

Revamp of Mining Composite Input (MCI) Cost Index

Background

The Minerals Council's MCI Cost Index was originally developed in 2018 to better understand the specific cost pressures faced by the mining sector and to compare that with the changes in commodity prices from which mining derives revenue. This comparison provides a broad indicator of mining profitability. Initially, the index tracked year-on-year percentage changes in 18 key mining input cost categories. Each category was weighted by its relative importance in the cost structure of the mining industry. The relative weightings differed per commodity, requiring commodity-specific input cost indices. These categories represent around 96% of total mining input costs, based on sectoral expenditure on intermediate inputs (i.e., goods and services used in production). The remaining 4% was captured using a proxy: the Producer Price Index (PPI) for Final Manufactured Goods, which reflects broader factory gate inflation.

At the time, we calculated year-on-year changes directly from the cost categories without constructing an aggregate index. This approach has some limitations and has therefore been revised. In a major revamp of how we measure mining input costs, we now first construct an aggregate index and then derive the year-on-year changes from it, altering the earlier methodology. We have therefore undertaken a comprehensive update that includes reweighting, rebasing, and reconstructing the index. This process involved several changes to the underlying indices. While the overall input cost trends remain consistent relative to the initial approach adopted, the implication of the change in methodology is significant differences in the rate of change for input costs for certain years. As a result, the new index is **not directly comparable** to the previous version.

Table 1 lists the cost categories and the respective indices used in the composite index. These indices are sourced from reputable institutions such as Statistics South Africa (Stats SA), the Steel and Engineering Industries Federation of South Africa (SEIFSA), and the South African Reserve Bank (SARB).

Table 1 – Indices used in the calculation

Input Cost Category	Index	Source
Mining & quarrying	Analytical series: Mining excluding precious metals and stones	Stats SA
Wood & wood products	PPI for intermediate manufactured goods: Sawmilling and wood	Stats SA
Coke & refined petroleum	PPI for final manufactured goods: Coal and petroleum products	Stats SA
Basic chemicals	PPI for final manufactured goods: Chemical products	Stats SA
Other chemicals & man-made fibres	PPI for intermediate manufactured goods: Basic and other chemicals	Stats SA
Rubber products	PPI for intermediate manufactured goods: Rubber products	Stats SA
Metal products excluding machinery	PPI for final manufactured goods: Structural and fabricated metal products	Stats SA

Machinery & equipment	PPI for final manufactured goods: General and special purpose machinery	Stats SA
Electrical machinery & apparatus	PPI for final manufactured goods: Electrical machinery and communication and metering equipment	Stats SA
Transport equipment	PPI for final manufactured goods: Transport equipment	Stats SA
Electricity	PPI for electricity and water: Electricity	Stats SA
Water	PPI for electricity and water: Water	Stats SA
Wholesale & retail trade	Basket of Indices Used	
	PPI for final manufactured goods: Final manufactured goods	Stats SA
	CPI: South Africa - All Items	Stats SA
Transport & storage	Basket of Indices Used	
	Table L-2(B): SEIFSA Index - Road Freight Costs: SEIFSA index of road freight costs: Companies who outsource their transport of products / staff to logistic companies	SEIFSA
	Table L-1(B): SEIFSA Index - Road Freight Costs: SEIFSA index of road freight costs: Companies who transport their own product / staff to site and own their fleet	SEIFSA
	Freight transportation: Income - Rail freight transportation (Current prices: Actual values R million)	Stats SA
	Freight transportation: Payload - Rail freight transportation (Actual values ('000))	Stats SA
	CPI: South Africa - Housing and utilities - Actual rentals for housing	Stats SA
	CPI: CPI administered prices excluding petrol and paraffin	Stats SA
Finance, insurance, real estate & business services	Money market and related interest rates: Interest rates: Prime lending rate	SARB
Community, social & personal: Other producers	CPI: South Africa - All Items	Stats SA
Residual	PPI for final manufactured goods: Final manufactured goods	Stats SA
Imported Intermediate Inputs	Nominal effective exchange rate against the most important currencies	SARB
Compensation of Employees	Table C-3: SEIFSA Index - Actual Labour Cost: All Hourly-Paid Employees	SEIFSA

