

CHEMICAL SECTOR MONTHLY UPDATE:

DATA: SEPTEMBER 2024

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Introduction

More innovations are contained in this report; the patterns reflected by the purchasing managers' index (PMI) are used in a further attempt to understand the correlation with production and sales (and possible forecasting merits), the distinction between the petroleum sub-sector and the rest is taken further, container logistics are investigated as well as a special focus on salient trends in the rubber sub-sector.

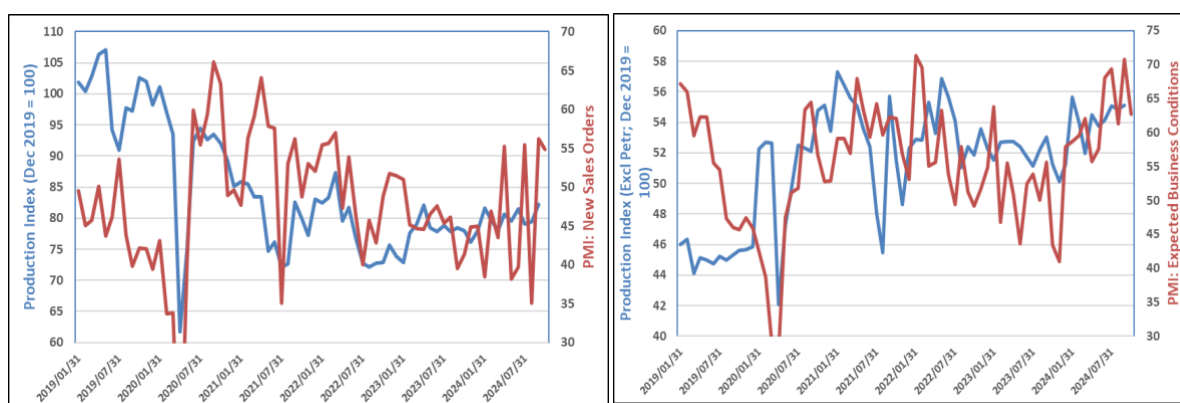
The economic trends emerging from the latest datasets were in summary;

- The next (fourth quarter) BER Manufacturing Survey will be released on 27 November. The last Survey indicated that **Confidence levels** in the chemical sector **deteriorated** further in Q3 of 2024 (with only 36% of respondents being optimistic). The 'political constraint' indicator practically stayed at the same low level (77% of respondents agreeing that it's an obstacle).
- The **PMI** 'new sales orders' sub-index correlates fairly well with overall production numbers, but production, excluding petroleum, tracks the PMI 'expected business conditions' sub-index better. Inflation adjusted sales also tracks the latter well. More research will be done to understand possible forecasting potential of the PMI (monthly releases) for the chemical sector.
- The **production** growth accelerated further to 2,7% over the first 9 months of the year with September having been 3,5% higher than August. The petroleum sub-sector's near 50% weight, has a major impact on overall growth. With three quarters of the year completed, the indications are that production will be around 3% higher than during 2023.
- Production **capacity utilization** continues to decline.
- September was even a worse **Sales** month than August (-4,9%) and true for all sub-sectors. The same is true compared to September 2023. Despite this setback Q3 recorded higher sales than Q2 (+3,2%) and the full year sales number should show +/-4% growth on 2023. Actual sales for 12 months were 7,4% better and inflation adjusted 3,8% higher.
- The **international trade balances** remained basically the same. Notable is the great volatility in import values. A specific piece of research was done to understand the impact of container logistics on non-petroleum international trade, and it is quite clear that it's a binding constraint.
- **Production price inflation** for the chemical sector has clearly stabilised in a band well below 10%. The influence of fuel (administered) prices on final product inflation is evident and resulted in deflation in September; all final product sub-sectors experienced deflation compared to August and virtually all compared to a year ago. Intermediary product price inflation conversely, recorded 8% inflation overall.
- The 'mechanics' of the newly constructed **chemical sector input cost index** is repeated below. For 2024 (up to September) total input cost escalation is estimated to have been 2,3%, while the Sector production/sales price deflation was 5,7% (i.e. -5,7%). Members' response and feedback is eagerly anticipated.

