The Extractive Industries and Society 23 (2025) 101678

Contents lists available at ScienceDirect

The Extractive Industries and Society

journal homepage: www.elsevier.com/locate/exis

Is South Africa afflicted by the resource curse?

Ross Harvey [a,b,*], Stuart Morrison [a], Pranish Desai [a]

[a] Good Governance Africa, South Africa
[b] Research Associate, University of the Witwatersrand, South Africa

ARTICLE INFO

Keywords:
South Africa
Resource curse
Dutch disease
Mineral wealth
Institutional quality

ABSTRACT

This paper addresses the question of how best to explain South Africa's prolonged economic stagnation, manifest especially in manufacturing decline, both in total employment share and value addition to the economy. Despite its wealth of natural resources, South Africa's economic performance – especially in the manufacturing sector – has been weak, especially since 2008. The extent to which the country's resource abundance determines manufacturing performance has largely been overlooked in the literature. Utilising analytic narrative, we examine the plausibility of competing hypotheses that may account for manufacturing decline in South Africa. Our primary hypothesis is that South Africa is afflicted by a particular manifestation of the resource curse known as "Dutch Disease". After examining several explanatory hypotheses, we conclude that the decline of South Africa's manufacturing industry is strongly linked to its reliance on mineral rents, but through multiple channels. The decline is exacerbated by poor institutional quality, itself driven by "state capture," hindering the country's ability to combat corruption and inefficiencies in government effectiveness. To recover from these dynamics, we suggest that South Africa should focus on strengthening institutions, improving political governance, and enhancing financial transparency. Addressing these challenges is crucial to manufacturing recovery, diversifying the economy and fostering broad-based economic development in South Africa.

1. Introduction

South Africa has suffered sclerotic economic growth since the 2008 global financial crisis, the aftermath of which coincided with the ascendancy of Jacob Zuma to the presidency, a decade characterised by "state capture" – the wholesale looting of the state by politically connected elites.[1] An intensifying electricity crisis (up to late 2023), compounded these challenges.

Rodrik (2016) has found evidence for premature deindustrialisation in developing countries. Many, including South Africa, have suffered large and deep manufacturing contraction historically sooner, and at lower rates of income per capita, than their industrialised counterparts. Desai and Harvey (2023) found evidence for premature deindustrialisation across southern Africa, with South Africa disproportionately affected. A surprising result of those regressions was the strong relationship between mineral rents, as a portion of GDP, and weak manufacturing performance. This suggested the presence of Dutch Disease – the deterioration of manufacturing performance working through the dual mechanisms of currency value appreciation undermining the export competitiveness of the tradable sector and the extractive industries crowding in resources from the manufacturing sector at the expense of the latter.

"Dutch Disease models typically identify two channels through which resource wealth negatively affects development. The 'resource movement effect' draws capital away from other sectors to be absorbed into the extractive industries. The 'spending effect' occurs through commodity-boom expenditure on domestic goods and services, often followed by indebtedness or government spending volatility. In short, an appreciation of the value of the currency through commodity exports crowds out the export competitiveness of other sectors such as manufacturing and agriculture"[2] (Harvey, 2015). Pegg (2010), by way of example, convincingly shows that Botswana suffers what might

The authors would like to thank Rod Alence and Nnaemeka Ohamadike for their inputs on the empirical strategy pursued within this manuscript.

* Corresponding author.
E-mail address: ross@gga.org (R. Harvey).

[1] The first full academic exposure of state capture was released by Swilling et al (2017). Official documents are now publicly available here: https://www.statecapture.org.za/site/information/reports, last accessed 22 April 2025.

[2] See also: *The Economist* (which coined the term in 1977): Kiev CW, "What Dutch Disease is, and why it's bad", *The Economist*, 5 November 2014, https://www.economist.com/the-economist-explains/2014/11/05/what-dutch-disease-is-and-why-its-bad, accessed 5 November 2024. See also Burgis (2015) for a description.

https://doi.org/10.1016/j.exis.2025.101678
Received 9 May 2024; Received in revised form 24 April 2025; Accepted 28 April 2025
Available online 8 May 2025

appear to be Dutch Disease but its manufacturing decline is better explained by other factors, and in fact the country's reversal of the 'spending effect' helped to mitigate the worst effects of what would otherwise have looked like typical Dutch Disease.

This paper aims to assess whether South Africa is afflicted by Dutch Disease. We employ an analytic narrative approach, which iteratively evaluates competing hypotheses through careful time-series data interrogation (Bates et al., 1998). We begin with a brief outline of the general 'resource curse' literature, followed by a delineation of South Africa's political economy evolution in relation to its mineral resource endowment. This section broadly characterises South Africa as a "limited access order" and offers reasons for expecting that the country's lack of maturation towards a more "open access order" is at least partly attributable to how the appropriation of its resource endowment has interacted with elites' institutional choices (North et al., 2009). The second section follows an analytic narrative approach to ascertain whether "Dutch Disease" is a plausible explanation of manufacturing decline in South Africa. If it is – as we suggest it is – we analyse the channels through which it is likely operating, and what can be done to reverse it.

2. Literature review

Auty (1993) first coined the term 'resource curse'. Warner and Sachs (1997, J.D. 1995) ran cross-country regressions to better understand it, finding evidence of slower economic growth in resource-abundant countries. The academic literature has since proliferated to comprehend the paradoxical negative relationship between resource wealth and development outcomes (Karl, 1997; Smith, 2008; Torvik, 2009). A key question remains: Which mechanism(s) best explains the variation in the data? In other words, what are the key channels through which the paradox materialises? And more specifically: "Does South Africa suffer a resource curse?" If so, what can be done to address it?

Much of the literature focuses on the impact of resource rents on political regime formation (Brooks and Kurtz, 2016; Dannreuther and Ostrowski, 2022; Harvey, 2021; Houle, 2017; Ross, 2001; Wenar, 2015; Wright et al., 2013) and conflict (Collier et al., 2009, 2004; Collier and Hoeffler, 2002; Weinstein, 2005).

Economists broadly focus on the relevant economic and financial channels that may explain the relationship between resource endowments and underdevelopment. Dutch Disease, as indicated above, refers to the negative effect of oil wealth on development as one manifestation of the resource curse. Heuristically, oil exports drive up the currency value of the exporting economy, rendering exports from other sectors relatively less competitive in the global market. The resource sector may also attract skills and inputs from other potential growth sectors, leaving the economy undiversified or trapped in negative terms-of-trade relationships with the outside world. South Africa's deindustrialisation dynamics appear to be strongly influenced by resource rents, hence the ambition of this paper to investigate these dynamics.

A relative consensus has developed in the literature that recognises the pre-eminent explanatory role of institutions in determining economic outcomes. The quality of political institutions at the time of discovering resource wealth appears to explain much of the variation in economic outcomes (Mehlum et al., 2006a, 2006b; Robinson et al., 2006). This is not equivalent to insinuating that all resource-rich countries should basically become more like Norway (Morrison, 2013), but it does answer the difficult question of why natural resources do not always result in authoritarian regimes and how they can occasionally serve as a material foundation for economic success (Larsen, 2006). In this context, the North, Wallis and Weingast (2009) model is a useful lens through which to understand whether South Africa is afflicted by the resource curse or not.

2.1. Limited and open access orders

The model defines most developing countries as "limited access orders" (LAOs), differentiated by their level of maturity – countries could be either close to chaos or near meeting the 'doorstep conditions' required to pass through into an "open access order" (OAO). An LAO is essentially characterised by personalised deal-making, an incomplete monopoly over the use of violence by the state, and organisations that serve a narrow elite bargain instead of the broader interests of society. An OAO, on the other hand, exists in only a handful of countries that have both an effective government and a robust citizenry able to hold that government to account. Brian Levy's (2014) work refined the architecture of the North Wallis Weingast model and differentiated LAOs according to how programmatic they are in terms of policy formation and implementation (on the x axis), and political competitiveness (on the y axis). The more competitive and programmatic they are, the closer they are to achieving OAO status. Some useful work has located South Africa firmly within the LAO category (Lipton, 2014).

Whether South Africa is afflicted by a 'resource curse' per se is a challenging question. Undoubtedly, the discovery of its early mineral wealth in diamonds (1867) and gold (1896) transformed the nature of the country's political economy trajectory. The proliferation of gold mines also gave rise to a finance industry, while coal mining and burning produced extensive electricity availability through the creation of a state-owned enterprise (Eskom). This combination of minerals, energy and finance in shaping South Africa's development trajectory has led some scholars to attribute economic outcomes today to a minerals-energy-finance-complex (MEFC), birthed out of Rustomjee's doctoral work (1993) that saw the Minerals Energy Complex (MEC) (with finance not yet a pillar) as a system of accumulation that has a determining influence on the pattern of industrialisation and economic performance that we see today.