Source: Minerals Council

The 18 input cost categories above are assigned weights based on the Input-Output framework compiled by Quantec (Pty) Ltd, using input-output tables from Stats SA. This framework identifies the industries from which a particular sector of the economy sources its inputs and the industries to which it sells its outputs. For the mining composite input cost index, we focus on the input side to determine the industries supplying the mining sector and the relative significance of each. The weightings from Quantec and Stats SA allow the input cost index to accurately reflect the input cost fluctuations in the mining industry and respective commodities based on the actual structure of the sector.

Quantec provides detailed information on the structure of the mining sector as a whole and the following major commodities:

- Coal
- Gold
- PGMs
- Chrome
- Iron Ore
- Manganese
- Other metallic minerals (including Silver, Antimony, Cobalt, Lead, Titanium, Uranium oxide, Zinc & Zirconium)
- Other mining and quarrying (including building materials such as aggregate and sand and other non-metallic minerals such as feldspar, vermiculite, silica etc)

As part of the latest updates to the MCI Cost Index, several changes were made to the indices used:

- **Transport & Storage:** SEIFSA discontinued its Table L-2(A) Road Freight Costs index, which we previously used for this category. It has been replaced by two new indices:
 - **Table L-2(B):** Reflects road freight costs for companies that outsource transport of goods or staff to logistics providers.
 - **Table L-1(B):** Captures costs for companies that manage their own transport operations and own their fleet.

Both indices are now used together to more accurately reflect the full range of transport-related costs.

- **Wood and Wood Products:** We previously used the PPI for Final Manufactured Goods as a proxy. This has been updated to a more specific measure: the PPI for Intermediate Manufactured Goods – Sawmilling and Wood, as published by Stats SA.
- **Electrical Machinery and Apparatus:** The index has been refined. Instead of the broader PPI for Final Manufactured Goods: Electrical Machinery and Apparatus (and its subcomponents), we now use the PPI for Final Manufactured Goods: Electrical Machinery and Communication and Metering Equipment, which offers a more targeted reflection of relevant cost movements.
- **Water:** The original set of 18 key mining input cost categories has been expanded to 19 with the inclusion of an index measuring the factory gate cost of water, recognising its critical role as an input in mining operations.

Table 2 below illustrates the weightings for 2024 used per category for the industry and respective commodities (including labour costs) based on the data from Quantec and Stats SA.