Business Confidence

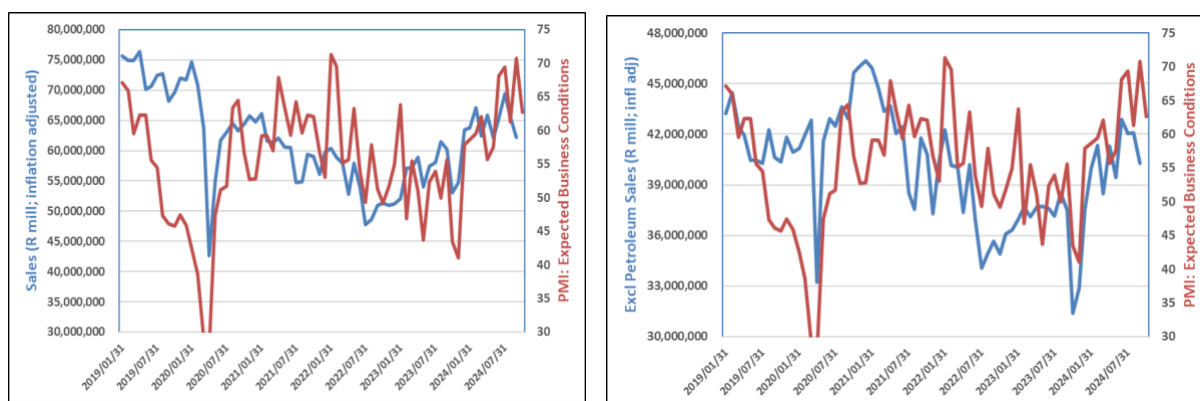
As stated above, the results of the fourth quarter BER Manufacturing Business Confidence **Survey** will only be released in a week's time. Some work was done on the potential of using the ABSA Purchasing Managers' **Index** (PMI) as a leading indicator for the chemical sector, and interesting results were found, with some differences between the total chemical sector patterns and when the petroleum sub-sector is excluded. This may be so, as the fuel sector is an indicator of general economic activity, while chemicals excluding fuel, are more intimately linked to specific demand patterns in the economy.

Below is the correlation found between selected chemical sector and different PMI trends; Overall production correlates best with the PMI New Sales Orders index; graph on the left. Production patterns excluding petroleum correlate best with the PMI Expected Business Conditions; graph on the right.



Sources: ABSA Purchasing Managers' Index & Statistics SA, Manufacturing Production & Sales, p3041.2

As far as Chemical Sector (inflation adjusted) Sales are concerned, the correlation is with the PMI Expected Business Conditions (graph on the left), with marginal differences when petroleum is excluded (graph on the right).



Sources: ABSA Purchasing Managers' Index & Statistics SA, Manufacturing Production & Sales, p3041.2

The 'predictive' qualities of these will have to be tested econometrically, in time. A great deal of instability is evident, but despite such, the trends possibly point to some growth potential.

Production Trends

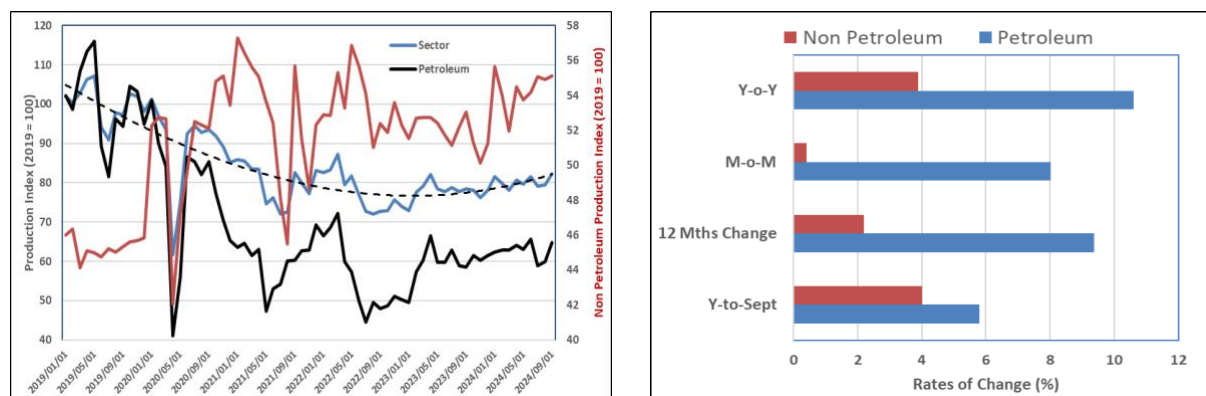
Chemical sector production growth improved further to 2,7% over the first 9 months of the year with September having been 3,5% higher than August. It is quite clear that the near 50% share of the petroleum sub-sector, had a major impact with 8% growth in September. The rest of the sector grew only 0,4% month on month, but over 9 months by 4%. See table and discussion for variations over different periods below.

