markets would lead to higher and more efficient fixed investment. The introduction of the orthodox GEAR policy framework in 1996 reflected the influence of this rhetoric. The adoption of GEAR also reflected selective appeals to flawed scholarship that ascribed the failure of apartheid industrialisation chiefly to product and factor market distortions, and hence misdiagnosed the policy measures necessary to reverse poor industrial performance. Thus post-apartheid policy heavily emphasised the need for macro-economic stabilisation measures and the promotion of an ill-defined notion of "investor confidence", de-emphasised public investment expenditure, uncritically embraced the putative benefits of foreign capital inflows and prioritised the removal of a range of product and factor market distortions. The overlapping influences of interests, ideas and ideology have profoundly shaped institutions of industrial restructuring even as they have changed form over the post-apartheid period in ways which have had perverse economic consequences for the economy, and sometimes even on their own narrow financial terms.

Section 4 traces the consequences of the transition of state-owned steel maker Iscor to private ownership in 1989 and ultimately control by transnational ArcelorMittal in 2004. It reflects how rising post-privatisation inefficiencies and concomitant pressure to "unlock value" led to the unbundling of Iscor's mining assets and an ingenuous reliance on a foreign equity partner LNM to reverse inefficiencies in its steel operations. It highlights the implications of the debt-fuelled consolidation process from which LNM emerged to become ArcelorMittal, the world's largest steel group. It demonstrates how the transition from Iscor to subsidiary of ArcelorMittal has been marked by the extraction of rents through three channels: monopolistic steel pricing; access to concessional iron ore; and capital extraction amid underinvestment and rising inefficiencies. It briefly discusses how the battle for control over access to lucrative iron ore deposits have been reflective of contestation by different sets of interests over natural resource rents and indicative of the process of "State Capture" which was increasingly engulfing the state. It also briefly deals with the recent crisis in the South African steel industry as rising inefficiencies have collided with stagnant steel prices.

Section 5 unpacks how the offshore listing and restructuring of Anglo American amid mounting pressure from institutional investors to unlock shareholder value led to the destructive unbundling of its steel and engineering subsidiaries: Highveld Steel and Vanadium, Scaw Metals and Boart Longyear. Anglo's unbundling of Highveld to foreign ownership under Evraz, reflects similar patterns of underinvestment and rent extraction exhibited in Iscor's transition to multinational ownership. Scaw Metals, notwithstanding some weaknesses, had successfully developed it grinding media business to become the leading international player. The destructive manner in which Anglo loaded Scaw with debt, extracted the proceeds and sold it off is related. The similarly destructive unbundling of Boart Longyear is recounted, reflecting how the legacy of managerial and technological complacency under Anglo's apartheid-era ownership contributed to conditions for the similar dismemberment via unbundling of this globalised South African mining engineering group.

Section 6 deals with the restructuring of Rembrandt and its transition to Remgro involving an increasing financial orientation, an effective bargain with institutional investors to preserve Rupert family control in exchange for high shareholder returns, and consolidation of Remgro's investments in sectors amenable to the assertion of one or other form of market dominance. It reflects the continuity of Rembrandt's strategic engagement with indigenous elites as Remgro strategically cultivated politically prominent BEE as well as the influence of Remgro's investment holding company model on emerging BEE investment groups. It sets out how Rembrandt and Remgro, in the context of low public expenditure and trade liberalisation, were unable to render the country's premier engineering firm, Dorbyl, competitive over the transition. Hence they embarked on a process of subsequent destructive unbundling of Dorbyl characterised by managerial enrichment and "returning value to shareholders".

Section 7 concludes.

2. The skewed development of steel and engineering under apartheid[1]

Development prior to the Second World War: the mining-based industrialisation and conflict between English and Afrikaner capital

The discovery on the Highveld of diamonds and gold in the late 1800s initiated a process of mining and mining-linked industrialisation that has heavily shaped the structure and trajectory of the economy (Feinstein 2005; Fine & Rustomjee 1996; Freund 2019; Innes 1984). Two intertwined mining giants: Anglo American (Anglo) and De Beers, emerged as preeminent, under Oppenheimer family control, over the 1920s. They in turn were

[1] Although apartheid formally was ushered in upon the whites only election of the National Party in 1948 the term is used here more loosely to describe increasingly legislated racial segregation that prevailed from the early 20th century.

reflective of a generalised dominance of white English capital, with strong financial and linguistic ties to Britain, relative to underdeveloped Afrikaner capital. Any prospect of the emergence of a black capitalist class was foreclosed by the active suppression of emerging small scale black farmers and miners since the late 1800s and increasingly legislated dispossession and disenfranchisement thereafter (Innes 2007).

Some important engineering firms emerged during this period of embryonic industrialisation, chiefly to service the mines. Structural engineering firm Dorman Long (Africa) was established in 1903 as a subsidiary of the English Dorman, Long & Co (De Beer 2003). Steel and Ceilings Aluminium Works (Scaw) was established in the 1920s, producing steel castings and other parts for the mines, and expanding into cast steel grinding balls in the 1930s (Hanneman 2014a; Innes 1984). Also during the 1920s Haggie, Son & Love opened the first steel-wire rope making factory in the southern hemisphere to supply mining demand (Gibson 1996).

State-led efforts to promote industrialisation found expression through two main mechanisms: the introduction of the 1925 Tariff Act and the establishment of state-owned enterprises from the 1920s, with the latter argued to be more decisive in shaping South Africa's long term economic trajectory (Clark 1994; Fine & Rustomjee 1996). The South African Iron and Steel Industrial Corporation (Iscor) was established in 1928, following on from the formation of South African Railways and Harbours in 1910 and the Electricity Supply Commission (Escom) in 1923. Iscor's first plant commenced production in Pretoria in 1934 (Clark 1994).

An uncharacteristically innovative manufacturing firm emerged from the De Beers / Anglo nexus: Boart and Hard Metals (Boart), established in 1936. Boart responded both to De Beers' need for an outlet for its large stockpile of low grade diamonds (boarts) and Anglo's requirement to raise gold mining productivity through more efficient drilling of blast holes. Boart began to produce the hand-held pneumatic drills that became predominant in South African underground mining, using boarts as high abrasion drill tips (Brunner 2014; Howard 1996; Innes 1984).

The dominance of the economy by English capital was a source of deep resentment amongst white Afrikaner elites and working classes. By the end of the Great Depression most Afrikaners were "poor white" urban workers or small-scale farmers while mining and industry was concentrated in the hands of English capital (Lipton 1986; O'Meara 1983). From 1934, the secretive Afrikaner Broederbond (Fraternity) began to promote the twin-pronged objectives of securing both "Afrikaner economic empowerment" and political power. This movement culminated in an Ekonomiese Volkskongres (Economic People's Congress) in 1939 to generate a strategy for the upliftment of white Afrikaners, under the slogan of Reddingsdaad (Act of rescue) with an increasing emphasis on the need to build up large-scale Afrikaner capital to countervail the weight of English oligopolies in mining, finance and industry (O'Meara 1983). The economic leg of this movement was "the expansion of Afrikaner investment companies led by Sanlam, and including Santam, Federale Volksbelegings, Saambou, Bonuskor and Rembrandt, as well as the growth of Afrikaner business in manufacturing, commerce and trade" (Innes 1984 p. 55). The political apex of the Reddingsdaad movement was to mobilise Afrikaners to deliver a whites only post-war electoral victory to the National Party in 1948.

Engineering was a particular beneficiary of the boost the Second World War provided to manufacturing. Between 1939 and 1945 manufacturing overtook mining and agriculture for the first time as the largest sector of the economy contributing 17% to GDP (Innes 2007 p. 56). Iscor's expanded production over the 1930s and 1940s fed into a large-scale expansion of engineering oriented to wartime production (Steel and Engineering Industries Federation of South Africa 2003). Iscor established a range of joint ventures with various private companies, reflective of a more generalised long term pattern of collaboration between state owned enterprises (SOEs) and private capital (albeit punctuated by conflict in the 1960s) (Clark 1994). This included the establishment in 1945 of Vanderbijl Engineering Corporation (Vecor): a joint venture with Anglo American to maintain Iscor's plant and to supply heavy engineering equipment to the mines (Clark 1994, Mostert 2014). Vecor would subsequently merge with Dorman Long in 1973 to become South Africa's largest engineering company: Dorbyl (De Beer 2003; Dorbyl various years; Mostert 2014).

The post-war boom and steel and engineering as a site of conflict and compromise between English and Afrikaner capital

South Africa achieved its highest period of growth from the Second World War to the mid-1970's, notwithstanding intermittent balance of payments and political crises. Anglo entered the 1960s seeking opportunities to invest the large cash surpluses it had generated from its lucrative expansion into the Orange Free State goldfields. Rembrandt's success in building up an international tobacco empire over the 1950s and 1960s similarly endowed it with considerable surpluses. Its practice of establishing joint ventures with domestic elites, through a self-ascribed philosophy of "industrial partnership", allowed for a remarkable expansion into markets formally antagonistic to apartheid including Malaysia, Singapore, Jamaica and various African countries (including Ghana, Zambia, the Ivory Coast, Ethiopia and Nigeria) (Kinkead 1981). Conditions amenable to accumulation based on further mining and industrial expansion were strengthened by the brutal suppression of emerging black political opposition to the mounting strictures imposed by discriminatory apartheid legislation, exemplified by the Sharpeville massacre of 1960 and subsequent banning of the ANC and the Pan Africanist Congress (PAC) (Innes 2007).

