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MINING LEARNING SERIES

South African Mining & Economic Impact

A learner-friendly guide to value, jobs, trade, communities and shared prosperity

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Table of Contents

How to Use This Study Note 3

1. Mining in the South African Economy 4

2. Minerals, Regions and Economic Geography 5

3. GDP, Production and Value Added 6

4. Exports, Foreign Exchange and Trade 7

5. Employment, Wages and Skills 8

6. Mining Value Chains and Beneficiation 9

7. Taxes, Royalties and Public Revenue 10

8. Communities and Local Economic Development 11

9. Infrastructure, Energy and Logistics 12

10. Commodity Cycles, Risks and Constraints 13

11. Inclusive, Sustainable Growth and the Future 14

12. Key Terms, Calculations and Revision 15

13. References 16

LEARNING OUTCOMES

After studying this note, you should be able to explain how mining contributes to GDP, exports, employment, value chains and public revenue; distinguish direct, indirect and induced effects; calculate simple economic indicators; and evaluate who benefits, who carries costs and how impact can be improved.

How to Use This Study Note

Mining statistics can sound impressive but are easy to misread. This guide shows what the numbers mean, how they connect and why economic impact includes both benefits and costs.

A four-step evidence method

Step	Action
1. Define	Ask whether the figure measures production, sales, GDP, exports, jobs or tax.
2. Date	Check the year, quarter and whether the figure is preliminary, estimated or final.
3. Compare	Use the same prices, units, source and time period before calculating change.
4. Interpret	Explain drivers, distribution, uncertainty and possible social or environmental costs.

Numbers used in this note

The main snapshot uses Minerals Council South Africa figures for 2024: mining GDP of about R442.7 billion (6% of national GDP), mineral exports of about R774.3 billion and direct employment of about 474,876. These are industry estimates built from official and industry data; Stats SA, SARS, SARB and the DMPR remain important primary sources.

DO NOT MIX MEASURES

Mining production is a volume index; mineral sales are rand values; GDP is value added; exports record cross-border trade; turnover is revenue before costs. They answer different questions.

1. Mining in the South African Economy

Mining helped shape South Africa's cities, railways, electricity system, financial institutions, migrant-labour patterns and industrial development. Its share of GDP is smaller than at its 1980 peak, but the sector remains influential through exports, jobs, procurement, taxes, infrastructure and links to manufacturing and services.

Impact channel	What flows through it	Example
Direct	Activity inside mines and mineral-processing operations	Production, wages, profits, taxes and purchases
Indirect	Demand from suppliers to mining	Engineering, explosives, equipment, transport and finance
Induced	Household spending supported by mining-linked income	Food, housing, retail, education and local services
Fiscal	Payments to government	Corporate income tax, royalties, VAT and employee taxes
External	Effects not fully reflected in market prices	Pollution, congestion, land disturbance or knowledge spillovers

2024 snapshot

Indicator	Approximate result	Meaning
Mining GDP	R442.7 billion; 6% of GDP	Value added by mining, not total sales
Mineral exports	R774.3 billion	Foreign sales that support trade and foreign-exchange earnings
Direct employment	474,876 jobs	People employed directly in the sector; wider linkages support more livelihoods
Industry value / turnover	Around R1 trillion	Revenue scale; not the same as profit or GDP

BALANCED CONCLUSION

Mining can create national income and local opportunity while also creating environmental, health, housing and dependency risks. A strong evaluation counts both sides and asks how benefits and costs are distributed.

2. Minerals, Regions and Economic Geography

Geology determines where mineral deposits occur, so mining activity is concentrated in particular provinces and corridors. Economic impact therefore differs across communities and commodities.

Commodity / cluster	Important South African areas	Main economic links
Platinum group metals	Bushveld Complex: Limpopo, North West and Mpumalanga	Autocatalysts, jewellery, hydrogen technologies and specialised services
Gold	Witwatersrand Basin: Gauteng, Free State and North West	Refining, finance, engineering and deep-level mining expertise
Coal	Mpumalanga and parts of Limpopo, KwaZulu-Natal and Free State	Electricity, liquid fuels, industry, rail and export terminals
Iron ore and manganese	Northern Cape	Steel value chain and bulk export logistics
Chrome and ferrochrome	Bushveld Complex	Stainless-steel inputs, smelting and exports
Diamonds	Northern Cape, Free State, Limpopo and offshore/west coast	Cutting, polishing, jewellery, tourism history and exports
Industrial minerals	Many provinces	Construction materials, fertiliser, chemicals and manufacturing



Mineral location shapes settlements, transport corridors and regional economies. | Source: 911 Metallurgist

LOCATION MATTERS

A national GDP gain does not guarantee a local improvement. Analyse jobs, procurement, housing, services, environmental effects and closure readiness in each host and labour-sending community.

