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Turning SA's sunset mining sector into a sunrise industry

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South Africa's mining industry is typically seen as a sunset sector. However, its decline is largely due to policy, regulatory and bureaucratic obstacles rather than geological exhaustion. These binding constraints have significantly reduced the sector's potential. Fix them, and SA's great mineral potential could contribute significantly to faster economic growth. Mining could be a sunrise industry once again.

This note is based on a longer research paper in collaboration with Economic Research South Africa available ***here****.*

The economic history of South Africa is intimately bound to the extraction of its mineral wealth. For over a century, the mining sector served as the driver of the national economy, fuelling industrialisation, urbanisation, and capital accumulation.

The sector has not delivered on its potential. South Africa sits on a mineral endowment of global significance – particularly in platinum group metals (PGMs), manganese, and chromium – commodities that are critical to the global energy transition. Despite this geological lottery, the sector faces various constraints that have prevented it from taking full advantage of successive commodity booms. Once the primary engine of the economy, the sector's economic contribution has stagnated, allowing the notion to take hold that South African mining is a sunset sector. However, we argue that by lifting these binding constraints, it can be a sunrise sector.

Despite successive commodity price booms, in real terms the sector has declined since 1994. Over this period, the sector contracted by 0.29% on average. By 2024, the sector was nearly 12% smaller than in 1994, as shown in Figure 1.

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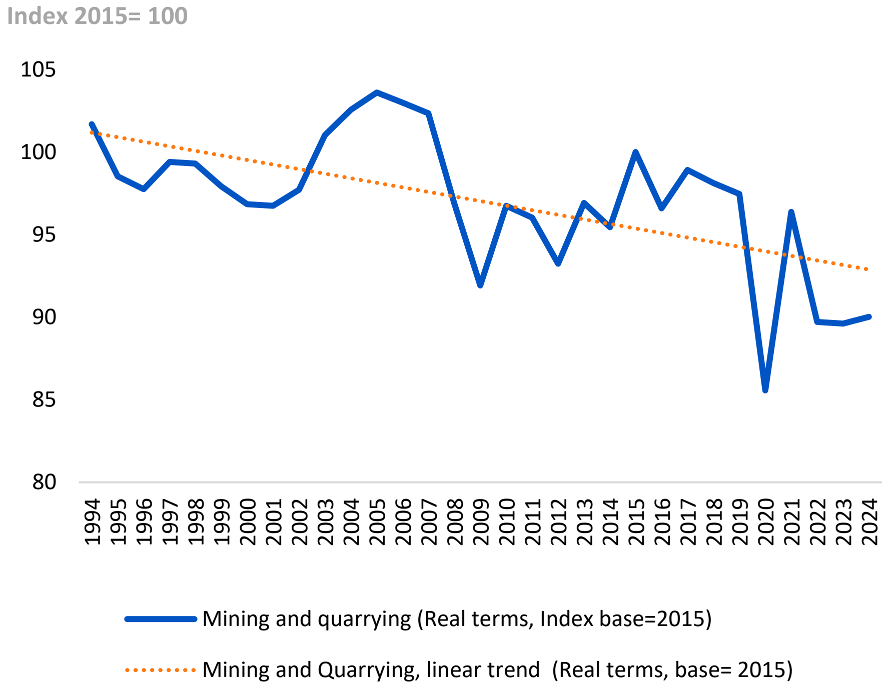
Figure 1: South Africa's mining sector has stagnated and declined despite commodity booms



Source: Data from Stats SA

THE SECTOR HAS DECLINED IN SIGNIFICANCE...

The long-term performance of the South African mining sector is defined by a significant structural decline that began in the 1970s. A collapsing gold sector, once the backbone of the economy, reduced aggregate mining production volumes.

The most profound evidence of structural failure occurred during the global "Missed Super-Cycle" (2001–2008). While peer resource-rich nations like Australia saw mining investment and GDP surge due to Chinese industrialisation, South Africa's mining contribution actually shrank by 1%. Research indicates that this divergence was largely driven by domestic policy transitions rather than geology. The promulgation of the MPRDA in 2004 introduced significant market shocks regarding state custodianship and shifting empowerment targets.