Capital controls, put in place to counteract intermittent balance of payments crises of both a political and economic nature provided an impetus to domestic investment and acquisition. Notwithstanding these restrictions, conglomerates built up significant offshore holdings notably Anglo’s Minorco and Rembrandt’s external tobacco interests. In addition to expansions in mining and heavy industry, in particular, opportunities periodically arose to acquire the interests of exiting foreign direct investors as global opprobrium towards apartheid mounted (Chabane et al. 2006; Fine & Rustomjee 1996).

Anglo’s consolidated its industrial interests under the Anglo American Industrial Corporation (AMCI) in 1964 and announced that AMIC would spearhead a large-scale Highveld Steel and Vanadium project. The Highveld project had direct economic and political consequences (Cross 1994). In anticipation of the project Anglo acquired Scaw Metals, both to acquire technological and managerial experience in steel and to secure a channel for output of Highveld’s specialty metals in addition to Anglo's existing stakes in historically “British” steel traders Robor and Stewarts & Lloyds and manufacturers Union Carriage and Wagon and Hall Longmore (Cross 1994; Innes 1984). The Highveld plant was erected in 1965 and by 1970 was the fourth largest industrial firm listed on the Johannesburg Stock Exchange (JSE) (Innes 1984).

Highveld, Anglo’s largest industrial investment of the 1960s, deeply threatened Iscor's dominance of the steel sector and was perceived as a symbol of English domination of the economy in general and Anglo's outsized influence in particular (Cross 1994). The Highveld project precipitated a 1965 state-sanctioned enquiry into the influence of Anglo on the South African economy under President Verwoerd (Feinstein 2005; Innes 1984), actually conducted by Iscor's commercial manager Piet Hoek and informally called the "Hoek Report" (Cross 1994). As part of its efforts to contest Anglo's influence in steel-consuming engineering industries and promote Afrikaner private ownership in the sector, Iscor established an investment company, Metkor, in 1969 which in turn established holdings in a range of engineering companies (Cross 1994).

However, Verwoerd's successor, Vorster rejected the "Hoek Report's" proposals to curtail Anglo's role in the economy for three apparent reasons. First, Anglo's 1966 sale of a controlling share in its General Mining and Finance Corporation to Sanlam subsidiary, Federale Mynbou reflected a deeply conciliatory gesture to discontented Afrikaner capital (Cross 1994; Feinstein 2005). Anglo and Federale Mynbou's industrial subsidiary Mainstraat Beleggings subsequently established cross-holdings in each other's steel and engineering businesses. Second, the apartheid state's need for Anglo to support its ambitions for defence investment through Armscor, established in 1967 to counteract international sanctions on arms sales to South Africa (McCarthy 1999). Third, the need to secure national control over South African engineering subsidiaries of the British Steel Corporation (BSC) after the incoming Labour Government renationalised it in 1967. Anglo was a major shareholder in a number of these subsidiaries. Thus rather than conflict a "collusive alliance" (Cross 1994 p. 96) prevailed, with a joint venture – International Pipes and Steel Investment South Africa (IPSA) – established between Anglo and Iscor (via Metkor) to take over BSC's South African subsidiaries "which in turn controlled roughly 60 other companies" (Cross 1994 p. 94) representing many of the country's major steel-consuming engineering companies.

The rise of Afrikaner capital and its role in steel and engineering

A consolidation of Afrikaner capital and its increasing interdependence with English capital was forged from the 1950s onwards. The state promoted Afrikaner financial capital inter alia by placing virtually all state financing with Afrikaner private financial institutions with three large groups, in particular, emerging over the post-war period: Volkskas, Sanlam and Rembrandt. Escom's large-scale investment in new plants was used to bolster Afrikaner mining capital. Sanlam subsidiary, Federale Mynbou, was a primary beneficiary of access to rail capacity, export licences and coal contracts to supply the new power stations. Federale Mynbou subsequently gave rise to Gencor, one of the largest conglomerate groups by the end of apartheid (O'Meara 1983). Until the 1980s Afrikaner interests were represented chiefly by Iscor in the steel sector and in engineering through its Metkor subsidiary. Post-war expansions were undertaken in 1953 and at Vanderbijlpark between 1964 and 1968 (South African Iron and Steel Institute n.d.). These overlapped with the establishment and expansion of a range of other SOEs including Sasol (petrochemicals) and Foskor (phosphates), both established in 1951 (Clark 1994).

In 1980 Rembrandt acquired a 25% interest in Metkor and 10% of steel trader Stewart & Lloyds. Metkor had stakes in a number of engineering subsidiaries, in addition to the IPSA joint venture with Anglo. By far the largest company within the Metkor group was engineering giant Dorbyl. Others included Wispeco, an aluminium extruder, and Air Products, an industrial and speciality gas supplier. By 1984 Rembrandt held 50% of Metkor, effectively stepping into Iscor's shoes as shareholder (Metkor various years; Rembrandt various years). From Rembrandt's perspective, its engineering holdings were never a significant part of its overall income and profit. Between 1982 and 1987 engineering accounted for between 2.6 and 4.3% of capital employed and only 2.9 and 3.0% of its sources of net income (Rembrandt various years). Conversely, however, Rembrandt's interests in engineering represented a large proportion of South Africa's engineering capacity, particularly its control of the largest engineering group in South Africa's history: Dorbyl.

Dorbyl was the leading provider of heavy engineering services for installation and maintenance of equipment for mining, electricity and heavy industry over the 1970s and 1980s. However, it also branched out into areas including rail rolling stock, buses, marine and automotive components. The peak and decline in fixed investment in large resource-processing mega-projects from the early 1980s thus presented a fundamental challenge for Dorbyl. From1985 it acquired a number of competitors aimed at insulating itself from the effects of declining demand and diversifying from heavy to light engineering (Rustomjee 1993). The abrupt decline in fixed capital investment expenditure over the 1980s, in the absence of any coherent national strategy for reorienting the heavy engineering capabilities that had been built, saw considerable rationalisation and refocusing of the sector in the face of contracting domestic demand. Capabilities and skills were lost with the brunt of this restructuring felt by labour. Dorbyl's employment fell from 25,000 in 1985 to 23,200 in 1989 and in turn 15,500 by 1992 (Dorbyl various years; Rustomjee 1993).

3. The post-apartheid economy: interests, ideas, ideology and institutions

From the late 1980s the dominant conglomerate groups sought to shape a post-apartheid political settlement that would secure as unrestricted restructuring of capital as possible in order to restore profitability (Marais 2011; Morris 1991; O'Meara 1996). Led by Anglo and Rembrandt the 50 largest business groups, collectively through the South Africa Foundation and individually, engaged in intensive and multi-faceted efforts to influence the direction of post-apartheid economic policy. They cultivated relationships with key African National Congress (ANC) political leaders and economic policy staff. Derek Keys, the most influential economic minister of the last apartheid administration, drawn from the ranks of the Gencor conglomerate, formalised engagements with ANC economic policy staff through a National Economic Forum (Godsell 2016; O'Malley n.d.; Spicer 2016).

The negotiated 1993 constitution entrenched key conglomerates demands including protection of property rights and an independent central bank with a primary mandate to "protect the internal and external value of the rand". The South Africa Foundation *Growth for All* (South African Foundation 1996) manifesto called for more decisive reforms: removal of exchange controls, tight inflation and fiscal control and labour market and trade liberalisation. Fixed investment would rise and be most efficiently allocated through deepening of Anglo-American style capital markets to attract institutional, particularly foreign, investors not state direction. As reflected by lead Anglo lobbyist and author of Growth For All:

> "Leading businesses invested heavily in influencing the transition because they believed it was necessary for their short, medium and long term interests."
>
> (Spicer 2016)

In parallel an increasingly canonical paradigm solidified in scholarship that apartheid industrialisation faltered due to a multiplicity of product and factor market distortions, compounded by the legacy of inadequate skills development of black workers (Lipton 1986; Holden 1992; Nattrass 1989,1996; Fallon and de Silva 1994; Moritz 1994). This market distortions paradigm was supplemented by and overlapped with deeply ideological assertions notably from the NP government's Central Economic Advisory Services (1993) and the International Monetary Fund (Ref) asserting that restrictive macroeconomic policies and sweeping liberalisation of factor and product markets would catalyse an ill-defined "business confidence" that would in turn stimulate fixed investment (Marais 2011; Weeks 1999).

An alternate, but ultimately far less influential, analysis argued that South Africa industrialised via a capital intensive "Mineral-Energy-Complex" amalgam of private conglomerates and SOEs (Fine & Rustomjee 1996; Macroeconomic Research Group 1993). No coherent strategy of ISI had been mobilised under apartheid and stalled industrialisation reflected a failure to develop linkages out of heavy industry into more labour-intensive and value-adding industries. From a Keynesian/Structuralist perspective public investment was required to 'crowd in' rather than 'crowd out' private investment. Coherent strategies for industry and conglomerate reorientation was needed, rather than blanket trade liberalisation. Capital controls were needed for external stability and to prevent capital flight. South Africa should foster a stable and motivated, rather than lowly paid, workforce (Macroeconomic Research Group 1993; Standing et al. 1996).