The essence of this structuralist approach is that the MEC crowded out manufacturing growth opportunities and created a tenacious oligopolistic economy characterised by high levels of wealth concentration among a handful of large firms. A subsequent book by Fine and Rustomjee (1996) generated extensive debate (1998) over the true reasons for South Africa's manufacturing decline and the extent to which it had to do with an MEC. Authors such as Capps (2012) have also subsequently appealed to the idea of an MEFC to explain South Africa's manufacturing decline, and the appeal has made something of a comeback in the literature.

South Africa's political economy trajectory was clearly shaped by mining and the impact that those mineral rents had on respective political equilibria. The elite bargain that animated the state – a 'double balance' between political and economic institutions, on the one hand, and rent generation and distribution on the other (North et al., 2009, 2012) – relied on resource rents. At the same time, the minority political elite made choices in the early days of the Union to bolster mineral rent extraction at the expense of property rights for most citizens. For instance, the imposition of a 'colour bar' started in the mining industry, keeping black employees subjugated and poorly paid at the cost of advancing white workers who were often less skilled (Nattrass, 2014; N. 1995). Moreover, the state strongly supported an exploitative migrant labour system (Wilson, 2001) that forced young productive men from what are now called the 'former homelands' and neighbouring countries to the mines on the Witwatersrand.

The legacy of that system continues today, and played no small part in the Marikana tragedy of 2012 (Harvey, 2016). It was compounded by the Native Land Act of 1913, and the subsequent Land Act of 1936, which systematically denied private property rights to black people, and kept them subjugated under rural chiefs who had the power to distribute land under communal, and highly insecure, tenure (Harvey, 2014). Under Apartheid, these chiefs became instruments of the minority government to formalise a system of 'divide and rule' that had become the de facto feature of the pre-1948 governments. This Faustian Bargain

(Van Kessel and Oomen, 1997) still afflicts South Africa today, with no formal legislation to give expression to section 25c of the Constitution of the Republic of South Africa (1996), which calls for security of tenure to be granted to citizens living under insecure communal tenure in the former homelands.

Even though an upstream manufacturing sector did arise in South Africa to feed the demands of the mining sector, the 'product space' of mining dominance literally extracted labour from other areas at the opportunity cost of productivity that could otherwise have occurred in the former homelands. In its typology, this was a sort of Dutch Disease, closely resembling the "resource movement effect" dimension of the model, though one injected with full state sponsorship through the choices of elites to maintain the double balance that best suited them. The colonial and Apartheid states respectively created political institutions designed to keep most citizens subjugated while building economic institutions such as a migrant labour system that was highly inefficient but maintained rent flow to political and business elites. The post-Apartheid state has demonstrated considerable persistence in the same patterns (Harvey, 2015a, 2015b; Robinson, 2010), as leaders have made choices that follow the contours of the previous elite bargains.

Manufacturing decline in South Africa, however, cannot be wholly attributed to the influence of extractive industry dynamics (Edwards, 2021; Edwards and Lawrence, 2012; Hausmann et al., 2008; Hausmann and Klinger, 2008; Rodrik, 2008a). The mining sector itself has declined, a function both of gold mines becoming deeper, rendering the marginal costs of production increasingly higher, *and* of political choices post-1994.

In 2004, the Mineral and Petroleum Resources Development Act (MPRDA) of 2002 came into force. To reverse the accumulation of mining wealth in the hands of a white minority (cemented through the 1990 Minerals Act), the MPRDA stipulated fundamental changes to the country's mineral governance in line with the African National Congress's (ANC) Freedom Charter of 1955. Sub-soil mineral rights were transferred into state 'custodianship'. This is a contested concept, and few provisions were made as to how to deal with surface rights under private property ownership and subsoil rights as received from the state (Leon, 2009). Under the MPRDA, a transition period was established during which existing rights holders had to apply for 'new order' rights. The process was complex, drawn out and punctuated with numerous incidents of corruption (Southall, 2011).

While South Africa does not appear to manifest extreme features of a 'resource curse' such as those seen in the Democratic Republic of Congo (Acemoglu et al., 2004; Burgis, 2015; Kaiser and Wolters, 2009), Angola (Harvey, 2021), Nigeria (Sala-i-Martin and Subramanian, 2013) and others, a solid case suggests that the Department of Mineral Resources (DMR) has become a fiefdom (Butler, 2013) for personal enrichment among elites. They have utilised the Mining Charter and the administration of the law as means of benefiting politically connected insiders (Harvey, 2015a; Robinson, 2010).

Policy instability, with serial amendments to the MPRDA (only one of which passed constitutional muster – a 2008 Amendment passed in 2013, a week after 2013 amendments to those very 2008 amendments were tabled) and imminent threats of a new Charter and forced beneficiation have also led to a sizeable reduction in investment appetite (Bello et al., 2013; Harvey, 2018, 2015a). Net fixed capital formation in the sector has been close to zero for the last decade, despite two commodity price booms since the early 2000s. Typically, the resource curse would manifest through rent generation and appropriation via such a boom. South Africa's mining sector has been so depleted that it was not able to capitalise on the boom. Nonetheless, politically connected insiders continue to benefit from the existing mining industry, which, despite challenges, still employs over 400,000 employees and accounts for a significant portion of the country's export revenue. During the 'state capture' years, the mining sector proved integral to the broader project, with Aurora (Hawker, 2023) and Optimum Colliery the two perhaps most publicised cases.

Insofar as it pertained to the mining industry directly, the DMR was the targeted institutional vehicle for effecting state capture. Upstream manufacturing (mining equipment, for instance) that previously depended on a thriving mining sector has collapsed. The broader state capture project directly targeted state-owned enterprises (SOEs), the largest among them being Eskom and Transnet. Eskom is responsible for electricity generation, transmission and distribution. Transnet is responsible for logistics – road, rail and port infrastructure and operations. Both companies were exploited as vehicles for procurement contracts to be distributed to politically connected insiders, made possible through the political minister essentially being treated as the sole representative of the government as the primary shareholder (Mathebula and Masiya, 2022). The sabotage of these companies has, in turn, negatively affected the ability of the mining industry to survive, let alone attract new exploration or expansion investment. In that sense, a type of resource curse has interacted with broader grand corruption, creating a vicious cycle. Manufacturing decline, on the surface, seems best explained by a confluence of factors, including Eskom and Transnet failure, as well as the competing pressures of globalisation, subsidised manufacturing (especially in China) and the offshoring of jobs that would previously have sustained local communities.

In the remainder of the paper, we employ a method known as analytic narrative (Bates et al., 1998) to explore the mechanisms through which a resource curse may be operating in South Africa, given that it appears to be more closely connected to purposeful institutional choices, corruption and policy instability, than to Dutch Disease, conflict or political regime dynamics per se.

Building on the work of Elbra (2013), who first makes the quantitative case (though not using econometric regressions) for a South African resource curse, our paper explicitly asks whether there is evidence for Dutch Disease in South Africa, as one potential manifestation of the resource curse.

3. Methodology and analysis

3.1. Overall research design

Intuitively, South Africa would appear to be a candidate for the Dutch Disease hypothesis. Though it has industrialised, historically, more than its mineral-wealthy peers in sub-Saharan Africa, it currently appears afflicted by premature deindustrialisation. As indicated earlier, research by Desai and Harvey (2023) suggested that South Africa's historical reliance on mineral rents could be a contributing factor to why the country has not experienced sustained broad-based economic development.