3. GDP, Production and Value Added

Gross domestic product measures value added: the value of output less the value of intermediate inputs. Mining GDP therefore avoids counting purchased fuel, explosives and services twice.

Core calculations

Measure	Formula	Example
Value added	Output value - intermediate inputs	R10.0bn - R6.4bn = R3.6bn
GDP share	Mining GDP / national GDP x 100	R442.7bn / R7,378bn x 100 ≈ 6.0%
Real growth	(real output this year - last year) / last year x 100	(102 - 100) / 100 x 100 = 2%
Labour productivity	Real output / number of workers	Use comparable real output and employment periods

Nominal versus real

Nominal GDP uses current prices and may rise because commodity prices increase. Real GDP removes general price effects to show changes in production volume. A mine can sell less physical material but earn more rand if prices or the exchange rate move favourably.

Why estimates differ

- Publication dates differ and later releases may revise earlier data.
- One source may use calendar-year averages while another uses nine months or a financial year.
- GDP at basic prices, gross value added and sales are not interchangeable.
- Industry estimates may combine Stats SA, SARS, company and trade datasets.

BEST PRACTICE

Name the source, measure, year and unit next to every figure. Do not compare R442.7 billion of GDP with R1 trillion of turnover as though they measure the same thing.

4. Exports, Foreign Exchange and Trade

Mineral exports earn foreign currency and form a large part of South Africa's merchandise trade. PGMs, coal, iron ore, gold, manganese and chrome connect domestic mines to global manufacturing, energy and investment demand.

Transmission channel	Possible benefit	Possible vulnerability
Export receipts	Support the trade balance and foreign-exchange supply	Global demand and prices can fall rapidly
Exchange rate	A weaker rand can raise rand revenue from dollar-priced minerals	Imported machinery, fuel and debt may become more expensive
Government revenue	Profits and sales can support tax and royalty receipts	Receipts decline in downturns
Investment	Strong outlook can attract exploration and mine capital	Policy, power and logistics uncertainty can delay projects
Supply chains	Exports support ports, rail, road and service industries	Transport bottlenecks can limit production and raise costs

Export share calculation

EXAMPLE

If mineral exports are R774.3bn and total merchandise exports are R1,550bn, the mineral share is R774.3bn / R1,550bn x 100 = 50.0%. Use the same year and trade definition; related manufactured products may be classified differently.

Trade is more than volume

Economic value depends on price, grade, processing stage, transport cost, contracts and exchange rates. Exporting a tonne of ore and exporting a refined metal are not economically identical, but local processing is beneficial only when energy, technology, skills, markets and environmental performance make it competitive.

5. Employment, Wages and Skills

Mining directly employed about 474,876 people in 2024 according to the Minerals Council. Each job can support a household and spending in other sectors, but multiplier claims must be based on a transparent model rather than a simple guess.

Employment effect	Meaning	Examples
Direct	Workers employed by mining operations and included contractors, depending on the dataset	Operators, artisans, engineers, geologists, surveyors and safety staff
Indirect	Jobs at suppliers serving mining demand	Equipment, explosives, transport, laboratories and professional services
Induced	Jobs supported when workers and suppliers spend their income	Retail, housing, food, education and personal services
Displaced / opportunity cost	Activity reduced because resources, land or public capacity are used elsewhere	Pressure on roads, housing, water, skills or other local sectors

Job quality matters

- Safe, lawful work and effective worker voice.
- Fair pay, benefits and predictable working arrangements.
- Training, portable qualifications and career progression.
- Inclusion of women, youth, people with disabilities and historically disadvantaged groups.
- Preparation for mechanisation, decarbonisation and closure-related transition.

EMPLOYMENT CALCULATION

Employment change = new employment - old employment. Percentage change = change / old employment x 100. A decline from 480,000 to 474,876 equals -5,124 jobs, or about -1.07%.

6. Mining Value Chains and Beneficiation

A value chain connects exploration to extraction, processing, manufacturing, use, recycling and services. Beneficiation means adding value to minerals through processing or manufacturing, but the highest-value opportunity may also be equipment, software, engineering or recycling.