The "non-negotiable" adoption by government of the Growth Employment and Redistribution (GEAR) policy (Department of Finance 1996) reflected the confluence of interests, scholarship and ideology. GEAR envisaged that a boom in private foreign direct investment, small and medium black-owned firms and manufacturing employment would be set in motion through animating "investor confidence" chiefly via contractionary budget and inflation control, removal of capital controls, deep unilateral trade liberalisation, labour market deregulation and privatisation. Particular faith was placed in the ability of these policy reforms to attract foreign direct investment (FDI) in manufacturing and the uncritical assumption that FDI, regardless of form, would raise net fixed capital formation and transfer technology, managerial 'best practice' and skills. Despite its failure to raise fixed investment or generate the projected 600,000 jobs over the remainder of the 1990s GEAR has fundamentally shaped post-apartheid economic policies and institutions, even as they have shifted in response to economic and political crises. Private investment only began rising from the early 2000s, chiefly in non-tradable sectors, fuelled by the confluence of a global commodity boom, rising public investment and a credit-fuelled consumption boom (Ref).

The conglomerate groups recognised that adoption of policies favouring relatively unfettered capital restructuring required legitimation and mobilised two mechanisms or bargains. First, drawing consciously on Anglo's symbolic sale of General Mining to Afrikaner capital in 1965, they initiated the practice of black economic empowerment (BEE), with its emphasis on ownership transfers to influential individuals, to secure buy-in for orthodox reforms, particularly capital account liberalisation. BEE as a legitimation mechanisms was prefigured by Derek Keys in an interview with a journalist in 1992:

> "As I say, you will have to come to an accommodation with the black elite and you have to keep the black proletariat or, if you like, the uncoloured proletariat, quiescent. It's what you have to do."
>
> (O'Malley n.d.)

Second, they argued that capital allocation decisions should not be informed by the strategic objectives of the state, but would best be attracted and allocated to its most efficient uses through the deepening of Anglo-American style capital markets for "corporate control" to unlock shareholder value (Malherbe & Segal 2001; South African Foundation 1996). Policies and institutional arrangements including monetary policy, capital account liberalisation, enablement of offshore listings, financial market regulation and corporate governance were reoriented towards the attraction of short term foreign and domestic capital flows and empowerment of institutional investors providing such flows (Mohamed 2010). Whereas previously the conglomerates had defended a corporate structure characterised by pyramid control structures and interlocking shareholdings and directorships, they embraced the shift to a governance structure that placed institutional investors at its apex rather than the indicative planning of the state. This set in motion rapid and fundamental corporate restructuring.

> "By the late 1980s, many of South Africa's corporations were bloated, unfocused and run by entrenched and complacent managers … In 2001, little of that comfortable, introverted world remains … Corporate structure has changed irrevocably. Along with the demise of the mining finance house, two of its widely imitated characteristics - diversified holdings and the entrenchment of control through pyramid structures - have fallen from favour. Conglomerates have been unbundled, and elaborate control structures dismantled."
>
> (Malherbe & Segal 2001)

Brian Kantor, Chief Economist of financial services firm Investec which was amongst those that shifted their primary listing to London in the late 1990s reflects the link between these two bargains:

> "This development, loosely called 'black empowerment', has clearly helped to legitimize the established financial structure for the new South Africa."
>
> (Kantor 1998)

As reflected in the restructuring of the steel and engineering sectors, these strategies have had profound consequences. First, they did indeed allow for largely unfettered restructuring to facilitate both domestic profitability and offshore outlfows of capital in the short to medium term. Second, increased internationalisaiton facilitated foreign direct investment which, in the carbon steel sector, has been destructive rather than benign. Third, restructuring in engineering destroyed industrial capabilities in two leading engineering firms with substantial international competitiveness and foreclosed the restructuring of South Africa's largest engineering group. Fourth, conglomerates have not anticipated the longer term consequences which include the destruction of Anglo at the hands of shareholder value movement and that BEE once set in motion has taken on a form no longer within their control and in the mining sector has been deeply detrimental to their interests. More broadly the failure to generate fixed investment has weakened the legitimacy of both established corporate sector and the governing party.

4. From Iscor to ArcelorMittal

The privatisation of Iscor

Iscor management had been campaigning for its privatisation since 1979, when its state owned petro-chemical counterpart Sasol was privatised. A long standing source of managerial frustration, steel pricing regulations through the Price Control Act (1964), was removed in 1985. In 1986 the state took over the bulk of Iscor's largest debt, by the Sishen-Saldanha railway expansion. Leading up to privatisation management boosted Iscor's apparent profitability by abandoning its longstanding provision for asset replacement and awarded themselves 16 million shares at R2 a share, around 1% of Iscor's 1990 prevailing share price. Further highly concessional share options were issued over subsequent years (Iscor various years, 1989). Despite weak global steel prices, Iscor was financially sustainable and moderately profitable, at the time of its privatisation.

Iscor's privatisation effectively converted a public monopoly, producing the bulk of the country's flat steel products and with dominance in long products, into a private monopoly in the absence of a regulatory regime to discipline its pricing power or a strategy for the downstream development of steel-consuming engineering sectors. It shifted to fully exerting its domestic pricing power by through the practice of import parity pricing, to the long-term detriment of downstream engineering sectors (Joffe et al. 1995; R. Roberts 2008; S. Roberts & Rustomjee 2010; S. Roberts & Zalk 2004).

Despite fully exerting its pricing power and slashing its workforce from 58,000 in 1989 to 27,700 by 2000, post-privatisation efficiencies deteriorated. An ex-post assessment by Iscor itself in 2000 reflects that job reduction was its only strategy for raising efficiencies (Iscor 2001). Profitability declined dramatically between 1989 and 1993. Fewer than 40% of deliveries were met on time in the mid-1990s and as much as 15% of deliveries rejected on quality grounds (Industrial Development Corporation 2000). Major downstream customers were adversely effected by a rapid deterioration in Iscor steel quality and service including Boart and Dorbyl (Anonymous 2014; Wood 2014).

However, as part of management's hubristic ambition to catapult itself into the global big league of steel producers, and despite low global steel prices and declining post-privatisation efficiencies and profitability, Iscor embarked on a massive expansion to build a new integrated plant at Saldanha, which came into production in 1996. This expansion reflected of a broader contradiction between the SAF call for fiscal austerity and reversal of alleged crowding out of private by public capital and the de facto public support for a slew of mega-project expansions secured by private business groups over the 1990s. As with other mega-projects the Saldanha plantwas the beneficiary of generous tax allowances and extensive IDC co-financing. The project also did not contribute to greater competition in the domestic steel market. Nominal obligations to sell the output of Saldanha into the domestic market at export prices, thus potentially undercutting prices of Iscor's existing flat steel products, was avoided by channeling its output to a co-located cold rolling plant established by Duferco (also with IDC co-financing) that was conractually bound to export all its output. However, as time and cost over-runs mounted with the erection of the Saldanha plant, rather than catapulting Iscor into the global big league, it increasingly became an albatross around Iscor's neck.

Iscor's unbundling and shift to foreign control

A new strategy was thus conceived by Iscor management to extricate itself, and major shareholder the IDC, from its financial and technical difficulties: to "unlock shareholder value" through unbundling its mining and steel-making operations in 2001 and introducing a foreign strategic equity partner into the steel business (Industrial Development Corporation 2002; Iscor 2001). Unbundling of its mining operations, particularly its Sishen iron-ore mine, became an increasingly attractive proposition as the demand generated by rapid Chinese industrialisation drove up global iron ore prices. As discussed below Anglo American, in the process of reorienting itself under shareholder pressure on the London Stock Exchange (LSE) to focus on its "core business" of mining, acquired Iscor's mining operations upon unbundling. This new mining company was named Kumba Resources and itself was unbundled in 2006 with Anglo retaining Kumba Iron Ore (KIO) and Kumba Resources and other minerals spun off and merged with Eyesizwe Coal to form Exxaro. Notably the former head of Iscor's mining division Constantinus "Con" Fauconier, became the first CEO of Kumba Resources under Anglo ownership (Anglo American various years; ArcelorMittal South Africa various years).