As an alternative to econometric modelling,[3] analytic narrative provides a useful methodological template through which to examine

[3] We initially ran several panel regression models to test the causal viability of the arguments presented above. Due to a lack of comparable data and various model specification issues, the results did not bear up under more rigorous review. Nonetheless, there is some value in presenting the results from these models, as they contribute to debates within the literature regarding which variables are most appropriate as proxies for ascertaining Dutch Disease presence and the pathways through which it operates. Modelling of this nature thus also highlights the challenges associated with using real exchange rates as a variable to explore this phenomenon and whether currency under-valuation in developing nations drives growth (Rodrik, 2008b). The results of these models are in the appendix (B and C) alongside a brief note describing the results and data used.

competing hypotheses. It is an iterative approach which examines the available data to see which hypothesis (amongst a competing set) best fits the data. We examine three competing hypotheses to explain South Africa's manufacturing sector decline since 1996[4] as parsimoniously as possible:

H_1 "Dutch Disease": South Africa's manufacturing sector decline is best explained by Dutch Disease – increasing mineral rents led to real exchange rate value appreciation, thereby reducing tradable sector export complexity and competitiveness.
H_2 "Institutional Quality": State capture after 2009 hollowed out institutional quality and destroyed electricity availability, on which manufacturing depends, hence rapid deindustrialisation materialised.
H_3 "The China Factor": Subsidised Chinese manufacturing export-led growth since the 1990s distorted opportunities for manufacturing growth in developing countries; South Africa became a casualty of this element of the globalisation phenomenon.

3.2. Analysis

3.2.1. H1 Dutch disease

If South Africa is afflicted with Dutch Disease, we would expect a decline in manufacturing output (as a share of GDP) and employment in the industrial sector in the wake of respective resource booms. As indicated above, we expect the mechanism to be twofold. First, real exchange rate value appreciation would render the tradables sector less competitive. Second, the 'product space' occupied by mining would draw resources away from the manufacturing sector, leaving a relatively simplistic economy with insufficient knowledge and skills spillover between mining and other sectors.

Fig. 1 depicts the Harvard Growth Lab's Economic Complexity Index (ECI) for South Africa, which measures the diversity of a country's exports. A higher score in this index represents an economy that is more diverse in its exports and not over-reliant on a narrow range of products. South Africa's performance has been in steady decline since the mid-2000s, in both absolute and comparative terms (Harvard Growth Lab, 2024). Whereas the country's global ranking on the ECI peaked in 2003 when it placed 40th out of 133 countries, by 2021 it had dropped to 68th. Even the most complex products are connected with the extraction of raw materials. The economy remains largely resource-driven (Harvard Growth Lab, 2024).

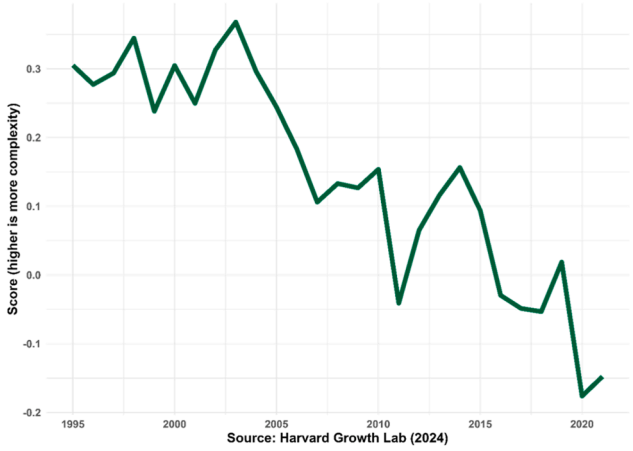


Fig. 1. South Africa's score on the economic complexity index (1995–2021).

Fig. 2 suggests that on average, between 1996 and 2019, the country has experienced lower GDP per capita growth than other comparable, mineral-wealthy middle-income countries.[5] Examining the sample used in the study, South Africa's annual growth is on the lower side of other mineral-rich countries.

If South Africa was afflicted with Dutch Disease, though, as opposed to other growth impediments, we would also expect to see an inverse relationship between mineral rents and manufacturing value added, working through real exchange rate (currency) value appreciation. We would also expect to see a decline in employment within this sector. We begin with an examination of the latter.

Over the past 30 years, South Africa has experienced a strong decline in manufacturing performance. Fig. 3 shows the annual percentage contribution of manufacturing to the GDP alongside the employment share of manufacturing. Between 2002 and 2006, the value that manufacturing added to GDP dropped from 19 % to 15 %. This decline has since continued, with the sector failing to recover after the 2008 financial crisis. Similarly, along with the decline in manufacturing value-added, employment in this sector also declined from 2006 onwards. This decline continued throughout the 2010s.

Comparing these figures to mineral rents as shown in Fig. 4 below there appears to be some evidence of Dutch Disease:

Between 1996 and 1999, the two variables follow a similar trend, declining together, possibly because of the South-East Asian fiscal crisis and South Africa's recovery from Apartheid-inherited debt. After 1999, there is a mini-commodity boom accompanied by manufacturing value-add flatlining. Mineral rents decline abruptly from 2002 to 2003 ahead of the enactment of the MPRDA (promulgated in 2002 and enacted in 2004). A global commodity boom followed, and South Africa's mineral rents escalated to a 2008 peak. This growth in mineral export revenue correlated strongly with manufacturing sector decline, which plateaued ahead of the 2008 financial crisis. The Zuma presidency followed in 2009. This period was marked by an initial global commodity boom in the wake of Chinese growth that defied the negative economic environment in industrialised nations. While this increased South Africa's

Fig. 2. Annual GDP Growth Rate for South Africa and the average upper-middle income region (1996–2019).

[4] 1996 is chosen predominantly due to South Africa's post-apartheid economic policy of Growth, Employment and Redistribution (GEAR) being rolled out in that year, which exposed the country to more global economic competition, floating exchange rates, tariff decreases and so forth. China – though it had not yet joined the World Trade Organisation (WTO) officially – was also becoming a global giant.

[5] The "Upper middle income" region only includes middle income economies that are comparable to South Africa. This includes: Botswana, Bolivia, Brazil, Ghana, India, Peru and Zambia.

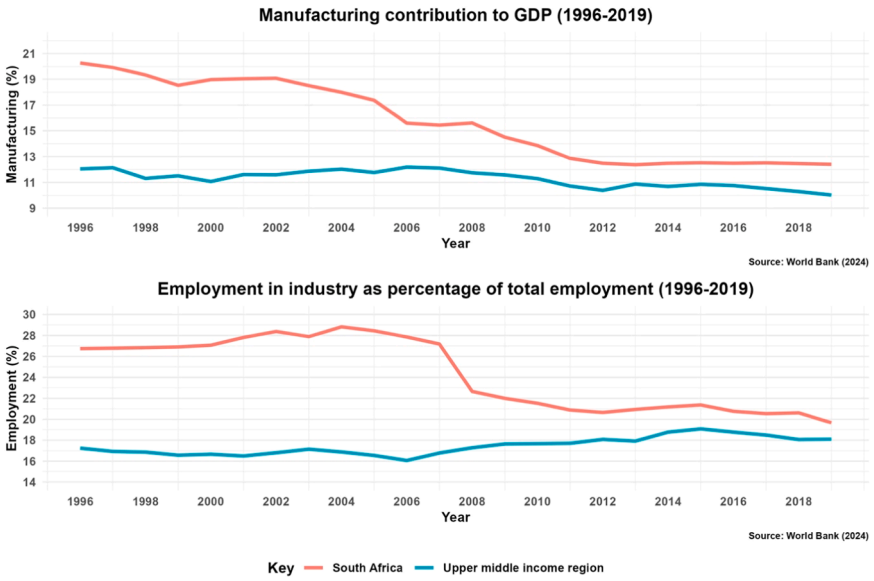


Fig. 3. Manufacturing and employment in South Africa and the average upper-middle Income region (1996–2019).

Fig. 4. Mineral rents and manufacturing in South Africa (1996–2019).

mineral rents temporarily, those rents appeared to be part of the initial "state capture" deterioration of institutional quality (Butler, 2013; Hawker, 2023; Southall, 2011; Swilling et al., 2017), which suggests potential support for H_2.

The mild arrest in manufacturing decline (from 2006 to 2008) was upended and continued its slide to 2012, from which it has failed to recover. Despite the relative growth in mineral rents during the initial phase of that decline (until 2013), net fixed capital formation failed to grow in the mining sector (aside from electricity self-generation to compensate for intensifying loadshedding). Exploration investment dropped to near-zero and few companies invested in expanding production capacity.[6] This suggests that there is likely no "resource movement effect" of the Dutch Disease model during this time, even if the mining industry exhibited overall growth (excluding the gold sector). Manufacturing growth was also impaired by declining investor confidence more broadly, likely compounded by state capture, loadshedding, logistics failures and a growing organised crime (extortion) problem. This crowded out opportunity for upstream manufacturing recovery, which we would have expected from a global commodity boom, all else being equal.

While the outcome data seems to point to Dutch Disease outcomes, a key explanatory mechanism still needs to be explored, namely, exchange rates. Fig. 5 presents the Real Effective Exchange Rates Index (REER), a commonly used measure for currency appreciation or depreciation.