Stage	Example activity	South African opportunity
Exploration	Geophysics, drilling, sampling and modelling	Geoscience, laboratories, data and junior mining
Mining	Drilling, blasting, loading and hauling	Operations, equipment, maintenance and services
Concentration	Crushing, grinding, flotation and separation	Processing skills, water efficiency and plant technology
Smelting / refining	Convert concentrates into metals or products	Metallurgy, energy systems and industrial clusters
Manufacturing	Use metals and minerals in finished products	Steel, alloys, catalysts, batteries and jewellery
Services and circularity	Finance, software, repair, reuse and recycling	Mining technology, remanufacturing and secondary materials



Processing can raise mineral concentration before further refining or sale. | Source: A.M. King

A value-add test

ASK FIVE QUESTIONS

Is there reliable and affordable energy? Is the scale competitive? Are skills and technology available? Is there a market? Can water, emissions, waste and rehabilitation be managed responsibly?

7. Taxes, Royalties and Public Revenue

Mining contributes to public revenue through several channels. Taxes depend on taxable income and transactions; royalties recognise the transfer of mineral resources extracted in South Africa. SARS pays collected mineral royalties into the National Revenue Fund.

Revenue channel	What it is based on	Important caution
Corporate income tax	Taxable company income after permitted deductions	Profit and tax are not the same as turnover
Mineral royalty	Transfer of extracted mineral resources; formula varies with profitability and refinement	Royalty receipts move with sales and profitability
VAT and fuel levies	Taxable purchases, sales and fuel use under applicable rules	Input credits and exemptions affect net receipts
Employee income tax	Taxable remuneration earned by workers	Collected through payroll and linked to employment
Dividends / state participation	Returns to shareholders or state-linked entities	Depends on ownership, profit and distribution decisions
Municipal charges	Rates and service charges where applicable	Must be linked to lawful billing and service capacity

Recent official figures

The DMPR stated that mining royalties were about R10.6 billion in 2024 and R11.8 billion in 2025. The Minerals Council estimated that total 2025 fiscal contributions - including corporate taxes, royalties, VAT and employee personal income tax - exceeded R100 billion. These totals cover different baskets and must not be directly compared.

REVENUE IS NOT AUTOMATICALLY LOCAL

National revenue supports the whole public budget. Host-community benefits also depend on municipal capability, Social and Labour Plans, procurement, ownership arrangements and accountable public spending.

8. Communities and Local Economic Development

Mines can create work, business demand, roads and social investment, but rapid growth can also strain housing, water, health services, traffic and social cohesion. Impact should be planned with host communities, labour-sending areas and municipalities.

Local impact area	Opportunity	Risk to manage
Procurement	Build competitive local suppliers and transferable capability	Fronting, dependence, poor quality or late payment
Skills	Bursaries, apprenticeships and workplace learning	Training disconnected from real jobs
Infrastructure	Shared roads, water, energy and digital systems	Mine-only infrastructure or municipal maintenance burden
Enterprise development	Finance, mentoring, market access and supplier standards	Short contracts and collapse after mine demand ends
Social investment / SLPs	Projects aligned with community and municipal priorities	Poor consultation, duplication or weak monitoring
Closure planning	New land uses, skills and diversified local income	Economic shock, unemployment and abandoned liabilities



Economic development works best when affected people receive information and influence decisions. | Source: Canyon Coal - Bekezela public meeting

GOOD LOCAL DEVELOPMENT

Define beneficiaries, publish selection rules, track outcomes, prevent conflicts of interest and design projects that can survive beyond the mine's operating life.

9. Infrastructure, Energy and Logistics

Mining is infrastructure-intensive. Electricity, water, rail, roads, ports and communications affect cost, reliability, safety and the quantity of mineral product that can reach customers.

System	Economic role	Constraint and response
Electricity	Powers hoisting, ventilation, pumping, processing and smelting	Reliability and high tariffs; improve efficiency, generation and grid planning
Rail	Moves large bulk volumes efficiently over long distances	Capacity and reliability; recover corridors and protect infrastructure
Ports	Connect exports to global markets	Queues and equipment performance; coordinate rail-port flows
Roads	Move workers, supplies and diverted mineral tonnage	Congestion, damage and safety; price impacts and shift suitable bulk loads to rail
Water	Supports processing, dust control and people	Scarcity and quality; reuse, treatment and catchment planning
Digital networks	Support automation, planning and business systems	Coverage and cyber risk; resilient, secure connectivity

A bottleneck example

CAPACITY UTILISATION

If a mine can produce 12 Mt/year but logistics can move only 9 Mt/year, effective saleable capacity is 9 Mt/year and logistics utilisation of mine capacity is 9/12 x 100 = 75%. Extra mine output has limited value until the bottleneck improves.

Shared infrastructure principle

Where feasible, mine investment should complement public plans and leave maintainable assets. Agreements must specify access, ownership, service standards, operating costs, environmental obligations and responsibilities after closure.