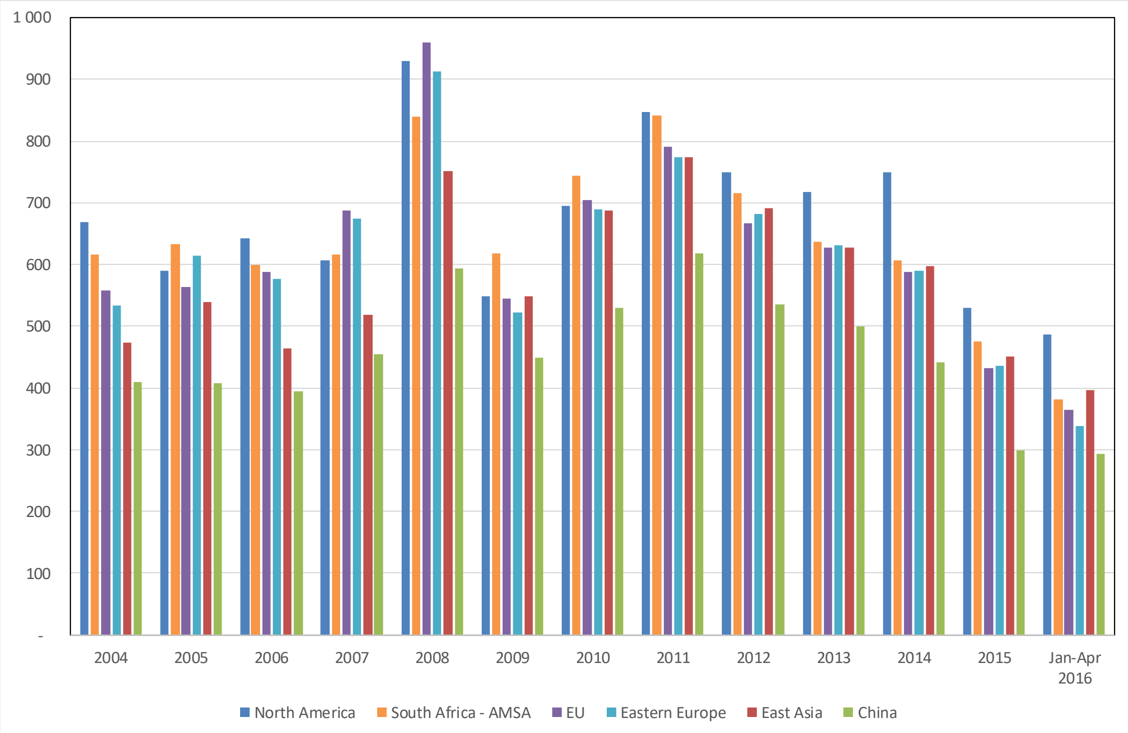
Then Minister of Trade and Industry, Alec Erwin, approved the unbundling subject to minimalist conditions. First that Iscor would take over IDC's 50% share in it. Second that Iscor retain access to low cost iron-ore supply from Sishen to support a competitive steel industry, albeit with no tangible mechanism for passing the benefits of this arrangement on to downstream steel-consuming engineering sectors. Isco'rs security of iron ore supply was embodied in a 25 year supply agreement between Kumba Iron Ore (KIO) and Iscor with KIO obliged to supply Iscor with the bulk of its iron ore requirements: 6.25mtpa on cost-plus 3% terms (Zondo 2011).

The introduction of LNM (ArcelorMittal's precursor) as a shareholder in Iscor in 2001 was reflective of the uncritical faith in the putative benefits assumed to flow virtually automatically from foreign direct investment by Growth for All and GEAR. LNM committed to invest at least $75m via a business assistance agreement (BAA) in terms of which it committed to reduce Iscor's operating costs by R700m over three years redeemable through the issue of up to 10% of Iscor's shares. By 2004 LNM had raised its stake in Iscor to 47% and sought majority shareholding by exercising its option to acquire the 10% of shares arising from the BAA. The Competition Tribunal approved the merger, reflecting the limited powers embodied in the Competition Act to deal with pre-existing market structures, on the grounds that Iscor's position was already so dominant the merger could hardly result in a "lessening of competition" (Competition Tribunal 2004: 6) and a vague commitment by LNM to negotiate with the Department of Trade and Industry a "developmental steel pricing" model. However, no agreement could be reached on a pricing that differed materially from import parity levels (Department of Trade and Industry 2010; S. Roberts & Rustomjee 2010; Zalk 2013).

The implications of the shift to foreign majority ownership of South Africa's largest steel company needs to be placed in international perspective. The Mittal group emerged over the 1990s through a strategy of acquisition of recently privatised plants in developing and transition economies (ArcelorMittal various years; Mathews 2002). By 2005 it had become the second largest steel group in the world and in 2006 Mittal Steel launched a successful hostile bid for its next biggest rival Europe's largest steel producer:Arcelor. ArcelorMittal hostile acquisition of Arcelor to became the largest steel group in the world was heavily debt financed. Shareholders and lenders were happy to extend finance in the context of a global commodity boom that had commenced from around 2001. The merger left ArcelorMittal having both to meet shareholder share price and dividend expectations and to service the massive debt. A bifurcated strategy is evident for dealing with this challenge. ArcelorMittal's developing and transition country plants were treated as cash cows, with minimum investments made and maximum cash extraction. Its more modern North American and European plants required investment however, not least due to competition with aluminium as the pre-eminent material for automotives increasingly stringent emissions limits in the United States and the European Union introduce pressure to develop lighter and stronger metals to lower vehicle weight without compromising safety (Wright 2014). Thus ten of ArcelorMittal's R&D laboratories are located in Western Europe and North America (one is in the Czech Republic) with 55% of R&D expenditure on automotive steel. Simply put ArcelorMittal's strategy with respect to South Africa has been to invest as little as possible and extract as much cash as possible.

Figure 1 reflects how ArcelorMittal South Africa (AMSA) has exerted its dominant position. Domestic hot rolled coil steel prices prices have consistently been in the highest quartile of global steel prices. This is despite the historic legacy of public support including cheap electricity, tax incentives, concessional IDC funding and a cost-plus iron ore supply contract with KIO that placed it, until 2009, in the lowest quartile of the global cost curve.

Figure 1: Domestic steel transaction prices: hot rolled coil (US$ per tonne), 2004 – April 2016



Source: Author's calculations based on ArcelorMittal South Africa (AMSA), CRU and MEPS (International) in (DTI Steel Pricing database n.d.)

In sharp contrast to the benign assumptions that a foreign equity partner would raise productivity, ArcelorMittal has left a legacy of underinvestment and rising inefficiencies. One of the first decisions after LNM took a shareholding in 2001 was to extend the costly but necessary schedule of relining blast furnaces every five-six years by at least two or more years (Iscor 2002: 43). Iscor's investment rate, measured as fixed assets to turnover, fell from over 14% in 2001 to under 5% in 2016. Since 2004, when ArcelorMittal became majority shareholder, multiple plant breakdowns and failures ensued (Table 1). Indeed in 2014 AMSA identified "catastrophic plant failure" as one of its top ten risks (ArcelorMittal South Africa 2014).

Table 1: AMSA plant breakdowns and failures, 2004-2013

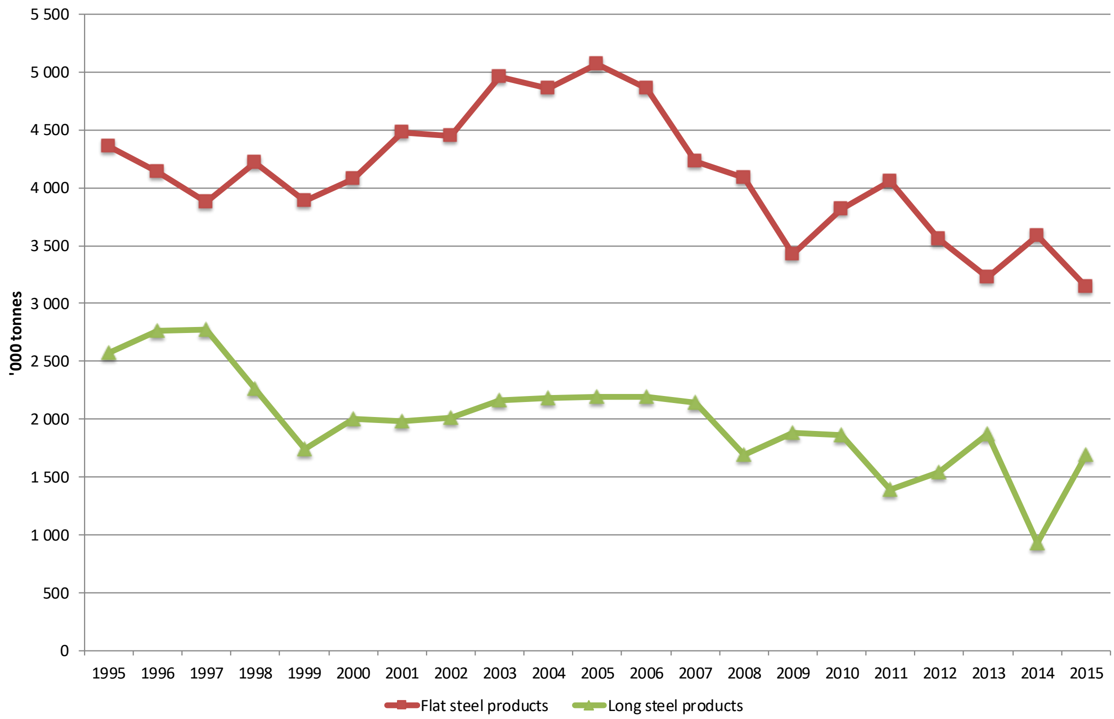
- 2004: Saldanha Conarc burn-through
- 2006: "Production disruptions" at both Vanderbijl (skip hoist failure and rail delivery problems) and Saldanha (oxygen and electricity outages).

- 2007: unstable conditions prevailed at the Saldanha Corex unit and conditions of the Newcastle N5 blast furnace deteriorated.
- 2009: "Cold hearth" conditions and a burn-through on an emergency tap-hole of the Saldanha Corex plant
- 2010: Newcastle cold furnace and shell burn-through
- 2011: "Catastrophic failure" of the Newcastle blast furnace dust catcher and "blast furnace instabilities" at Vanderbijl with "chilled hearth conditions" in two blast furnaces.
- 2013: Fire broke out at Vanderbijl due to the failure of a controller unit, resulting in spillage of molten steel.