The trajectory of investor confidence, as tracked by the Fraser Institute, reveals a steady descent. South Africa transitioned from a premier investment destination in the early 2000s to a bottom-tier jurisdiction by 2024. This decline was accelerated by the policy shock era (2004–2010), followed by a crisis of confidence era (2011–2017) which was marked by labour unrest and state-led corruption. In the most recent era (2018–2024), these systemic issues have been compounded by a severe infrastructure and security crisis—specifically in rail, ports, and electricity—alongside the rise of so-called "mining mafias".

A policy shift in 2002 was arguably the source of the decline. The South African mining sector is governed by the Mineral and Petroleum Resources Development Act (MPRDA) 28 of 2002, which marked a shift from private mineral rights ownership to state custodianship. The MPRDA framework changed the ownership model and operating environment of the mining sector, giving the state a mandate to manage mineral resources. By transforming mineral rights from immovable property into state-granted permits, the MPRDA reoriented the sector's operational and legal foundations.

Policy uncertainty has been exacerbated by a series of legal challenges. The regulatory environment is currently in a state of flux. While the Mining Charter has historically set transformation targets, its status as only non-binding, confirmed by a 2021 High Court ruling, has led to the introduction of the Draft Mineral Resources Development Amendment Bill of 2025. This Bill seeks to formalise Black Economic Empowerment (BEE) requirements as mandatory legislative conditions for mining rights. Simultaneously, the failed SAMRAD administrative system is slowly being replaced with a modern, transparent mining cadastre.

…BUT IS STILL A CORNERSTONE OF THE ECONOMY

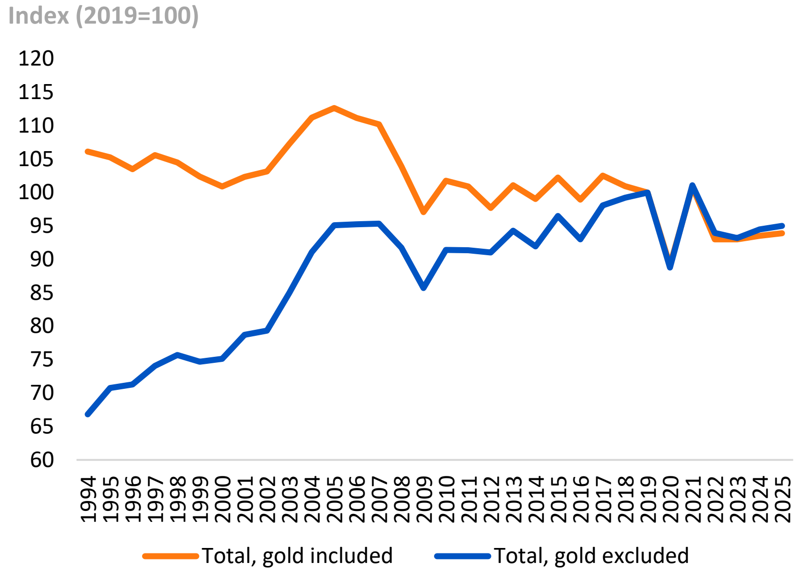
Despite a long-term decline in real terms, the South African mining sector remains a cornerstone of the national economy. In 2024, the industry directly contributed R442 billion, representing 6% of nominal GDP. Beyond its direct output, the sector functions as a vital economic engine through significant multiplier effects. The Minerals Council estimates an employment multiplier of ten, meaning every direct mining job supports ten additional opportunities in other sectors. This foundational role underscores the industry's importance in sustaining domestic investment and broader industrial activity.

The sector is the primary anchor for South Africa's external trade balance, accounting for over 50% of all merchandise export earnings. This trade surplus provides a critical cushion for the current account, helping to offset structural deficits caused by the importation of machinery and refined fuels.

Fiscal contributions from mining are substantial but characterised by extreme volatility. Between 2018 and 2024, the sector accounted for between 6.5% and 10.9% of total national revenue through corporate income tax, mining royalties, and personal income tax.

The sector's nominal financial strength masks a deepening productivity crisis and a "growth illusion". In real terms, the industry has shrunk by 11.5% since 1994, exerting a persistent drag on national GDP growth. This decline is primarily driven by the collapse of the gold sector, which saw an 84% reduction in output over this period. However, if gold production is excluded, the rest of the sector actually grew by 41%, revealing a stark divergence in sub-sector performance.