Table 2: Cost Basket Weights

2024 Cost Basket	Total Mining	Coal	Gold	PGMs	Chrome	Iron Ore	Manganese	Other Metallic Minerals	Other Mining and Quarrying
Intermediate Cost Basket	%								
Mining & quarrying	2.82	1.83	2.41	0.71	6.01	2.20	6.36	2.45	3.16
Wood & wood products	0.79	0.49	1.29	0.62	0.85	0.96	0.91	0.90	0.26
Coke & refined petroleum	5.51	7.48	4.57	3.49	4.72	5.32	5.03	4.96	8.42
Basic chemicals	2.30	0.22	0.85	2.87	3.83	4.38	4.10	4.08	0.47
Other chemicals	0.28	0.12	0.13	0.29	0.41	0.47	0.43	0.44	0.15
Rubber products	0.19	0.18	0.28	0.13	0.17	0.20	0.18	0.18	0.13
Metal products excluding machinery	3.13	3.03	3.58	2.23	3.02	3.43	3.21	3.21	3.57
Machinery & equipment	2.39	1.14	3.90	1.85	2.50	2.82	2.65	2.63	1.99
Electrical machinery & apparatus	0.77	0.50	0.65	0.73	1.01	1.13	1.07	1.06	0.29
Transport equipment	0.14	0.14	0.16	0.09	0.13	0.14	0.13	0.13	0.20
Electricity	4.60	2.37	9.41	3.13	4.17	4.62	4.49	4.31	4.57
Water	0.33	0.16	1.01	0.15	0.20	0.23	0.21	0.21	0.33
Wholesale & retail trade	7.38	8.23	7.63	5.00	6.87	7.94	7.17	7.40	9.05
Transport & storage	6.85	14.93	3.00	3.82	4.93	5.50	5.11	5.17	9.19
Finance, insurance, real estate & business services	10.97	10.10	12.33	7.54	12.11	12.68	13.32	11.21	9.80
Government and Community	7.40	7.08	12.78	4.41	6.18	6.97	6.42	6.51	7.04
Other Intermediate Inputs*	3.76	4.06	4.20	2.40	3.74	4.23	3.49	3.94	3.38
Imported Intermediate Inputs	16.49	20.04	12.28	12.60	16.95	19.06	17.83	17.97	16.66
Compensation of Employees	23.92	17.92	19.53	47.96	22.21	17.71	17.88	23.23	21.34
Total Intermediate Costs (Incl Labour)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Quantec & Minerals Council