Source: ArcelorMittal South Africa (various years)

Whereas economies of scale are fundamental to capital-intensive industries such as steel, AMSA's shareholding and ultimate control has been associated with a net reduction in steel production. Production volumes of flat steel and long steel products fell by 28% and 6% respectively between 2001 and 2013 (Figure 2). Cheap iron ore and high international steel prices between 2001 and 2008 served to mask rising inefficiencies and dramatic escalations in AMSA's production costs. Cash costs per tonne for hot rolled coil (the benchmark flat product) and billet (the benchmark long product) grew by 74% and 142% respectively between 2001 and 2007 (ArcelorMittal various years; Iscor various years; Mittal Steel South Africa various years). Rising electricity prices compounded but were not the primary cause of rising production costs.

Figure 2: Iscor/AMSA production flat and long products ('000 tonnes), 1995–2015



Source: Author's calculations based on Iscor (various years), Mittal Steel South Africa (various years), ArcelorMittal South Africa (various years)

In concert with the exertion of monopolistic pricing, rising inefficiencies and plant failures capital has flowed out of AMSA through various mechanisms (Table 2). A cumulative R12.3bn was paid out in dividends between 2003 and 2011 when losses set in. In 2009 ArcelorMittal initiated a massive *capital reduction*, extracting R6.35bn from its South African operations despite large maintenance and upgrading backlogs. R1.3bn was paid to the parent company in 2003 and 2004 in terms of the Business Assistance Agreement, in addition to the 10% of equity in kind. Remarkably, from 2008 AMSA introduced a new set of fees remitted to its global parent for "Corporate Services" and "Research and Development", netting R1.8bn. This is despite multiple plant failures, deteriorating efficiencies and the absence of any R&D engineers in South Africa. AMSA also extended R4.3bn of loans to its parent in 2014 and 2015. Furthermore, from 2005 purchases by AMSA from its parent escalated dramatically to a cumulative R36.7bn by 2015 with an associated scope for engagement in transfer pricing.

Table 2: Capital outflows from AMSA (Rm), 2001–2015

	Dividends	Capital Reduction	Business Assistance Agreement (BAA)	Corporate Service Fee	R&D Fee	Purchases from AM Group	Group Loan
2001	-						
2002	-						
2003	1 070		613				
2004	1 672		731				
2005	1 516					9	
2006	1 261					555	
2007	1 948			-		222	
2008	2 398			135	-	5 038	
2009	1 627	6 352		18	187	3 045	
2010	602			39	87	3 897	
2011	221			61	98	5 691	
2012	-			120	91	4 668	
2013	-			64	99	4 588	
2014	-			124	118	4 801	1000
2015	-			372	145	4 228	3268
Total	**12 315**	**6 352**	**1 344**	**933**	**825**	**36 742**	**4 268**

Source: Iscor (various years), Mittal Steel South Africa (various years), ArcelorMittal South Africa (various years)

The significance of the Sishen mineral rent battle

In 2009 a battle erupted over who should benefit from valuable mineral rents embodied in the concessional iron ore supply contract from KIO's Sishen mine to Iscor upon the latter's unbundling in 2001. The shift from black economic empowerment as a conglomerate legitimation mechanism to a cornerstone of government policy found forceful expression inter alia in the Mineral and Petroleum Resources Development Act of 2002 (MPRDA) that required mining companies to reregister mining rights subject to meeting black ownership targets of 15% by 2009 and 26% by 2014. When AMSA management failed to register the Sishen iron ore supply arrangement as a mining right, Anglo-owned Kumba Iron Ore (KIO) seized the opportunity to rid itself of the contract as global iron ore prices soared, by registering its right over the entirety of Sishen's output. However, a previously unheard of third party Imperial Crown Trading (ICT) with no prior mining experience also applied for and was granted the mining, under controversial circumstances, justified on the grounds of advancing black ownership in the mining sector (Southall 2011). It transpired that ICT is a subsidiary of Oakbay Investments, controlled by the expatriate Indian Gupta family with controversial links to President Zuma, his family and associates (Faull 2013). Subsequent revelations indicate that the Gupta family and their subsidiary companies have been at the heart of a process of grand corruption dubbed "State Capture" over much of the Zuma administration (Bhorat et al. 2017). The DTI engaged with DMR arguing that it should use its licencing discretion to seek to ameliorate the long-standing practice of monopolistic import parity pricing of steel by linking the Sishen mining right to a "developmental" steel price for downstream manufacturers. However, DMR resolutely sought to uphold its decision to award the mining right to ICT, until compelled by the Constitutional Court to award the right to KIO (Ref). Neither the transnationals, AMSA and Anglo, nor DMR were concerned with promoting structural transformation.

The battle over the Sishen iron ore rents is reflective of broader fault lines in South Africa's post-apartheid state-business relations and unintended consequences of conglomerate initiation of narrow BEE as a primary legitimation mechanism. Over the last decade of the Zuma administration the state and the mining sector have been locked in an unproductive standoff over proposed amendments to the MPRDA to raise levels of black ownership while mining investment has stagnated (Shivamba 2017).

5. Anglo-American: offshoring and unbundling of steel and engineering

Anglo American entered the 1990s as the largest of South Africa's conglomerate groups, accounting for 43.3% of the market capitalisation of the JSE in 1994 (Mcgregor's various years). Its interests straddled mining; ferrous metals; industry and commerce; and financial services and property. As it sought to redefine its post-apartheid form in relation to both the state and institutional investors, it began a process of fundamental restructuring and unbundling.

Bargaining with BEE and institutional investors

Modelled consciously on its symbolic sale of General Mining to Afrikaner capital in 1964, Anglo in 1996 sold JCI subsidiary Johnnic, comprising its industrial and media interests to a National Empowerment Consortium headed by then trade union leader and now President Cyril Ramaphosa (Cargill 2010). Various mining assets were sold to the African Mining Group headed by former political prisoner Mzi Khumalo. Despite widespread recognition that the latter was a controversial failure, Anglo continues to celebrate the JCI unbundling as "at the time, the biggest black empowerment deal in South African corporate history" (Anglo American n.d.). Disenchantment with the collapse of various highly leveraged BEE deals after the 1998 Asian financial crisis in turn generated intense pressure for the ultimate entrenchment of BEE in policy, legislation and regulation (Cargill 2010; Chabane et al. 2006). As sketched above, this has in turn exerted a profound and ultimately negative influence on the mining companies in general, including Anglo's South African operations.

Anglo's successfully secured state approval to list on the London Stock Exchange (LSE) in 1999 with no conditions attached, merging with offshore sibling Minorco (Godsell 2016; Goldstein 2010). A slew of offshore listings at the time were justified on the grounds that they would allow cheaper raising of capital inter alia to increase fixed investment in South Africa (Walters & Prinsloo 2002). Anglo's listing on the LSE placed it under substantial pressure from institutional investors to close the discount at which its shares were estimated to trade relative to mining peers such as Rio Tinto and BHP Billiton. Anglo commited to unwind the pyramid ownership structure through which the Oppenheimer family controlled Anglo and De Beers, remove complex cross-holdings, focus Anglo on its "core" mining business and dispose of its "non-core" businesses (Chabane et al. 2006; Goldstein 2010).

Meanwhile contradictions between Anglo's advocacy of orthodox reforms including the discouragement of public investment and trade liberalisation began to manifest themselves with respect to industrial subsidiary AMIC. These contradictions were particularly apparent in AMIC's steel and engineering operations. AMIC argued vociferously that the measures proposed in the conglomerates' Growth for All (South Africa Foundation 1996) manifesto should urgently be implemented to establish "an investor-friendly environment" (Anglo American Industrial Corporation 1995: 10). The fiscal deficit should be contained but the corporate tax rate should be lowered, especially for capital intensive projects (Anglo American Industrial Corporation 1995). Fiscal discipline should prevail with respect to social spending on housing, education and health yet "it is expected that the Reconstruction and Development Programme will have a positive impact" (Anglo American Industrial Corporation 1995 p. 22). AMIC supported trade liberalisation but found it "inexplicable that the government volunteered concessions on tariffs agreed at GATT without obtaining improved access to foreign markets in return" (Anglo American Industrial Corporation 1995 p. 12). Anglo and AMIC had been supportive of changes to legislation which brought greater stability to labour relations through the legalisation of black trade unions and expressed broad satisfaction with the emerging post-apartheid labour relations legislative framework: "[t]he draft Labour Relations Bill that has recently been published satisfactorily addresses a number of employers' concerns in regard to the existing legislation" (Anglo American Industrial Corporation 1995 p. 10). However, AMIC simultaneously supported the Growth for All line on the need for deregulation to establish a two-tier labour market.

Reflective of the confluence of low public investment, trade liberalisation, the absence of a national strategy to reorient the engineering sector and tepid international steel prices income derived from AMIC's Iron, steel and engineering businesses halved and its net profit margin declined from 12.3% in 1988 to 4.1% in 1997 (Anglo American Industrial Corporation various years). Furthermore AMIC had failed over the 1980s and early 1990s to develop any significant diversified manufacturing operations outside of heavy industry, despite a number of attempts to do so including joint ventures with foreign OEMs and new domestic businesses ranging from car alarms to syringes (Anglo American Industrial Corporation various years; Wood 2014). Its annual reports provide little indication that the failure to develop diversified manufacturing businesses was primarily related to labour costs. Rather its primary problem was its inability to compensate for weak domestic demand by developing exports outside heavy industry (Anglo American Industrial Corporation various years). Colin Wood, former deputy chairman of AMIC, and chairman of construction subsidiaries LTA and Boart Longyear attributes AMIC's failure to diversify and develop new industrial lines of business chiefly to the poor quality of management appointed to AMIC. In contrast to Anglo's mining businesses which "ran on a highly professional basis" senior positions within AMIC were often sinecures for those with personal connections to Anglo chairman Harry Oppenheimer (Wood 2014). In 1998 AMIC was reabsorbed into Anglo which disposed of a range of “non-core” businesses including automotive assembly and distribution, and chemicals business AECI by 2001. As mentioned above, 2003 Anglo acquired the majority stake in Kumba Resources in 2003, Iscor’s erstwhile mining division separated in the 2001 unbundling.