Firstly, comparing these figures to the mineral rents data in Fig. 4, the Rand loses value against the US Dollar in purchasing power parity terms between 1997 and 2002. All else being equal, this should correlate with improved manufacturing performance as it renders the tradable sector more globally competitive. This failed to transpire, as manufacturing value add deteriorated, on average, over those six years, but not significantly. The Rand then recovered sharply up to 2005, strongly correlated with the global commodity price boom (which ran twice in the period after 2000). Despite a dip back towards the benchmark ahead of the financial crisis, the Rand remained overvalued, on average, from 2003 through to 2013. Post 2009, the real value of the currency closely tracks the global commodity price index. The correlation suggests that currency values in resource-dependent economies

[6] Data in support of these statements can be found in: "Minerals Policy Review: Findings and Recommendations Report" by Mining Dialogues 360 and Good Governance Africa, available at: https://digitalmallblobstorage.blob.core.windows.net/wp-content/2024/11/Mining_Policy_Review_2024.pdf, accessed 8 November 2024.

Fig. 5. Real effective exchange rates index for the South African Rand (1996–2019).

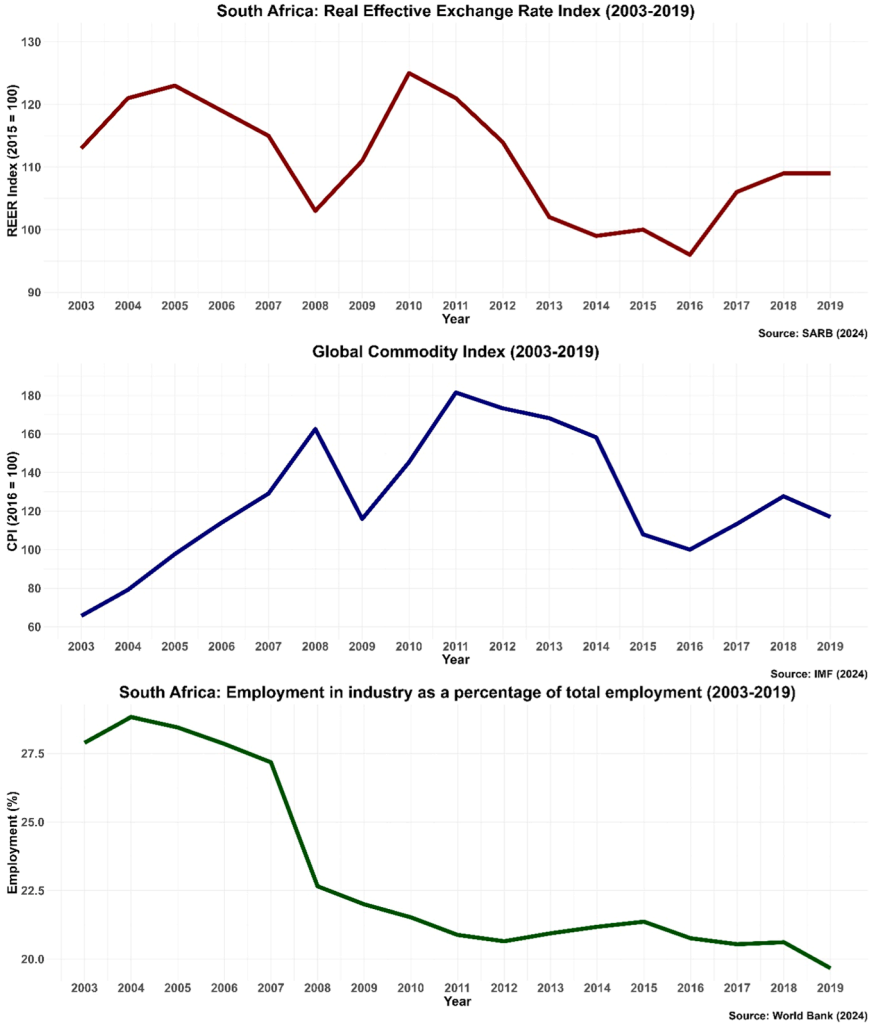


Fig. 6. Real effective exchange rates index for the South African rand, the global commodity price index and manufacturing employment share (2003–2019).

may crowd out manufacturing competitiveness (as evidenced in inverse employment share to the commodity price booms).

Considering the global commodity price boom and Rand over-valuation, the decline in manufacturing computes under the Dutch Disease hypothesis. The data also points to a lag effect between the start of the commodity boom (2001) and the decline in manufacturing from late 2002 onwards. One counter point to this evidence is the sharp decline in manufacturing value add and employment coinciding with the 2008 recession. However, in the post-2008 recovery period, mineral rents and currency appreciation coincided, whereas manufacturing continued to decline; this suggests that its decline is attributable to more systemic drivers than the 2008 recession alone, though it was clearly exacerbated by state capture and its effects. These factors, according to Corden (1984), suggest evidence for Dutch Disease.

3.2.2. H2 Institutional quality

But perhaps the apparent evidence for Dutch Disease is spurious. Could manufacturing decline not better be explained by declining institutional quality and its latent effects? During the 2000′s resource boom, from 2005 onwards, Fig. 7 shows a sharp decline in institutional quality, which continues until 2011, and remains low thereafter. Thus, while there was an initial uptick in institutional quality during the early boom years, the quality decreases rapidly and substantively after 2005.

Elbra (2013) argues that due to South Africa's declining institutional quality and increasing inequality, some of the key benefits from the mining sector have not filtered through in the form of improved living standards, greater welfare or increased employment in other sectors. Several scholars have indicated that this became increasingly prominent in the 2010s, which marked the start of rife grand corruption and the hollowing out of key institutions such as the National Prosecuting Authority.

As Fig. 7[7] below demonstrates, South Africa has evidenced deteriorating institutional quality since 2012, hovering around the 0.5 mark (on a scale of 0 to 1). While they are still mid-range scores, the decrease from 0.7 in 2004 to 0.45 a decade later is substantive. Appendix A further highlights the substantive decline in Institutional Quality by comparing South Africa to its upper income peers. According to the graph it appears that South Africa's decline is much greater than some of the other countries.

A potential argument against Dutch Disease is that a significant casualty of "state capture" was the electricity parastatal, Eskom. Without affordable and reliable electricity, even existing manufacturing was destined to collapse, and new investment into the sector unlikely to be forthcoming. Where currency value depreciation post-2010 should technically have improved manufacturing sector competitiveness, that depreciation was a function of credit rating downgrades in the wake of Eskom's growing indebtedness and underperformance rather than a boon for manufacturing. From January 2008, electricity generated in South Africa declined, on average, from 22,000 Gigawatt hours to about 18,300 GW-hours by February 2023.[8]

Intensifying loadshedding resulted in a deterioration of the country's electricity availability factor, concomitant with soaring real price increases, as indicated in Fig. 8 below.

Mapped against manufacturing performance, loadshedding – a key manifestation of the effects of post-2009 grand corruption – played a significant role. Nonetheless, manufacturing value add had deteriorated more (as a proportion of GDP) between 1996 and 2008, than from 2008 onwards. This suggests stronger support for H_1 than H_2, though clearly some manufacturing performance decline was attributable to the decline of institutional quality interacting with mineral rents from 2008 onwards. Given the long-run dynamics discussed in Section 2, however, more explanatory power appears to lie with Dutch Disease. However, there is a strong argument, even there, that mineral rents enabled an elite bargain that created a double balance of institutions that ensured rent generation and distribution for the politically empowered minority at the expense of the majority of citizens.

3.2.3. H3: The China factor

It is possible that H_1 and H_2 are both at risk of overemphasising domestic factors. Could China's unprecedented rise not better explain South Africa's manufacturing decline? China's rapid economic growth since the 1980s (Huang, 2008), accelerated through the 1990s through a focus on urban-orientated manufacturing, and solidified when it was re-admitted to the World Trade Organisation in 2001, caused major shifts in global political economy dynamics (McMillan and Rodrik, 2011). South Africa's manufacturing performance decline seems to have been influenced by the proliferation of relatively inexpensive Chinese imports.

However, a close examination of the products imported from China reveals no obvious impairment of products typically associated with South African comparative advantage for export competitiveness.[9] Most imported products from China in 2022 were broadcasting equipment (7.58 %) and computers (4.43 %). It is therefore difficult to sustain the argument that rapid growth in subsidised Chinese export-led manufacturing impaired South Africa's manufacturing export competitiveness more than any other variable. These were not products in which South Africa had an initial comparative advantage that could then have been eroded by China. Our arguments here bear resemblance to work done elsewhere on the impacts of the "China Shock" to the US economy (Autor et al., 2013; Kennedy and Mazzocco, 2022).