Figure 2: Total SA mining production volumes



2025= Average for first 11 months of 2025 (data outstanding for last month of 2025)
Source: Mining production data used from Stats SA.

Mining employment has steadily contracted from its 1987 peak of over 760 000 jobs to approximately 465 000 today, reflecting a disconnect between rising wages and stagnating labour productivity. Furthermore, the sector faces a capital productivity paradox where increased fixed capital formation, which reached R159 billion in 2024, fails to translate into higher volumes due to external constraints.

SOUTH AFRICA SITS ON A SIGNIFICANT ENDOWMENT

South Africa possesses one of the world's most significant mineral endowments, with a theoretical value of between $2.5 trillion and $4.7 trillion. The country holds the world's largest reserves of Platinum Group Metals (PGMs) and manganese, as well as the second-largest deposits of chromium, positioning it as an indispensable anchor in global industrial value chains. Despite this wealth, the sector's full potential remains largely latent: with only 9% to 14% of the country geo-mapped at a detailed 1:50,000 scale, significant discoveries likely remain untapped.

Table 1: Reserves of key minerals in South Africa

	World		Locality of major reserves		
	Rank	%	1st	2nd	3rd
Platinum Group Metals	1	88.7	South Africa	Russia	Zimbabwe
Manganese (Metal)	1	31.6	South Africa	Australia	China
Chromium	2	35.7	Kazakhstan	South Africa	India
Gold (Metal)	3	5.1	Australia	Russia	South Africa
Coal	6	3.5	USA	Russia	Australia

Source: Provided by the Minerals Council

The precious metals sub-sector is characterised by a value versus volume paradox. While gold production has plummeted by 84% since 1994 due to extreme depths and rising costs, record-high prices (reaching just under $5,600/oz in late January 2026) have generated a financial windfall for the remaining operators.

South Africa's dominance in ferrous and alloying metals makes the global stainless-steel industry heavily dependent on its supply. However, this segment faces a sharp tension between the state's push for local beneficiation and the reality of uncompetitive domestic smelting costs driven by high electricity tariffs.

Structurally, the industry is split between large-cap multinational majors and a vital but struggling junior mining sector. The majors—such as Anglo American and Glencore—operate at a massive scale, focusing on brownfields exploration to extend the life of existing assets. Junior miners serve as the industry's research-and-development arm, focusing on high-risk greenfields exploration. While juniors are responsible for the majority of new mineral discoveries globally, South Africa's juniors face a failure-to-launch crisis due to a lack of venture capital and bureaucratic delays in licensing.

The long-term health of the industry depends on a functional relationship where juniors discover new deposits and majors bring them into production. Historically, the South African regulatory framework has faltered by treating junior miners as smaller versions of majors, failing to account for the former's unique, high-risk business model.

How can mining create growth?

We used the Growth Diagnostics framework, developed by Hausmann, Rodrik, and Velasco (2005), to identify binding constraints. The framework provides a methodology for identifying the binding constraints that most severely inhibit private investment and entrepreneurship. This approach uses a decision tree to pinpoint whether low investment is driven by a high cost of finance or low returns to economic activity. Low returns are further categorised into "low social returns," caused by external factors like deficient infrastructure and human capital, or "low appropriability," where government failures such as corruption, weak property rights, and red tape prevent investors from capturing the value of their projects. By focusing on these specific bottlenecks, policymakers can achieve the "biggest bang for the reform buck," ensuring that the relaxation of a constraint yields the largest possible impact on growth.

For large-scale majors, the primary bottlenecks reside within the "Low Return on Economic Activity" node. The constraints are specifically linked to low appropriability—driven by bureaucratic backlogs, regulatory uncertainty, and systemic criminality—and low social returns caused by the collapse of network infrastructure. These factors create frictional costs that push project returns below global hurdle rates, rendering vast mineral deposits economically unviable despite the availability of dormant capital.

The junior mining sector is primarily stifled by constraints under the "High Cost of Finance" node, reflecting a chronic lack of venture capital and high-risk funding. The sheer accumulation of regulation acts as a prohibitive fixed cost. While majors can partially absorb these costs through scale, juniors lack the balance sheets to navigate extensive red tape, resulting in a failure-to-launch crisis for new exploration projects.

Recommendation 1: The overall policy and regulatory approach should follow a differentiated approach, especially in relation to juniors and majors.