Whereas for some time Anglo retained its metals-based businesses, increasing shareholder pressure compelled it in 2005 to commit to becoming a “more focused mining Group” while simultaneously returning “surplus capital to shareholders” through share buybacks and special dividends (Anglo American 2005a).

The unbundling and destruction of Highveld

In 2002 Anglo initiated the unbundling its steel assets comprising Highveld Steel, Scaw Metals, and Columbus Stainless Steel (owned jointly with Samancor). By 2005, 76% of Columbus had been sold to the Spanish Acerinox group, with the Industrial Development Corporation holding the remaining 24%. Chrome and manganese producer Samancor, itself a joint venture between Anglo and BHP Billiton (the successor to Billiton), was split into Samancor Chrome and Samancor Manganese. (Anglo American 2005a; Visser 2006; South African Iron and Steel Institute n.d.).

Anglo sold 80.9% of Highveld over 2006 and 2007 to Russian conglomerate Evraz (South African Iron and Steel Institute n.d.) which had also been engaged in process debt funded steel acquisitions over the commodity supercyle. By 2011 its level of debt to equity was approximately double that of ArcelorMittal’s in 2011 at close to 120% (Ernst & Young 2013) with an associated imperative to extract as much cash as possible from Highveld, particularly as steel prices fell after the 2008 financial crisis.

As with AMSA, foreign acquisition of Highveld by Evraz, has been associated with declining investment. Its investment rate, the ratio of acquisition of fixed assets to turnover, slumped from 11.4% in 2006 to 2.8% in 2013 (Mcgregor's various years) amid mounting production problems and growing inefficiencies. Despite this Highveld paid out a large proportion of profits, in years in which it was profitable, in the form of dividends. From 2010 Evraz became loss-making and was ultimately placed in business rescue in 2015. Similarly to AMSA, Highveld Evraz reports a significant level of related party transactions with other companies in the global Evraz group, reflecting the potential for transfer pricing (Refs).

However, foreign ownership has not inevitably resulted in the running down of pre-existing steel assets. In contrast to developments with both AMSA and Highveld Evraz, Columbus stainless steel under Acerinox ownership has remained financially sustainable (Ref).

"Bringing value to Scaw"

Under Anglo ownership since 1964 Scaw developed significant engineering capabilities, albeit largely strongly linked to three domestic markets: mining, rail and construction. Reflective of broader patterns of conglomerate consolidation to shore up profitability in an overall weak economy, over the 1980s and early 1990s Scaw acquired a range of competitors including leading wire rope producer Haggie and a number of foundries. Demand for wire rope and cast products were adversely affected over the late late 1980s and early 1990s by the accelerated decline of gold mining investment and the collapse of public investment in rail infrastructure and limited success in developing export markets for these products (Hanneman 2014b, 2014a).

However, Scaw was able to develop internationally competitive capabilities in grinding media, used to crush mineral ores, based on technology supplied by Belgian foundry group Magotteaux. From the mid-1990s to the mid-2000s Scaw engaged in a substantial programme of internationalisation of its grinding media business, in North and South America. In 1996 it acquire Chilean company Proacer (in a joint venture with Magotteaux) and US Moly-Cop in 2003. Scaw's grinding media business proved extremely profitable, fuelled by the growth of the copper mining industry in Chile and Peru. Scaw constructed a second grinding media plant in Chile and invested significantly in raising capacity in Peru and Mexico. In 2006 it acquired Canadian AltaSteel which held the 50% of Moly-Cop Canada that it did not already own. In parallel Scaw expanded its South African grinding media operations, opening its second high chromium grinding media line in 1994 and its third in 2003 supported in particular by the buoyancy of platinum mining in South Africa and copper mining in Zambia.

Scaw's success in grinding media was more a product of the benign neglect of its Anglo parent than any active strategy. By the early 2000s Scaw contemplated a possible acquisition of its long-term technology provider Magotteaux. However Magotteaux rejected the offer, apparently due less to any commercial considerations than the abrasiveness of the senior Anglo and Scaw executives involved in the approach who formed part of an "old boys club" involving a close relationship between Anglo CEO Tony Trahar, Tony Harris (Scaw CEO and Executive Chairman from 1996 until 2008) and founder Graham Boustred (who had risen to Deputy Chairman of Anglo and Chairman of AMIC Chair) (Hanneman 2014b). Prior to its "corporatisation" by Anglo in 2007 Scaw was profitable and had low levels of debt, in the words of CEO Markus Hannemann's "cash-flush" and "stood on its own feet" (Hannemann 2014b).

In 2007 Anglo initiated a process of "corporatising" and "bringing value to Scaw", raising and appropriating the proceeds of an initial loan of R3.3bn against Scaw's assets. This in part had the effect of lowering Scaw's net asset value to R5.3bn to facilitate a debt-based Black Economic Empowerment deal placing 26% of Scaw's ownership with a consortium of BEE investment holding companies. The introduction of this BEE stake was inter alia meant to "to support Scaw SA's ambition to position itself … [as] … significant suppliers into South Africa's R400-billion-plus public-infrastructure investment plan" (Creamer 2007). By the end of 2007 R5.3bn in loans raised against Scaw's assets flowed to Anglo, leaving Scaw to service the debt (Hannemann 2014b).

In 2009 Anglo publically announced its intention to dispose of Scaw with the process taking three years. Ultimately it is estimated Anglo indebted Scaw's South African operations by around R6.3bn. In 2011 Anglo separately sold off Moly-Cop, embodying most of Scaw's international grinding media interests, for $1bn to OneSteel Canada. Leading up this sale Scaw was the world's leading grinding media producer, accounting for around 885,000 tonnes or 42% of the world market share for grinding media (Hannemann 2014b).

As the three-year unbundling unfolded Scaw was adversely effected by declining mining demand as commodity fell after the global financial crisis and the decline in domestic infrastructure investment expenditure after 2010. Scaw found it increasingly difficult to service the debt that Anglo had saddled it with. In a "gun-to-the-head" transaction the Industrial Development Corporation bought out Anglo's stake in Scaw for R3.5bn amidst to attempt to avert the loss of Scaw's industrial capabilities and jobs. It is estimated that Anglo's process of "bringing value to Scaw" culminated in the extraction of an estimated R17.1bn or $2.23bn from Scaw to Anglo (Table 3).

Table 3: Total value extracted by Anglo American in its process of "bringing value to Scaw" (Rm)

	Rm	**$**
Debt placed on Scaw's balance sheet by Anglo (2007-2009)	R6.3bn	$0.8bn
Sale of Moly-Cop (2011)	R7.3bn	$1bn
Sale of Scaw SA to IDC (2012)	R3.5bn	$0.43bn
Total	**R17.1bn**	**$2.23bn**

Sources: Author's calculations based on Hannemann (2014), Creamer (2007)
Note: Transaction prices converted at average annual R/$ exchange rates from South African Reserve Bank

Upon the conclusion of Scaw's divestiture Anglo CEO Cynthia Carroll stated:

> The sale of Scaw brings the total announced proceeds from our divestments of non-core assets to $3.7 billion since 2010, maximising value from these businesses for our shareholders. I am particularly pleased that the manner in which we conducted this divestment reinforces our ongoing commitment to South Africa. This acquisition will contribute positively to the South African government's industrial development objectives by enabling the IDC to play a meaningful role in the strategically important steel industry.
>
> (Anglo American 2012)

Subsequent developments with MolyCop and Scaw's long-term Belgian technology partner Magotteaux, provide an indication of a possible alternative trajectory for Scaw and the opportunities missed. In 2011 Magotteaux was sold Chilean industrial group, Sigdo Koppers which now owns Proacer (Scaw and Magotteaux's erstwhile Chilean joint venture) (Magotteaux 2011). In 2012 MolyCop, formerly Scaw's international subsidiary, had become the world's largest grinding media group by sales volumes. Thus, Anglo's process of "bringing value to Scaw" dismantled a world leading South African grinding media producer.

Boart's restructuring and disposal

Boart International (Boart) entered the 1990s as an exception to Anglo's and AMIC's general inability to develop manufacturing exports outside of capital-intensive resource-processing industries. By the early 1990s Boart's produced percussion drilling for mining and construction; exploration drilling and geotechnical equipment; safety products and materials handling; and industrial diamond and carbide tools (Howard 1996; Rustomjee 1993). Boart employed around 10,000 people and was a consistently profitable contributor to AMIC earnings, of which 67% was derived from exports and international subsidiaries (Anglo American Industrial Corporation 1990). However, this apparent success concealed long-standing technological weaknesses, not least the waning of its own research and development from as early as the 1950s in favour of a strategy of securing technology by acquiring competitors 1993).