The analytic narrative strongly suggests the presence of Dutch Disease driving currency overvaluation and a static export complexity score. The resultant manufacturing under-performance was exacerbated by state capture and its attendant effects (such as deteriorating institutional quality and intensifying loadshedding up to 2023).

4. Discussion

Accompanying the scholarship examining the inverse relationship between natural resource endowments and broad-based economic growth in recent decades is a growing body of recommendations outlining how developing countries might mitigate or avoid the effects of the resource curse in its various manifestations, including Dutch Disease.

In a policy briefing focused on African countries, Alence (2005), identifies three principal and complementary strategies through which a resource-abundant country might be able to "evade" the resource curse to sustain economic development: i) economic diversification, ii) improving political governance, and iii) improving financial transparency.

On all three counts, South Africa has scope to enable a trajectory that would allow the nation to exploit its vast resource endowments facilitating broad-based economic development.

A 2023 working paper, which examines South Africa's decline and stagnation on the ECI (referenced above), identifies how impediments such as a persistent energy crisis, a decaying infrastructure and high transportation costs have reinforced many of the structural inequalities inherited from Apartheid. This in turn has undermined some of the early economic progress the country made during its first ten years of democracy (Hausmann et al., 2023). While concerted efforts to adjust policy in areas like trade, industry, mining and agriculture can better enable export diversification and complexity, this remains contingent on the country's ability to resolve problems that are more deep-rooted (Desai and Harvey, 2023; Hausmann et al., 2023).

The dimension of political governance, which concerns the composition, organisation and efficacy of public institutions (Alence, 2005), is another area where South Africa's robust constitutional framework has

[7] The Institutional Quality Index depicted in Figure 6 is an index created by the authors, which uses the World Bank's Worldwide Governance Indicators' (WGI) Control of Corruption and Government Effectiveness variables (World Bank and World Development Indicators, 2024). This is premised on the theory posited by Acemoglu and Robinson (2019) that a narrow corridor of sustained broad-based development is typically produced by the constant interaction of improving state capability and citizens' ability to hold their governments to account.

[8] See Stats South Africa, "Electricity generated and available for distribution", February 2023, https://www.statssa.gov.za/publications/P4141/P4141February2023.pdf, accessed 9 November 2024.

[9] All data from this section is sourced from The Observatory of Economic Complexity (OEC), available at https://oec.world/en/profile/country/zaf?yearlyTradeFlowSelector=flow0&yearSelector1=2022#yearly-trade, accessed 9 November 2024.

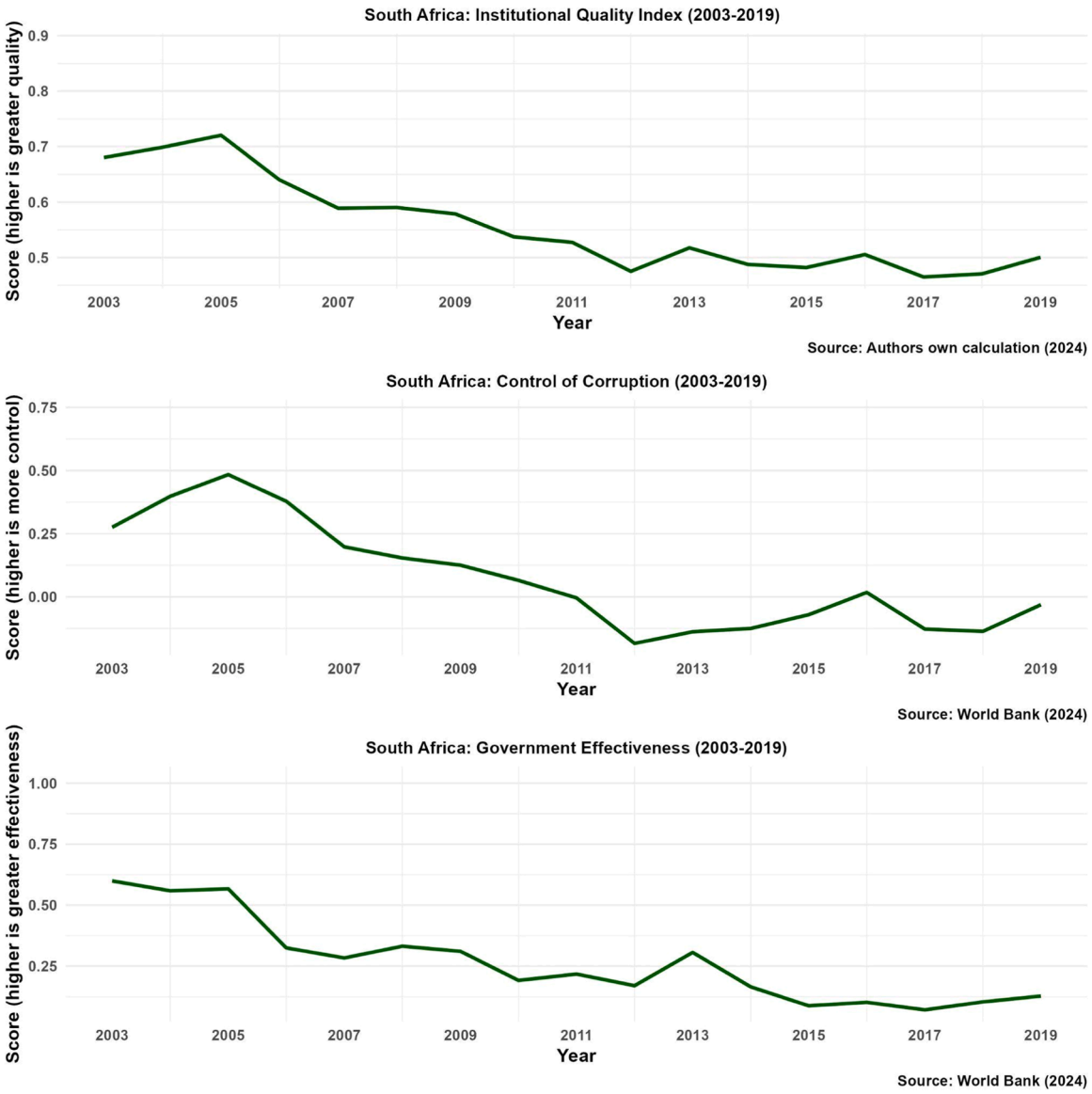


Fig. 7. Institutional quality index in South Africa (2003–2019).

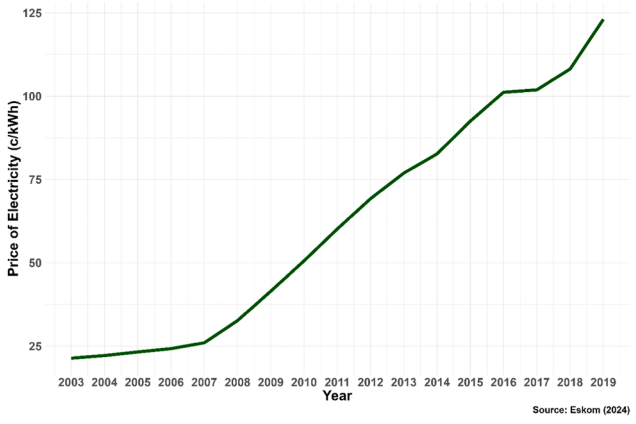


Fig. 8. Price of electricity in South Africa (2003–2019).

been undermined by the inability to combat social problems like endemic corruption in both the public and private sectors. In the case of resource-endowed economies, corruption can operate as both a cause and consequence of hindered economic development, as it diverts public expenditure away from areas of societal need, thereby eroding citizen and investor confidence (Auty, 1993; Elbra, 2013; Hausmann et al., 2022, 2023).

If South Africa can substantively reduce the prevalence of corruption, it will have more budgetary scope to invest in some of the core areas which empirical analysis suggests are the most effective in mitigating the negative effects of resource rents and enabling broad-based economic growth. These areas include raising human capital expenditure (Destek et al., 2023), investing in infrastructure, reducing the cost of public transportation for low-income workers (Hausmann et al., 2023), reducing barriers to trade (Arezki and Van Der Ploeg, 2007; United Nations Conference on Trade and Development, 2021), and amplifying the country's industrial capacity (Zalk, 2014). Moreover, due to South Africa's status as the preeminent economy within Southern Africa (Desai and Harvey, 2023), its capacity to resolve these economic and governance challenges can in turn have a positive multiplier effect on neighbouring countries, many of whom also have considerable natural resource endowments, and appear susceptible to the resource curse.