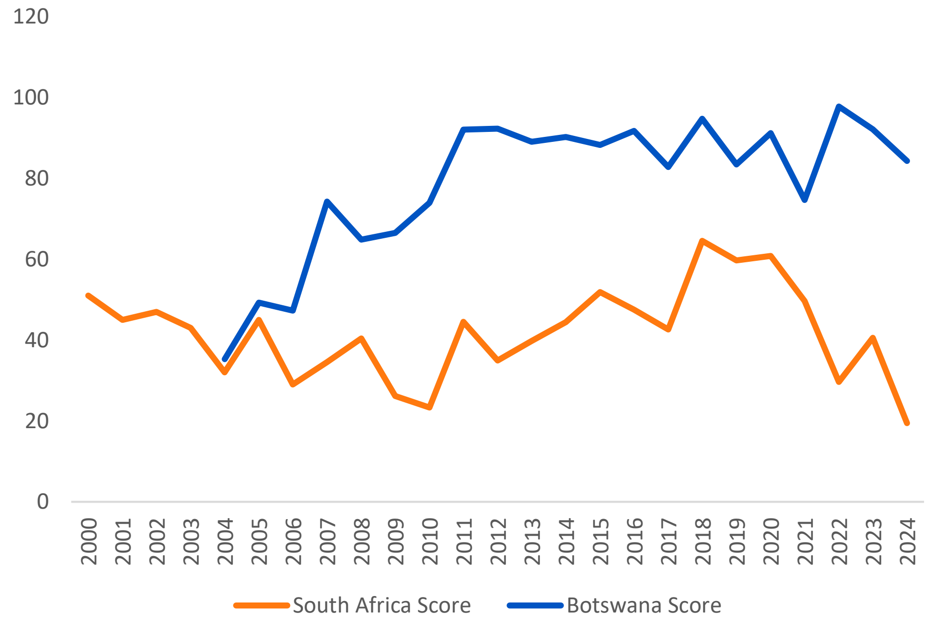
The starting point should be to withdraw and review the Mineral Resources Development Bill 2025 as it does not distinguish sufficiently between the characteristics and constraints of junior mining operations and those of majors.

Indeed, the legislative and regulatory framework should recognise junior miners as a distinct category requiring different regulatory treatment and a differentiated compliance approach.

#1 REDUCE POLICY UNCERTAINTY

The mining sector is currently entangled in a cycle of policy uncertainty and regulatory friction that has severely compromised its global competitiveness. This decline is starkly illustrated by the Fraser Institute's Policy Perception Index (PPI), where South Africa fell to 70th out of 82 jurisdictions by 2024. In contrast, regional peers like Botswana have ascended to the 20th position globally, demonstrating that the African operating environment is not a barrier to success; rather, specific domestic policy choices and the moving of BEE goalposts have served as the primary deterrents to long-term investment.

Figure 3: Fraser Policy Perception Index



Source: Data used from Fraser Institute

The shift to state custodianship under the MPRDA, introduced profound fears regarding security of tenure and property rights. The Mining Charter, in particular, became a source of systemic instability due to the Department of Mineral Petroleum and Resources' (DMPR's) historical opposition to the once-empowered, always-empowered principle. By demanding that companies top up empowerment levels whenever a BEE partner exited, the state effectively mutated social policy into a perpetual fixed cost of production. While the judiciary eventually upheld the industry's position, the years of litigation required to resolve these ambiguities caused great uncertainty.

A critical signal of this binding constraint is the industry's frequent use of the courts to bypass regulatory bottlenecks. The 2021 High Court ruling, which determined the Mining Charter was a non-binding policy instrument rather than legislation, briefly provided a reprieve from administrative overreach. However, the state's response, the Draft Mineral Resources Development Amendment Bill of 2025, seeks to legislate these same contested moving targets as the new bill would empower the minister to issue legally binding empowerment targets.

The 2025 Amendment Bill introduces fresh layers of uncertainty through opaque provisions regarding strategic minerals and forced beneficiation.

Ultimately, the legislative framework and disputes have created a high-friction environment. To unlock the sector's potential, the diagnostic suggests that the state must move away from adversarial legislating and toward a differentiated regulatory approach. Without addressing the disconnect between policy formulation and industry reality, South Africa's vast mineral wealth will remain sterilised by the very framework intended to promote its development.