Historically Boart's South African operations were both the largest and most profitable of the global group based on the production of handheld pneumatic rockdrills and bits, with a domestic market share of around 90% (Mining Magazine 1995). These were used to drill blast holes as part of the labour-intensive extraction techniques used in South Africa's thin vein gold mine deposits. A limited number of drills were exported to countries with similar thin-vein deposits as South Africa, mainly Canada and Peru, evading North American sanctions (Brunner 2014). However demand for rock drills collapsed in the early 1990's as gold mining employment plummeted from 530,000 in 1986 to less than 200,000 by 2000 (Feinstein 2005). Accordingly the contribution of Boart's South African operations to group profits fell from approximately 50% to 10% (Anglo American Industrial Corporation various years; Brunner 2014). Pressure was also brought to bear from domestic competitors who initially began to produce "knock off bits" in competition with Boart's own drill bits and then shifted to the production of competing drills (Brunner 2014; Wood 2014).

The decline in South African demand coincided with a longer-term technological shift from hand-held pneumatic drilling to more efficient automated hydraulic drilling. By the time Boart began, in the 1990s, to produce hydraulic drills and rigs it had fallen technologically far behind its global competitors Atlas Copco and Sandvik (Brunner 2014). Furthermore, quality control systems were poor and management made inadequate efforts to upgrade workforce skills. Severe problems with the quality of drill rods supplied by Iscor after its privatisation also contributed to a significant loss in market share in the mid-1990s (Wood 2014). Consequent consolidation saw Boart merge in 1994 with its longstanding United States contract drilling subsidiary to become Boart Longyear. In 1997 it established a joint venture in Wuxi, China to manufacture its drills and bits. Without any overall strategic guidance from Anglo Boart made multiple acquisitions over the 1990s but with little apparent strategic focus in terms of building up world or regional in specific market segments. Thus by the 2000s Boart had become globally fragmented with plants around the world were run "as a bunch of independent fiefdoms" (Brunner 2014). Notwithstanding these weaknesses it was a world leader in mineral exploration drill rigs, exploration drilling tools and contracting for sample extraction (Brunner 2014).

In 2000 Anglo announced its intention to dispose of Boart with some of its European facilities closed and absorbed into the South African plants. Anglo split and separately sold off Boart's South African and international operations. In line with Anglo's commitment to become a "more focused mining Group" and return "surplus capital to shareholders" Boart Longyear was sold in 2005 to an Advent/Bain private equity consortium, with a major subsidiary Wendt sold off separately. The combined sale netted

Anglo $667m (R4,243bn) (Anglo American 2005b). Boart Longyear's headquarters were moved to Salt Lake City in the United States with Advent/Bain selling a controlling interest to Australian bank Macquarie. In 2007 Macquarie took Boart Longyear public for A$2.3bn in the second largest initial public offering on the Australian Stock Exchange (Brunner 2014; Boart Longyear n.d.).

The South African pneumatic drill business was sold to BEE group Tranter. To make the sale more attractive Boart purchased Huddy, a domestic competitor, with the sole purpose of closing it down (Brunner 2014). Tranter subsequently went out of business (McGillivray 2015). Boart's diamond saw plant and the carbide businesses were sold to E6 Abrasives, a subsidiary of De Beers, located in Ireland. The hydraulic drilling and capital equipment business was sold off to consortium of investors and renamed Aard Mining Equipment (McGillivray 2015). Alone amongst the remnants of Boart, Aard has achieved rapid growth off a low base with 80% of its sales domestic and 20% are exports to markets such as Zambia, Zimbabwe, Canada and Poland (McGillivray 2015). However, Aard faces significant challenges in competition with large transnational OEMs like Sandvik and Atlas Copco. First, because of their scale and ability to finance and service their equipment. Second, because of the relative ease with which transnationals can establish black empowered import operations to satisfy the procurement requirements of the mining charter relative to domestic manufacturers (McGillivray 2015).

Thus Anglo's unbundling of Boart has involved the destruction of significant industrial capabilities, export markets and foreign exchange earnings and major lost opportunities. Anglo's severing of Boart's international operations from its South African ones and subsequent sale foreclosed the opportunity to retain and develop a global South African OEM in mining drilling, exploration and services.

The unbundling of Anglo's steel and engineering businesses overlapped with a massive share buyback programme between 2006 and 2009. Excluding normal and special dividends, Anglo transferred approximately $12.2bn or around R90.3bn (based on an annual average exchange rate of R/USD 7.4) to its shareholders through share repurchases (Thomas 2014). Yet even on its own narrow financial terms this represented a failure. Whereas Anglo set out in 1999 to eliminate the estimated 25% discount at which its shares traded to net asset value, by 2016 this discount had widened to 60% (Gapper 2016). In economic terms Anglo's offshore listing and immiserisation represent a massive loss of industrial capabilities and potential for the South African economy (Mohamed 2010). In the words of Bobby Godsell, former Anglo director and advocate of Anglo's corporate emigration from South Africa, Anglo's listing on the LSE saw it "mugged by the shareholder value maximisers" and "has been disastrous for Anglo and disastrous for South Africa" (Godsell 2016).

6. Rembrandt's transition to Remgro and the unbundling of engineering giant Dorbyl

Steering and navigating the transition: from Rembrandt to Remgro

Rembrandt was instrumental in influence the post-apartheid political settlement, not least as co-founder of the South Africa Foundation and as the second largest conglomerate at the demise of apartheid, after Anglo. Johann Rupert, son of founder Anton Rupert, initiated the 1988 separation of Rembrandt's South African and international interests through the establishment of Swiss-based tobacco and luxury goods group Compagnie Financière Richemont (Richemont), effectively placing Rembrandt's most profitable business: tobacco, beyond the reach of a new democratic government. In 2014 Richemont was the second largest luxury group in the world after Moët Hennessy Louis Vuitton (LVMH) (Chabane et al. 2006; Goldstein 2010; Zaczkiewicz & Zaczkiewicz 2015).

Rembrandt's 1999 name change to Remgro ushered in a fundamental restructuring reflecting a decisive shift towards a financial orientation which sought to balance increasing demands to "unlock shareholder value" with preservation of historical Rupert family control. Rembrandt collapsed its four tier pyramid structure into Remgro to became "a pure investment holding company" with no operational activities and 48% of its assets in banking and insurance by 2015 (Remgro 2015). Effectively a bargain was struck with institutional investors in which the Rupert family retained control of Remgro through 42.6% of voting rights, far higher than its shareholding, in exchange for the delivery of high levels of "shareholder value" to institutional investors. This bargain has involved, in addition to share price growth and payment of dividends, extensive use of the share repurchase mechanism. Thus Remgro has been the third largest repurchase of shares since the JSE enabled buybacks. Between 1999 and 2009 it paid out R30.9bn to shareholders comprising R19.7bn in dividends and 11.1bn in share buybacks (Wesson 2015).

Although Remgro's share of JSE stock market capitalisation has fallen significantly from its peak of 15.5% in 1993, in 2014 it accounted for close to 10% of the JSE, the largest single corporate group (Mcgregor's various years). Rembrandt and Remgro's post-apartheid restructuring is reflective of a broader trend of "unbundling and rebundling". South African business groups have shed businesses not deemed part of their core sectoral focus or unprofitable due inter alia to trade liberalisation, and consolidated ownership and control over sectors through which rents can be secured through market dominance. (Chabane et al. 2006; Zalk 2017).

Close to 50% of Remgro's assets have been built up in the oligopolistic financial sector of which it's Rand Merchant Bank Holdings (RMBH) is one of the "big four" groups. RMBH in turn holds interests in life (Momentum), short-term (Outsurance) and medical (Discovery) insurance and services (Remgro 2015). Whereas Rembrandt, as part of the South Africa Foundation, supported widespread trade liberalisation in manufacturing and agriculture Remgro retains interests in two agricultural sectors which have managed to secure significant trade protection. Food subsidiary RCL holds large stakes in poultry and sugar. RCL's Rainbow Chicken commands a high degree of horizontal market concentration and vertical integration along the poultry value chain, holding an approximate 46% share of the domestic poultry market (Ncube et al. 2016). Both RCL's poultry and sugar businesses have benefitted from significant import tariffs and other contingent protection mechanism such as anti-dumping duties. Wine and spirits producer Distell controls around 21% of the domestic spirits market in a joint venture with SABMiller, while Distell and KWV have a joint domestic market share in excess of 70% (Shand 2016). In tradable sectors in which Remgro has not been able to secure significant domestic or regional market dominance in the face of trade liberalisation, it has disposed of these holding, as with its engineering subsidiary Dorbyl.

Dorbyl's restructuring and disposal

Dorbyl, under Rembrandt control since 1984, was the largest engineering group in South Africa's history, employing over 25,000 people at its peak in the early 1980s. Dorbyl was built up with a strong focus on heavy engineering required for the expansion and maintenance of gold, platinum and coal mining; steel and other heavy industry; and electricity and rail infrastructure. The dramatic reduction, over the second half of the 1980s, of the number of these large and lumpy capital projects compelled Dorbyl to restructure from 1985 onwards in an effort to shift towards a greater light engineering focus, chiefly involving the acquisition of competitors (Dorbyl various years; Rustomjee 1993). Rembrandt's inability to effectively reorient Dorbyl from heavy to light engineering and develop export markets is reflected in the steep decline in its number of employees, from 23,371 in 1989 to 10,989 in 1994. These job losses were accompanied by a large-scale loss of skills and experience that could have been redeployed into other engineering sectors if a coherent industry strategy had been mobilised (Rustomjee 1993).