The third component of an effective resource curse mitigation strategy which Alence (2005) identifies is greater financial

transparency. Specifically, Alence (2005) notes that: "Revenues derived from resource sales are often not clearly and credibly accounted for, being channelled 'off-budget' through state-owned and private-sector companies – and even there often being obscured by dubious book-keeping". Especially as it concerns our core focus industry in this paper - the extractives industry in South Africa - there is considerable scope for South Africa to improve financial transparency in this sector.

South Africa has continually refused, however, to join the Extractive Industries Transparency Initiative (EITI). Moreover, it has failed to implement an online cadastre system that would transparently govern the allocation of exploration and mining licences. The entire minerals governance landscape, therefore, is clouded by a lack of transparency.[10]

In both South Africa, and developing countries more broadly, one of the greatest challenges regarding illicit financial flows is the phenomenon of "trade misinvoicing" (Baker et al., 2014; Ngozo, 2021). In essence, this involves the intentional manipulation of the value, quantity, or description of goods or services in trade transactions (Ngozo, 2021). As the name suggests, this fraudulent practice also involves misstating information on customs declaration forms and invoices, with a high likelihood of collusion between exporters and importers (Ngozo, 2021). The consequences of this malpractice are significant and encompass diminished tax revenues and the diversion of resources away from critical service provision imperatives, thereby undermining overall development efforts (Baker et al., 2014; Ngozo, 2021).

According to one estimate developed by the organisation Global Financial Integrity, which analysed data taken from the International Monetary Fund's Direction of Trade Statistics, trade misinvoicing in South Africa between the years 2010 and 2014 potentially cost South Africa $37 billion in public revenue (Global Financial Integrity, 2018). This form of financial malpractice is also widespread among specific mining sectors, with the extraction of silver, platinum and iron ore all impacted (Ngozo, 2021).

Addressing the problem of a lack of financial transparency in South Africa would likely require a combination of policy actions. On the one hand, there is clear scope for South Africa's various revenue collection and prosecuting authorities to enhance their real-time capabilities in identifying these transgressions and developing coherent pathways to prosecuting transgressors (Ngozo, 2021). However, there is also a greater need to involve impacted local communities and civil society, who are themselves the potential beneficiaries of more evenly distributed resource rents, within policy deliberations concerning the extractives industry (Oxfam, 2009).

Beyond these measures, South Africa's industrialisation strategy should cohere with a new vision for the role of mining in the economy. Downstream beneficiation is clearly not a solve-all but adding value to the country's raw material exports where economically feasible would seem an obvious policy orientation, in addition to creating attractive investment conditions for reviving an upstream manufacturing industry that supports mining. Ironically, this sounds like a call for more mining to heal Dutch Disease, but the policy intention is to connect mining more strategically to labour-absorbing manufacturing opportunities that would reverse the current structural defects.

5. Conclusion

South Africa has suffered weak economic performance for several decades despite being one of the most industrialised countries on the continent and possessing a plethora of natural resources. A study by Desai and Harvey (2023) indicated evidence for premature deindustrialisation in southern Africa. This decline in manufacturing performance appeared to be driven by the presence of relatively large mineral rents, which suggested a Dutch Disease hypothesis. Because South Africa possesses the largest manufacturing sector in the region, this study investigated whether South Africa is afflicted by Dutch Disease as a specific manifestation of the 'resource curse'. We employed an analytic narrative approach, utilising time series data to evaluate competing hypotheses.

The evidence we presented points to Dutch Disease as a relatively compelling hypothesis, though the picture is complicated by the effects of post-2009 "state capture", which entailed the purposeful extraction of mineral (and other) rents for private gain. The result is that the state now struggles to prosecute high-profile corruption cases, prevent further corruption, and overcome government inefficiencies, all of which negatively affect manufacturing sector recovery potential. To improve manufacturing output specifically, mining and industrial policy need to align to connect mining activity to industrialisation opportunities. Ultimately, the South African government must work to create the right conditions under which the nation's economic base can be diversified, improve political governance, especially through controlling corruption, and enhance financial (and licensing) transparency within the extractives industry.

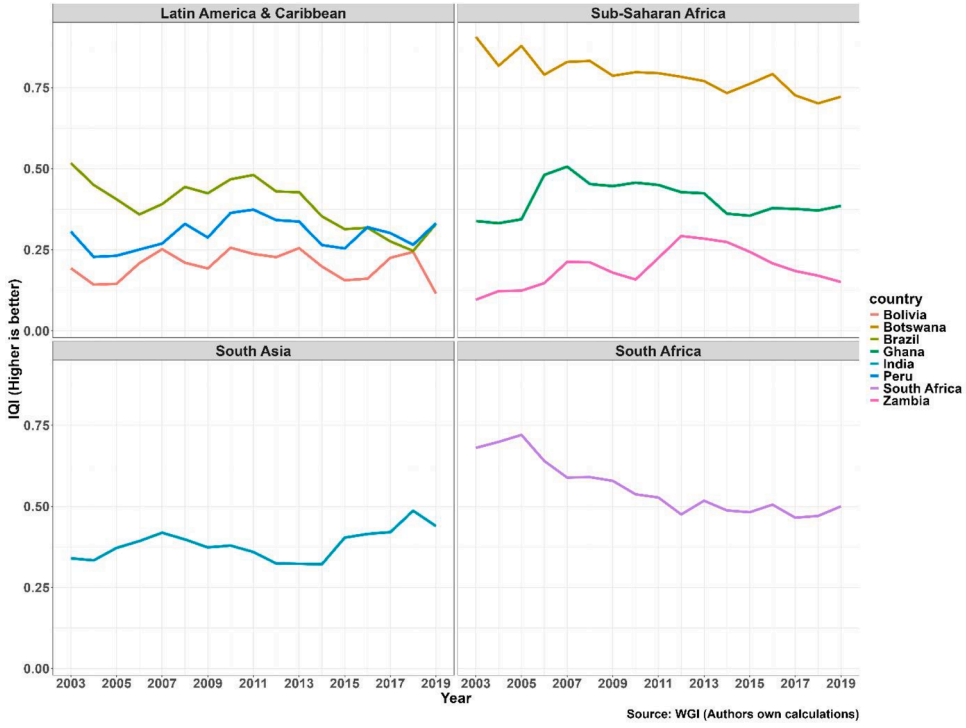
CRediT authorship contribution statement

Ross Harvey: Writing – review & editing, Writing – original draft, Validation, Supervision, Conceptualization. **Stuart Morrison:** Writing – original draft, Visualization, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Pranish Desai:** Writing – review & editing, Writing – original draft, Validation, Supervision, Methodology, Data curation.

[10] See "Minerals Policy Review", August 2024. We do also recognise that transparency in itself is likely to be a necessary but insufficient condition for reversing Dutch Disease dynamics (Kolstad and Wiig, 2009). We also recognise that the EITI is not a guarantee of greater accountability, reinforcing the point that transparency alone may not yield sustained broad-based development per se (Gillies, 2010; Hilson and Maconachie, 2009).

Appendixes

Appendix A. Institutional quality index: quality of institutions across comparable countries (2003–2019)



Appendix B. PLM fixed effects model

	mva (1)	employ (2)	hdi (3)
log(min.rents)	−0.257***	−0.166	0.0003
	(0.095)	(0.136)	(0.001)
gdp.growth.pc	0.054	0.022	−0.0001
	(0.041)	(0.059)	(0.0005)
iqi	7.300***	14.894***	−0.034*
	(1.681)	(2.416)	(0.020)
log(pop)	−4.408***	4.488***	0.316***
	(0.926)	(1.330)	(0.011)
Observations	168	168	168
R^2	0.283	0.234	0.855
Adjusted R^2	0.233	0.180	0.845
F Statistic (df = 4; 156)	15.423***	11.927***	230.776***

Note: $^*p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$.