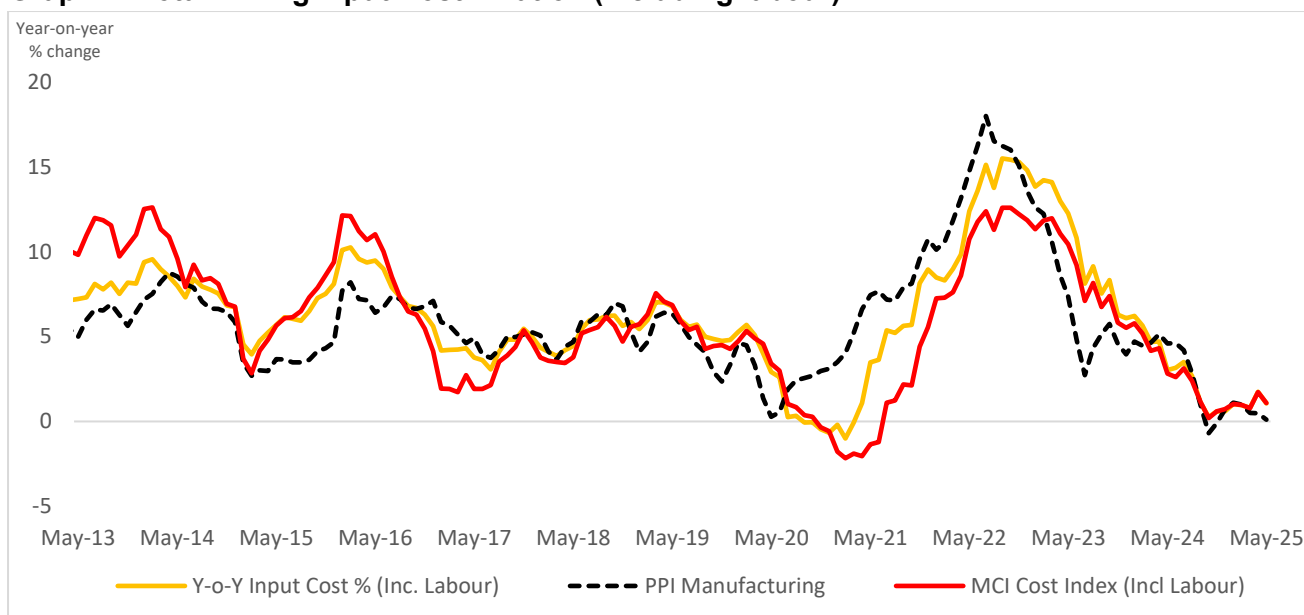
Base year

In this third update of the MCI Cost Index, all indices have been re-based to December 2023 (using technical shifting), aligning with the base year for Stats SA's Consumer Price Index. Additionally, the cost basket has been re-weighted using 2024 data to ensure comparability across measures and to reflect the most current structure of the mining sector and individual commodities. For the historic data before 2024, the (re)weighting done in 2018 and 2022 remains the same, and these weightings are applied to the respective historical data. That is to say, when we re-weighted the index using 2024 data, we followed standard practice and updated the weights going forward (so 2024 weights only apply from 2024 onwards) while maintaining the old weights for historical periods. This preserves the integrity of the historical data and allows for accurate comparisons over time.

Trends in Input Costs

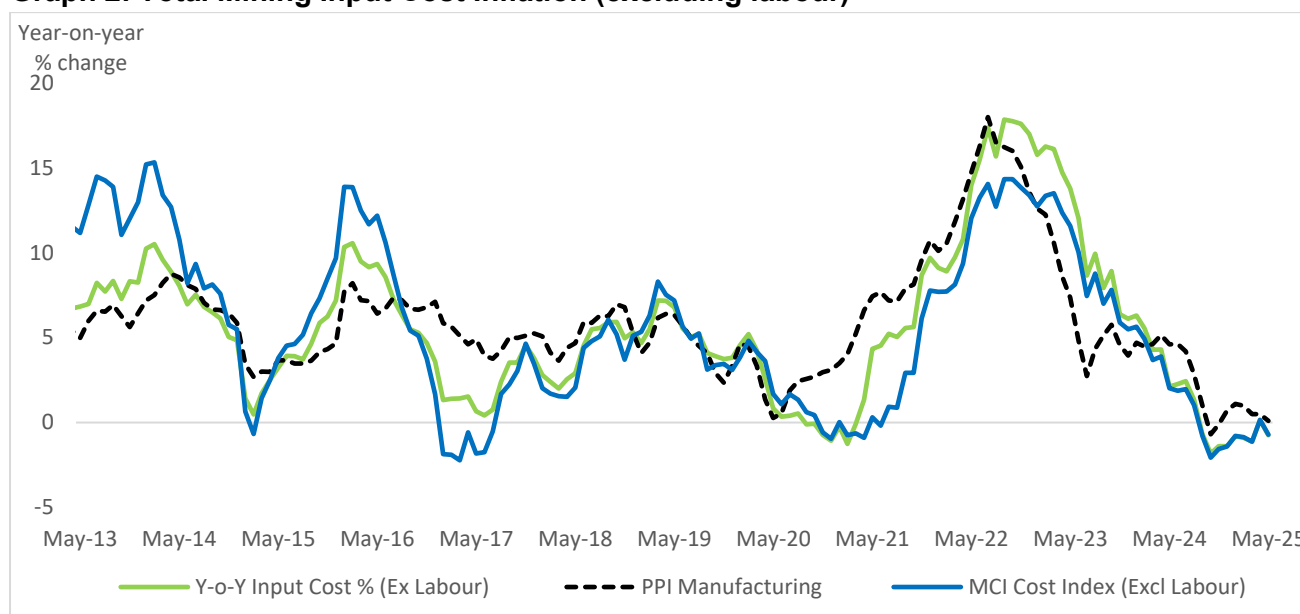
Using the previous (Y-o-Y Input Cost %) and the revised (MCI Cost Index) methods to calculate input costs, below we illustrate the trends in mining input costs from 2013 to the latest available data for May 2025. Historically, labour costs do not vary significantly over time on a year-on-year basis, although labour as a component of costs accounts for around 25% of total input costs in the sector.