Leading up to South Africa's first democratic election Dorbyl, like Iscor and AMIC, initially expressed optimism that an increase in demand from the rollout of the RDP would materialise and began reorienting itself to serve requirements including water reticulation, housing and community construction, and freight and passenger rail (Dorbyl 1994) (Dorbyl 1994). In 1995 Rembrandt exercised its right to acquire Iscor's remaining 25.8% share in Dorbyl's holding company Metkor, taking Rembrandt's stake to 76%. This cemented Rembrandt and Anglo as the two major shareholders in Dorbyl. After an 18-month period during which it did not release an annual report a strategy for a "refocused Dorbyl" was announced involving a twin focus on the manufacturing and distribution of automotive components and "New Generation" infrastructure based on light and medium engineering linked to RDP requirements in areas such as water, electrification, housing and transport (Dorbyl 1996).

The period from 1995 to 2003 was characterised by a flurry of acquisitions and disposals, multiple strategic reviews, announcements of restructuring and assurances that restructuring had been completed. Hyperbolic claims about prospects for the future were belied by stagnant sales. In 1998 Dorbyl announced that it would supplement its manufacturing activities with increased import-based trading activities in two main market segments: automotive components and steel trading. It invested in a major automotive aftermarket spares retailer, Midas and indicated that its steel trading division, Baldwins would supplement domestic products with imports (Dorbyl 1998). Meanwhile low public expenditure on public transport and the lowering of tariffs on buses resulted in the closure of its Port Elizabeth Busaf works. Dorbyl's structural engineering unit was disposed of through an asset swop with Anglo subsidiary LTA in exchange for various engineering businesses which were folded into Baldwins (De Beer 2003, 2013).

As part of its drive to increase foreign income, Dorbyl entered into a range of joint ventures and acquisitions. The most significant of these was the acquisition in 1998 of Alpine, a US roofing company. The rationale presented for this purchase was that it would integrate Alpine's roofing design technology and customer base in the US, Europe, Japan, Australia and South Africa with Baldwin's roofing products "to launch Baldwins' products into world markets" with "[m]ajor secondary markets ... identified, which included underground mining applications, highway sound walls and security perimeter fencing" (Dorbyl 1998 p. 35).

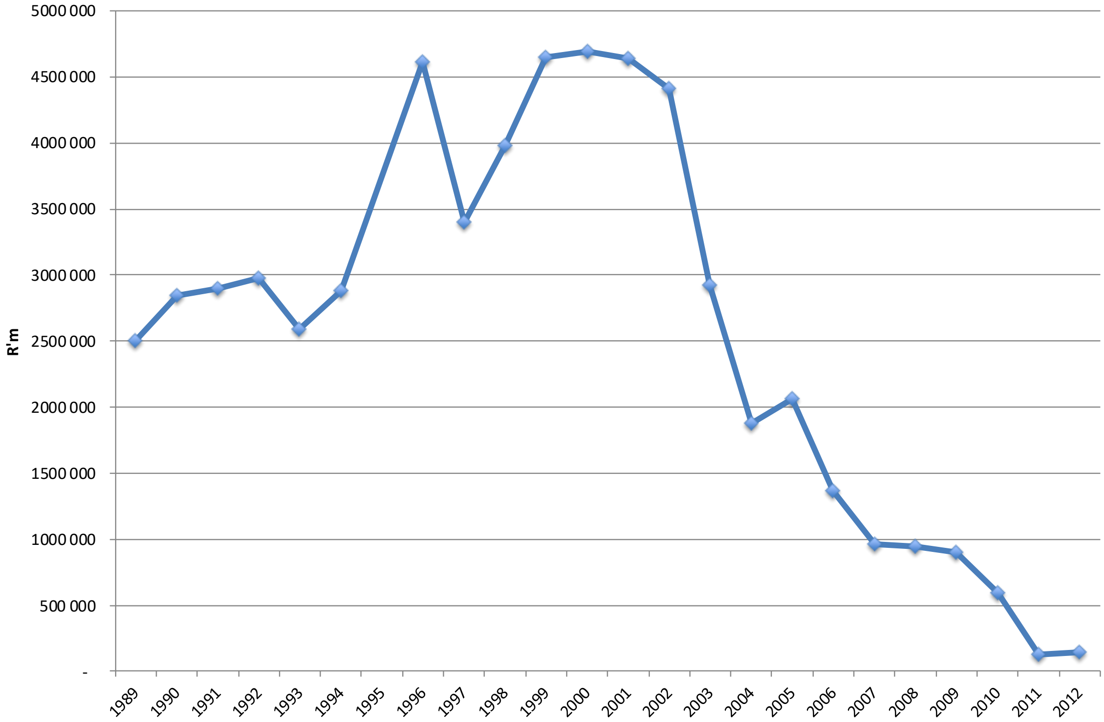
In 2001 Dorbyl re-emphasised its "base strategic philosophy ... to grow export and offshore business" amidst signs of poor management and financial controls. Group results for 1999 had to be restated in 2000 due to "the discovery of material accounting misstatements and a series of fraudulent acts" (Dorbyl 2001 p. 10) and consequent overstatement of its operating income and margins. A slew of disposals were made as operating income fell by 40%, but shareholders were reassured that "major problems have ... been resolved through sale or closure" of underperforming operations (Dorbyl 2001 p. 8).

Dorbyl management's ineffectiveness in sustaining and growing either domestic or exports sales and profits were not restricted to its manufacturing businesses. In 2002

Dorbyl announced that it would be disposing of Midas, distributor of parts for the automotive aftermarket of which at least 50% were imported. The failure of Midas was attributed to all manner of factors including "macro economic issues of crime, AIDS, unemployment, consumer price and fuel price increases" (Dorbyl 2002 p. 22). The inability of management under Remgro control to improve the financial performance of either its manufacturing or import-based businesses, even as the conditions for the latter became increasingly favourable as trade liberalisation progressed, points towards management as the primary cause of failure.

Having evidently given up on reversing Dorbyl's fortunes Remgro initiated a new phase in 2003 reflected by the title of Dorbyl's 2003 annual report Dorbyl "Releasing value to shareholders" (Dorbyl 2003 p. 1). This saw the dismantling of the group through a slew of disposals with an associated collapse in revenues from 2003 onwards (Figure 3). Automotive aftermarket distributor Midas and other major subsidiaries were sold off including Dorbyl Engineering, Global Roofing Solutions, Dorbyl Transport Products and Dorbyl Automotive Technologies. Employment fell from just over 10,000 in 1995 to under 5,000 in 2005 (Dorbyl various years).

Figure 3: Dorbyl turnover (Rm), 1989–2012



Source: Author's calculations based on McGregor's BFA (n.d.).

It transpires that Dorbyl's dismemberment was the subject of a three-way agreement between shareholders Remgro and Allan Gray and three senior Dorbyl executives (Chief Executive Officer B Cooper, D Orwin and EJ Vorster) in the form of a "Management Participation Scheme established to reward executive directors for unlocking value within the Group" (Dorbyl 2006 p. 26). That is a select group of executives *were incentivised to sell off Dorbyl's businesses* (Moshidi 2011). Over the 2002-2007 period payments to directors surged, even as turnover collapsed and profits dropped to zero in 2007 before turning to losses thereafter. Between 2003 and 2007 R1.2bn was paid out in dividends to Remgro and other shareholders and R146m in executive remuneration (Dorbyl various years). In 2005 US roofing subsidiary Alpine was sold off to a consortium led by US private equity firm Stonebridge for $158.3m. This "released significant value to shareholders" (Dorbyl 2005 p. 4): of the R991m accrued

R882m was distributed to shareholders as a special dividend (Dorbyl 2006). Seven months later Stonebridge sold Alpine for US$250m. It transpired that Dorbyl CEO Cooper was part of the Stonebridge consortium and received 2.5% of the profits from the sale (Mantshantsha 2006). Cooper and Orwin resigned in 2006 and the Remgro and Allan Gray directors in 2007. From 2008 to 2012 Dorbyl incurred annual losses, peaking at R238m in 2009. Yet dividends continued to be paid out: R3.4m in 2008 and R50.9 in 2011 and directors' remuneration remained within a band of R3.7m to R5.7m over this period. Dorbyl's listing was suspended in November 2012 and was ultimately delisted on 1 July 2014.

Thus Dorbyl, South Africa's largest ever engineering group, which controlling shareholder Remgro and Dorbyl management failed to render competitive, was dismantled through a collusive alliance between major shareholders and a coterie of senior executives.

7. Conclusions

This paper traces the formation of post-apartheid economic policies and institutions through the confluence of conglomerate interests and associated legitimation mechanisms, flawed scholarship and ideology. It highlights core bargains struck by the conglomerates over the transition, notably the initiation of narrow black economic empowerment asset transfers and the embrace of the "benign disciplines" of value maximising institutional investors as an alternative to state influence over capital allocation. In the absence of any national strategy for the development of forward linkages out of steel and to reorient and develop substantial, albeit not fully developed competitive capabilities in engineering, low public fixed investment, trade liberalisation, offshore listings and the uncritical embrace of foreign ownership contributed to a process of destructive restructuring and unbundling.

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