Appendix C. PLM fixed effects model

	mva (1)	employ (2)	hdi (3)
log(min.rents)	−0.367***	−0.106	0.002
	(0.099)	(0.132)	(0.002)
gdp.growth.pc	0.071	0.015	−0.0003
	(0.044)	(0.059)	(0.001)
iqi	7.093***	14.592***	−0.040
	(1.754)	(2.355)	(0.027)
log(pop)	−0.475	2.568***	0.259***
	(0.565)	(0.829)	(0.014)
sa	2.583	2.063	−0.052
	(3.774)	(5.820)	(0.178)
Constant	16.712*	−32.504**	−3.840***
	(9.980)	(14.620)	(0.248)
Observations	168	168	168
R^2	0.165	0.228	0.715

(*continued on next page*)

(*continued*)

	mva (1)	employ (2)	hdi (3)
Adjusted R^2	0.140	0.204	0.706
F Statistic	32.098***	47.749***	405.447***

Note: $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$.

References

Acemoglu, D., Robinson, J.A., 2019. The Narrow Corridor: States, Societies, and the Fate of Liberty. Penguin Press, New York.

Acemoglu, D., Robinson, J.A., Verdier, T., 2004. Kleptocracy and divide-and-rule: a model of personal rule. J. Eur. Econ. Assoc. 2 (2–3), 162–192. https://doi.org/10.1017/CBO9781107415324.004.

Alence, R. (2005). *Evading the "resource curse" in Africa* (Policy Briefing). Institute for Global Dialogue.

Arezki, R., Van Der Ploeg, F., 2007. Can the Natural Resource Curse be Turned into a Blessing? The Role of Trade Policies and Institutions (IMF Working Paper No. 07/55).

Autor, D.H., Dorn, D., Hanson, G.H., 2013. The China syndrome: local labor market effects of import competition in the United States. Am. Econ. Rev. 103 (6), 2121–2168. https://doi.org/10.1257/aer.103.6.2121.

Auty, R.M., 1993. Sustaining Development in Mineral Economies: The Resource Curse Thesis. Routledge. https://doi.org/10.1016/0301-4207(94)90044-2.

Baker, R., Clough, C., Kar, D., LeBlanc, B., Simmons, J., 2014. Hiding in Plain Sight: Trade Misinvoicing and the Impact of Revenue Loss in Ghana, Kenya, Mozambique, Tanzania, and Uganda: 2002–2011 (Global Financial Integrity Report).

Bates, R.H., Greif, A., Levi, M., Rosenthal, J., Weingast, B.R., 1998. Analytic Narratives. Princeton University Press, New Jersey.

Bello, O., Benkenstein, A., Harvey, R., 2013. Assessing Competitive Resource Tenders as an Option for Mining Rights Allocation in South Africa (Occasional Paper No. 159).

Brooks, S.M., Kurtz, M.J., 2016. Oil and democracy: endogenous natural resources and the political "resource curse. Int. Organ. 70 (2), 279–311. https://doi.org/10.1017/S0020818316000072.

Burgis, T., 2015. The Looting Machine: Warlords, Oligarchs, Corporations, Smugglers, and the Theft of Africa's Wealth. PublicAffairs, New York.

Butler, A., 2013. Resource nationalism and the African National Congress. *J. South Afr. Inst.* Min. *Metall.* 113 (August), 11–20.

Capps, G., 2012. A bourgeois reform with social justice? The contradictions of the Minerals Development Bill and black economic empowerment in the South African platinum mining industry. Rev. Afr. Polit. Econ. 39 (132), 315–333. https://doi.org/10.1080/03056244.2012.688801.

Collier, P., Hoeffler, A., 2002. On the incidence of civil war in Africa. J. Conflict Resolut. 46 (1), 13–28. https://doi.org/10.1177/0022002702046001002.

Collier, P., Hoeffler, A., Rohner, D., 2009. Beyond greed and grievance: feasibility and civil war. Oxf. Econ. Pap. 61 (1), 1–27. https://doi.org/10.1093/oep/gpn029.

Collier, P., Hoeffler, A., Söderbom, M., 2004. On the duration of civil war. J. Peace Res. 41 (3), 253–273. https://doi.org/10.1177/0022343304043769.

Constitution of the Republic of South Africa, Act 108 of 1996. (1996). https://doi.org/10.1017/S0021855300011499.

Corden, W.M., 1984. Booming sector and Dutch disease economics: survey and consolidation. Oxf. Econ. Pap. 36 (3), 359–380. https://EconPapers.repec.org/RePEc:oup:oxecpp:v:36:y:1984:i:3:p:359-80.

Dannreuther, R., Ostrowski, W., 2022. The Oil Curse: Pollution, Authoritarianism, Corruption, and Conflict. Edward Elgar Publishing.

Desai, P., Harvey, R., 2023. Is the Southern African development community (SADC) afflicted by premature deindustrialisation? Africa Governance Paper 1 (4), 74–95.

Destek, G., Hossain, M.R., Aydın, S., Destek, M.A., 2023. Can the resource curse be reversed through financialization, human capital, and institutional quality? evidence from sustainable development index. Resour. Policy 86, 104245. https://doi.org/10.1016/j.resourpol.2023.104245.

Edwards, L. (2021). *South Africa's International Trade* (Policy Research on International Services and Manufacturing, No. 2021–1).

Edwards, L., Lawrence, R.Z., 2012. A strategic view of South African trade policy in relation to the future global trading environment. S. Afr. J. Int. Aff. 19 (3), 277–298. https://doi.org/10.1080/10220461.2012.740176.

Elbra, A.D., 2013. The forgotten resource curse: south Africa's poor experience with mineral extraction. Resour. Policy 38 (4), 549–557. https://doi.org/10.1016/j.resourpol.2013.09.004.

Fine, B., Rustomjee, Z., 1996. The Political Economy of South Africa: From Minerals-energy Complex to Industrialisation. Hurst. https://doi.org/10.4324/9780429496004.

Fine, B., Rustomjee, Z., 1998. Debate 1: debating the South African minerals-energy complex: a response to Bell and Farrell. Dev South Afr 15 (4). https://doi.org/10.1080/03768359808440040.

Global Financial Integrity, 2018. South Africa: Potential Revenue Losses Associated with Trade Misinvoicing (Global Financial Integrity Report).

Gillies, A., 2010. Reputational concerns and the emergence of oil sector transparency as an international norm. Int. Stud. Q. 54, 103–126. https://doi.org/10.1111/j.1468-2478.2009.00579.x.

Harvard Growth Lab, 2024. Country and Product Complexity Rankings. Harvard Growth Lab. https://atlas.cid.harvard.edu/rankings.

Harvey, R., 2014. Minefields of Marikana: Prospects for Forging a New Social Compact (Occasional Paper No. 183).

Harvey, R., 2015a. Between a rock and a hard place: state-business relations in the mining sector. In: Pillay, D., Khadiagala, G., Naidoo, P., Southall, R. (Eds.), New South Africa Review 5: New Political Directions?, 1st ed. Wits University Press, pp. 86–103.

Harvey, R., 2015b. Mineral Rights, Rents and Resources in South Africa's Development Narrative (Occasional Paper No. 224, November Issue).

Harvey, R.G., 2015. From diamonds to coal? Critical reflections on Botswana's economic future. Extr. Ind. Soc. 2, 827–839. https://doi.org/10.1016/j.exis.2015.06.009.

Harvey, R., 2016. Why is labour strife so persistent in South Africa's mining industry? Extr. Ind. Soc. https://doi.org/10.1016/j.exis.2016.04.008.

Harvey, R., 2018. Greening South African mining through the Fourth Industrial Revolution. In: Valiani, S. (Ed.), The Future of Mining in South Africa: Sunset or Sunrise?, 1st ed. Mapungubwe Institute for Strategic Reflection (MISTRA).

Harvey, R., 2021. Coups, Military Rule and Autocratic Consolidation in Angola and Nigeria, 1st ed. Cambridge Scholars Publishing.

Hausmann, R., Klinger, B., 2008. South Africa's export predicament. Econ. Trans. 16 (4), 609–637.

Hausmann, R., O'Brien, T., Fortunato, A., Lochmann, A., Shah, K., Venturi, L., Enciso-Valdivia, S., Vashkinskaya, E., Ahuja, K., Klinger, B., Sturzenegger, F., Tokman, M., 2023. Growth through inclusion in South Africa: A report by the Growth Lab at Harvard University (Faculty Working Paper No. 434).

Hausmann, R., Rodrik, D., Sabel, C.F., 2008. Reconfiguring Industrial Policy: A framework with an Application to South Africa (Faculty Research Working Paper Series, RWP08-031).