Graph 1: Total Mining Input Cost Inflation (including labour)



Source: Stats SA, Minerals Council

Graph 2: Total Mining Input Cost Inflation (excluding labour)

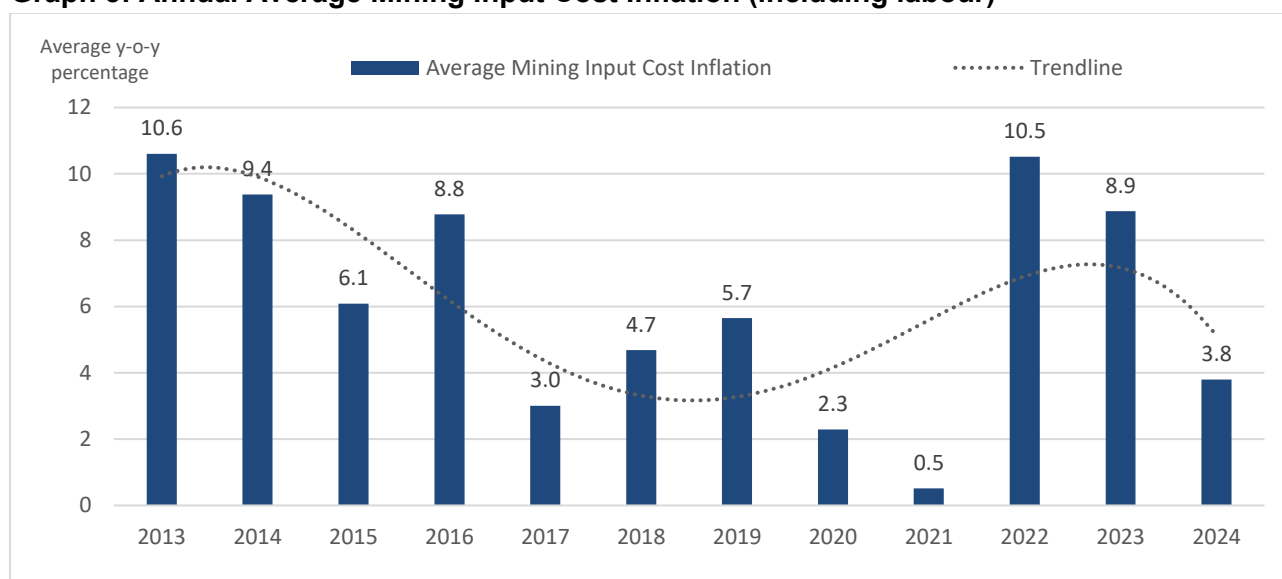


Source: Stats SA, Minerals Council

While there are some differences between the year-on-year percentage changes calculated using the previous method and those derived from the new aggregate index, these differences are minimal. Over the full 13-year period, the average deviation between the two methods is just 0.3 percentage points. Despite the significant methodological improvements and the introduction of updated indices, this small variation confirms that the revised approach maintains consistency while greatly enhancing the robustness and usability of the index going forward.

Below, we present the calendar year average input cost inflation for the mining and quarrying sector going back to 2013. Additionally, we highlight that the long-term pre-COVID average (spanning the calendar years 2013 to 2019) stands at 6.9%, serving as a valuable benchmark for assessing current performance.

Graph 3: Annual Average Mining Input Cost Inflation (including labour)



Source: Minerals Council SA

Conclusion

This third update and revamping of the Minerals Council's Mining Composite Input (MCI) Cost Index marks a significant step forward in refining how input cost pressures are measured across South Africa's mining sector. By transitioning from a direct year-on-year tracking method to a more robust aggregate index approach, the revised methodology enhances both the soundness and usability of the index. Despite the methodological shift and updates to several underlying indices, the historical consistency of the data has been preserved, with only a marginal average deviation of 0.3 percentage points over 13 years.

The reweighting of the cost basket using 2024 data, aligned with the latest input-output structure of the mining sector, ensures that the index remains relevant and reflective of current industry dynamics. By publishing the historical indices, stakeholders will now be able to easily track cost movements over time. Furthermore, the move to an index enables longer-term comparisons with reference price indices such as the CPI and PPI published by Stats SA.

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