10. Commodity Cycles, Risks and Constraints

Driver	How it affects impact	Example response
Commodity prices	Change revenue, profit, investment, jobs and taxes	Stress-test plans at low, base and high prices
Ore grades and depth	Lower grades or deeper mines can raise energy and cost per tonne	Technology, selective mining and realistic reserves
Exchange rate	Changes rand export revenue and imported-input cost	Scenario analysis and financial risk management
Energy and logistics	Limit output and processing competitiveness	Efficiency, partnerships and infrastructure recovery
Policy and permitting	Influence investment timing and confidence	Transparent rules, capable administration and compliance
Safety and environment	Incidents create human harm, stoppages, liabilities and lost trust	Prevention, assurance, rehabilitation and emergency readiness
Illegal mining and crime	Endanger people, damage infrastructure and reduce lawful activity	Lawful enforcement plus prevention and livelihood responses

Commodity-cycle thinking

High prices can create temporary windfalls; low prices can expose high costs and debt. Responsible planning avoids treating a boom as permanent and uses strong years to maintain assets, fund rehabilitation, develop people and diversify local economies.

SCENARIO TEST

At 100 units sold, a R10 price fall reduces revenue by R1,000 before any cost response. If fixed costs are high, profit and tax can fall by a much larger percentage than production.

11. Inclusive, Sustainable Growth and the Future

South Africa's goal is not simply more tonnes. It is mineral development that is competitive, safe, lower-carbon, environmentally responsible and capable of creating durable value for workers, businesses, communities and the country.

Priority	Economic logic	Evidence of progress
Exploration	New geological knowledge supports future mines and investment	Quality geodata, applications processed and discoveries advanced
Operational competitiveness	Reliable energy, logistics and regulation reduce unit cost and risk	Higher utilisation, investment and stable production
Transformation	Broader ownership, procurement, skills and participation expand opportunity	Verified outcomes, not only expenditure or promises
Beneficiation and suppliers	Competitive local value chains retain knowledge and income	Export diversity, supplier capability and sustainable jobs
Critical minerals	Energy and digital transitions create changing demand	Responsible projects linked to real markets and industrial strategy
Circular economy	Recovery, reuse and remanufacturing reduce waste and create services	Materials recovered, waste avoided and new enterprises
Just transition and closure	Early planning reduces regional economic shock	Funded closure, worker pathways and diversified local economies

A balanced scorecard

- Economic: value added, investment, productivity, exports and public revenue.
- People: safe work, skills, inclusion, wages and worker transition.
- Community: local procurement, services, trust and post-mining resilience.
- Environment: water, land, biodiversity, waste, emissions and rehabilitation.
- Governance: compliance, transparent data, ethical procurement and grievance resolution.

FUTURE-READY PRINCIPLE

A project creates lasting impact when it remains viable at realistic prices, prevents harm, develops transferable capability and leaves people and places more resilient after mining ends.

12. Key Terms, Calculations and Revision

Quick glossary

Term	Meaning
Beneficiation	Processing or manufacturing that increases a mineral's usefulness or value.
Commodity cycle	Repeated periods of rising and falling commodity demand and prices.
Direct effect	Economic activity within the industry being measured.
GDP / value added	Output value less intermediate inputs.
Induced effect	Activity supported by household spending from linked income.
Indirect effect	Activity at suppliers serving the industry.
Mineral royalty	Payment linked to transferring extracted mineral resources.
Multiplier	Modelled ratio of total effect to an initial direct change.
Nominal value	A value measured at current prices.
Real value	A value adjusted to remove general price effects.

Worked calculation

VALUE ADDED AND SHARE

A mine sells R5.0bn and buys R3.2bn of intermediate inputs. Value added = R1.8bn. If national GDP is R7,500bn, the mine's direct GDP share = R1.8bn / R7,500bn x 100 = 0.024%. Do not add supplier output again without an input-output method.

Revision questions

- 1. Distinguish GDP, turnover, sales and exports.
- 2. Explain direct, indirect and induced effects with examples.
- 3. Why does mineral geography shape regional economies?
- 4. Compare nominal and real mining growth.
- 5. Explain three ways mining affects the trade balance.
- 6. What makes a mining job economically valuable?
- 7. Describe the mining value chain and a beneficiation test.
- 8. Name five public-revenue channels.
- 9. Explain two benefits and two risks for host communities.
- 10. Propose five indicators for responsible mining growth.

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Sources were checked on 17 August 2026. Figures are revised over time; verify the measure, period and latest official release before reuse.

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