Hausmann, R., Sturzenegger, F., Goldstein, P., Muci, F., Barrios, D., 2022. Macroeconomic Risks after a Decade of Microeconomic Turbulence: South Africa 2007–2020. https://doi.org/10.35188/UNU-WIDER/2022/134-1 (WIDER Working Paper 2022/3).

Hawker, D., 2023. How to Steal a Gold Mine: The Aurora Story. Tafelberg, Johannesburg.

Hilson, G., Maconachie, R., 2009. Good governance" and the extractive industries in sub-Saharan Africa. Miner. Process. Extr. Metall. Rev. 30, 52–100. https://doi.org/10.1080/08827500802045511.

Houle, C., 2017. A two-step theory and test of the oil curse: the conditional effect of oil on democratization. Democratization 25 (3), 404–421. https://doi.org/10.1080/13510347.2017.1366449.

Huang, Y., 2008. Capitalism with Chinese Characteristics: Entrepreneurship and the State. Cambridge University Press. https://doi.org/10.1017/CBO9780511754210.

Kaiser, K., Wolters, S., 2009. Fragile states, elites, and rents in the democratic republic of congo (DRC). In: North, D.C., Wallis, J.J., Webb, S.B., Weingast, B.R. (Eds.), the Shadow of Violence: Politics, Economics, and the Problems of Development. Cambridge University Press. https://doi.org/10.1017/CBO9781139013611.003.

Karl, T.L., 1997. The Paradox of Plenty: Oil Booms and Petro-States. University of California Press.

Kennedy, S., Mazzocco, I., 2022. Has trade with China really cost the U.S. jobs? Harv. Bus. Rev. https://hbr.org/2022/11/has-trade-with-china-really-cost-the-u-s-jobs (accessed 2025-04-23).

Kolstad, I., Wiig, A., 2009. Is transparency the key to reducing corruption in resource-rich countries? World Dev. 37 (3), 521–532. https://doi.org/10.1016/j.worlddev.2008.07.002.

Larsen, E.R., 2006. Escaping the resource curse and the Dutch disease? when and why Norway caught up with and forged ahead of its neighbors. Am. J. Econ. Sociol. 65 (3), 605–640.

Leon, P., 2009. Creeping expropriation of mining investments: an African perspective. J. Energy Nat. Resour. Law 27 (4), 597–617.

Levy, B., 2014. Working with the Grain: Integrating Governance and Growth in Development Strategies, 1st ed. Oxford University Press, New York.

Lipton, M., 2014. Is South Africa's constitutional democracy being consolidated or eroded? S. Afr. J. Int. Affairs 21 (1), 1–26. https://doi.org/10.1080/10220461.2014.890342.

Mathebula, N., Masiya, T., 2022. Governance issues and state capture at Eskom and Transnet: a Kingdon's multiple streams theory for policy studies. Afr. J. Gov. Devel. 11 (1).

McMillan, M., Rodrik, D., 2011. Globalization, structural change and productivity growth. Making Globalization Socially Sustainable (Working Paper No. 01160).

Mehlum, H., Moene, K., Torvik, R., 2006a. Institutions and the resource curse. Econ. J. 116 (508), 1–20. https://doi.org/10.1111/j.1468-0297.2006.01045.x.

Mehlum, H., Moene, K., Torvik, R., 2006b. Cursed by resources or institutions? World Econ. 29 (8), 1117–1131. https://doi.org/10.1111/j.1467-9701.2006.00808.x.

Morrison, K.M., 2013. Whither the resource curse? Perspect. Pol. 11 (4), 1117–1125. https://doi.org/10.1017/S1537592713003855.

Nattrass, N., 1995. The crisis in South African gold mining. World Dev. 23 (5), 857–868. https://doi.org/10.1016/0305-750X(95)00007-Y.

Nattrass, N., 2014. Deconstructing profitability under apartheid: 1960–1989. Econ. History Devel. Region 29 (2), 1–24. https://doi.org/10.1080/20780389.2014.955269.
Ngozo, T., 2021. Illicit Financial Flows in the Mining Industry in South Africa. Oxfam South Africa (Briefing Report).
North, D.C., Wallis, J.J., Weingast, B.R., 2009. Violence and Social Orders: A Conceptual Framework for Interpreting Recorded Human History. Cambridge University Press.
North, D.C., Wallis, J.J., Webb, S.B., Weingast, B.R., 2012. the Shadow of Violence: Politics, Economics, and the Problems of Development. Cambridge University Press.
Oxfam, 2009. Lifting the Resource Curse: How Poor People can and Should Benefit from the Revenues of Extractive Industries (Oxfam Briefing Report).
Pegg, S., 2010. Is there a Dutch disease in Botswana? Resour. Policy 35 (1), 14–19. https://doi.org/10.1016/j.resourpol.2009.07.003.
Robinson, J.A., 2010. Elites and Institutional Persistence (UNU-WIDER Working Paper No. 2010/85).
Robinson, J.A., Torvik, R., Verdier, T., 2006. Political foundations of the resource curse. J. Dev. Econ. 79 (2), 447–468. https://doi.org/10.1016/j.jdeveco.2006.01.008.
Rodrik, D., 2008a. Understanding South Africa's economic puzzles. Econ. Trans. 16 (4), 769–797. https://doi.org/10.1111/j.1468-0351.2008.00343.x.
Rodrik, D., 2008b. The real exchange rate and economic growth: a survey. Brook. Pap. Econ. Act. 365–412. https://doi.org/10.1515/jgd-2019-0024. Fall.
Rodrik, D., 2016. Premature deindustrialization. J. Econ. Growth 21 (1), 1–33. https://doi.org/10.1007/s10887-015-9122-3.
Ross, M.L., 2001. Does oil hinder democracy? World Polit. 53 (3), 325–361. https://doi.org/10.1353/wp.2001.0011.
Rustomjee, Z.Z.R., 1993. The Political Economy of South African industrialisation – The role of the Minerals-Energy Complex. University of London (Doctoral dissertation).
Sala-i-Martin, X., Subramanian, A., 2013. Addressing the natural resource curse: an illustration from Nigeria. J. Afr. Econ. 22 (4), 570–615. https://doi.org/10.1093/jae/ejs033.
Sachs, J.D., Warner, A.M., 1995. Natural Resource Abundance and Economic Growth (NBER Working Paper No. 5398).
Sachs, J.D., Warner, A.M., 1997. Sources of slow growth in African economies. J. Afr. Econ. 6 (3), 335–376.
Smith, A., 2008. The perils of unearned income. J. Polit. 70 (3), 780–793. https://doi.org/10.1017/S0022381608080754.
Southall, R., 2011. Family and favour at the court of Jacob Zuma. Rev. Afr. Polit. Econ. 38 (130), 617–626.
Swilling, M., Bhorat, H., Buthelezi, M., Chipkin, I., Duma, S., Peter, C., Qobo, M., & Friedenstein, H. (2017). *Betrayal of the Promise: How South Africa is being Stolen* (Report, May).
Torvik, R., 2009. Why do some resource-abundant countries succeed while others do not? Oxf. Rev. Econ. Policy 25 (2), 241–256. https://doi.org/10.1093/oxrep/grp015.
United Nations Conference on Trade and Development. (2021). *Transforming Southern Africa: harnessing regional value chains and industrial policy for development.*
Van Kessel, I., Oomen, B., 1997. One chief, one vote": the revival of traditional authorities in post-apartheid South Africa. Afr. Aff. (Lond) 96 (385), 561–585. https://doi.org/10.1093/oxfordjournals.afraf.a007884.
Weinstein, J.M., 2005. Resources and the information problem in rebel recruitment. J. Conflict Resol. 49 (4), 598–624. https://doi.org/10.1177/0022002705277802.
Wenar, L., 2015. Blood Oil: Tyrants, Violence, and the Rules that Run the World. Oxford University Press.
Wilson, F., 2001. Minerals and migrants: how the mining industry has shaped South Africa. Daedalus 130 (1), 99–121.
Wright, J., Frantz, E., Geddes, B., 2013. Oil and autocratic regime survival. Br. J. Polit. Sci. 45 (2), 287–306. https://doi.org/10.1017/S0007123413000252.
World Bank, World Development Indicators, 2024. Available: https://databank.worldbank.org/source/world-development-indicators, last accessed 6 May 2025.
Zalk, N., 2014. Industrial policy in a harsh climate: the case of South Africa. In: Salazar-Xirinachs, J., Nübler, I., Kozul-Wright, R. (Eds.), Transforming Economies: Making Industrial Policy Work for Growth, Jobs and Development. International Labour Organization.