Recommendation 2: If the objective is to promote economic growth, and provide policy certainty, a revised bill should explicitly reflect the views of the industry and maintain the outcomes of the court rulings. This is especially relevant in relation to the notion of "once empowered, always empowered", the mining charter, and how beneficiation is pursued.

#2 REDUCE THE REGULATORY BURDEN AND BUREAUCRATIC BACKLOGS

The regulatory and legislative landscape in South Africa should be viewed as a cumulative framework that has mutated into a prohibitive fixed cost of production. This burden is disproportionately felt by the junior mining sector, where regulatory compliance already consumes an estimated 30% to 40% of operational budgets. If the Mineral Resources Development Bill 2025 is enacted in its current form, these costs are projected to rise by another 40% to 60%, further stifling the sector and restricting the operational flexibility required for high-risk exploration.

Bureaucratic backlogs cost the sector an estimated R30bn to R50bn annually. This administrative crisis originated with the shift to state custodianship under the MPRDA. This transition overwhelmed the department's capacity, leading to the failure of successive administrative systems like SAMRAD, which was characterised by a lack of transparency and over-pegging. The resulting backlogs are staggering; as of 2021, over 4 400 mining rights and 36 000 prospecting rights remained outstanding, stalling capital expenditure and costing the sector an estimated R30 bn to R50 bn annually in lost opportunities.

Licensing process takes approximately two years in South Africa, whereas it takes only eight months in Australia or six in Botswana.

To address these constraints, the rollout of the new online cadastral system must be accompanied by an aggressive, dedicated program to eradicate the existing application

backlog. In addition to clearing the backlog, unused licences should be withdrawn and cancelled to open up new areas and opportunities.

Finally, structural institutional reform is necessary to insulate the licensing process from political interference. Establishing an independent Minerals Commission would create a professionalised Mining Licence Authority staffed by industry experts. By firewalling the administration of the cadastre from the political cycle, South Africa can begin to restore investor trust and enforce maximum processing timeframes.

Recommendation 3: A full audit of the regulatory burden and compliance costs experienced by mining companies should be conducted to inform a revised bill. The review should also explore the granting of certain exemptions to ESG and transformation requirements, especially in relation to junior mining exploration companies. The argument is that at the prospecting stage, juniors cannot necessarily handle equity dilution so these requirements should only kick in once a mining right is bankable.

Part of this recommendation is also to streamline the application process by making the DMRE the competent authority in relation to water rights for mining, and the Department of Water and Sanitation the appeals authority.

Given the nature of reforms driven by Operation Vulindlela (OV), mining should perhaps directly form part of OV's reform agenda.

Recommendation 4: A dedicated, rapid backlog-eradication programme should be pursued to fast-track outstanding mining rights and prospecting applications. Such a programme should include the secondment of extra private sector expertise to accelerate the roll-out of the new cadastral system and to clear the backlog in permits. This process should also enforce the use-it-or-lose-it principle by cancelling and withdrawing unused prospecting and mining rights, which would open up these opportunities to companies that can use these rights for exploration and mining. The revised bill should also have clear, strict and enforceable timelines for the processing of applications and outcomes of appeals. It is recommended that there should be a commitment to process all prospecting rights within three months.

Recommendation 5: Explore the potential of a Minerals Commission and whether such a commission could be firewalled from political interference and staffed by industry experts. The concept would be to have an independent regulator, which essentially functions as a Mining Licence Authority, overseeing the new online cadastral system, and enforcing adherence to licensing timelines.

#3 UNLEASH JUNIOR MINING AND EXPLORATION

South Africa's junior mining and exploration industry is underdeveloped, leading to a lost generation of mines and the effective collapse of the sector's project pipeline. While global exploration is increasingly driven by agile, venture-capital-funded juniors responsible for over 70% of new discoveries (greenfield exploration), South Africa's mining landscape remains dominated by brownfields exploration. For example, currently there are only about 12 junior resource companies listed on the JSE, whereas there are over 600 listed on the ASX (Australia) and over 1 600 on the TSX (Canada).

Financially, the sector is struggling with "bad local finance" and a collapse in exploration expenditure. South Africa's share of global exploration spending has plummeted from 5% in 2004 to less than 1% today. In 2024, SA spent a negligible $43 million on exploration compared to Canada's $3 billion.

Although the MPRDA intended for the use-it-or-lose-it principle to be used to open the sector, industry experts estimate that only 10% of the 33 000 prospecting rights granted since 2004 have been executed. The remaining 90% are held by entities lacking technical or financial capacity. This effectively ties up thousands of rights, blocking opportunities for new exploration.

To revitalise exploration, South Africa should adopt the successful blueprints of Canada and Australia, specifically the flow-through share model. In Canada, flow-through shares allow investors to claim back 70%- 100% of their investment in junior mining as a tax credit. Australia has a similar model. Such an incentive would lower the cost of capital and attract the high-risk venture funding necessary for greenfields exploration.

Recommendation 6: Introduce incentives for exploration through tax rebates, modelled on the flow-through shares model used in Australian and Canadian. This will increase access to finance and reduce risk.

Reducing exploration risk requires a major investment in pre-competitive geological data. Currently, only a fraction of South Africa has been mapped at the 1:50,000 scale essential for modern exploration. Expanding the budget of the Council for Geoscience to accelerate high-resolution geophysical mapping and making this data freely available online would allow juniors to use advanced algorithms to identify anomalies before applying for rights. Combined with a transparent cadastral system and a more aggressive withdrawal of unused prospecting rights, these reforms could finally unlock untapped potential.

Recommendation 7: Increase funding to the Council for Geoscience to accelerate high-level geophysical mapping and make this "pre-competitive" data available online. Alternative funding options could be explored to supplement financing via the national fiscus.

#4 CORRUPTION, CRIME, SECURITY AND ILLICIT MINING

Illicit mining has grown by an estimated 757% from R7 billion in 2017 to R60 billion in 2025. Crime in the sector and illicit mining has evolved from opportunistic theft to systemic extortion and organised crime.

The lack of a transparent cadastral system has enabled corruption and information externalities, where insider knowledge from the failed SAMRAD system is exploited to grant overlapping rights. From a growth-diagnostics perspective, this forms a constraint, and the risk-adjusted return on legal investment plummets.

Recent state interventions offer a glimmer of progress, notably through Operation Vala Umgodi, but more needs to be done. The industry continues to advocate for Operation Vala Umgodi to be formalised into a permanent, dedicated Mining Police Task Force to dismantle organised syndicates in the sector. The success of reform will depend on the state's ability to purge potential corruption from within and restore the rule of law across the mineral complex.

Recommendation 8: The current actions to address illicit mining and criminal behaviour should be intensified, and Operation Vala Umgodi should be made permanent, along with the establishment of a dedicated mining police task force within the SA Police Service (SAPS). In addition, the provisions in the current bill, which should strengthen the efforts of Operation Vala Umgodi and allow for the creation of a dedicated mining police task force, should be retained in the revised bill. Given the magnitude and alleged nature of crime and corruption in the sector, a Judicial Commission of Inquiry should be considered, although its success will depend on the extent to which it is used to enforce the rule of law and prosecute wrongdoing in the sector.

#5 ELECTRICITY AND LOGISTICS INHIBIT GROWTH

The collapse of South Africa's network industries represents a critical constraint. Electricity tariffs have skyrocketed by approximately 937% since 2007.This energy crisis has decimated the domestic beneficiation industry; the number of operating ferrochrome smelters has plummeted from 22 to just 2 in 2025, leading to an estimated loss of up to 350 000 jobs in the broader industrial economy.

In 2021 alone, bulk mineral miners lost R35 bn in revenue due to Transnet's inability to meet targeted rail movements, while the full opportunity cost of Transnet not matching the capacity on its rail network amounted to R50 bn. An inefficient logistics system caps the sector's growth potential. Unlike the Australian model, where mining majors own and operate their own rail infrastructure, South African firms remain tethered to failing rail lines.

Recommendation 9: Reforms to accelerate private sector investment in rail and ports, and permit private concessions, are slowly gaining traction, however, they should be fast-tracked and expanded. For example, some industry experts argue that if the coal and manganese lines were privately concessioned, capacity would increase rapidly, which would unlock billions in export revenue.

Conclusion

Without addressing these binding constraints, the sun will surely set on South Africa's mining sector. But it should be the opposite; the sun should be rising. The problems facing the sector are well documented and the remedies, clear and well within the ability of South Africa to address. Fixing these constrains would unlock South Africa's great mineral potential and could contribute significantly to faster economic growth.

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