With three quarters of the year completed, the indications are that chemical sector production end 2024 at about 3% higher than 2023.

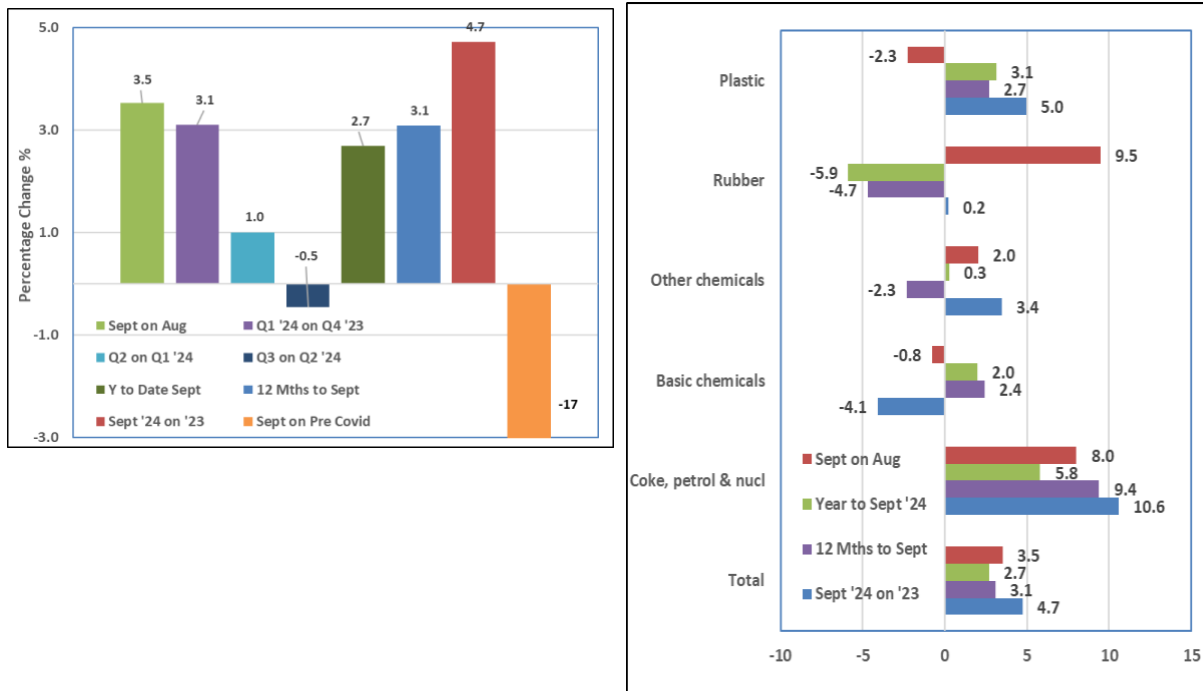
Production Index Seasonally Adjusted	Sept on Aug '24	Year to Sept '24	Sept '24 on '23	Q1 '24 on Q4 '23	Q2 '24 on Q1 '24	Q3 on Q2 '24	12 Mths to Sept '24
Total	3.5	2.7	4.7	3.1	1.0	- 0.5	3.1
Coke, petrol & nucl	8.0	5.8	10.6	2.7	2.5	- 4.8	9.4
Basic chemicals	- 0.8	2.0	- 4.1	- 0.2	0.8	- 0.8	2.4
Other chemicals	2.0	0.3	3.4	6.5	- 0.7	5.4	- 2.3
Rubber	9.5	- 5.9	0.2	- 0.1	- 6.1	- 0.5	- 4.7
Plastic	- 2.3	3.1	5.0	1.4	3.3	- 1.4	2.7
Total Excl Petroleum	0.4	4.0	3.9				2.2

Source: Statistics SA, Manufacturing Production & Sales, p3041.2, Quantec

The graphs below show the difference between the overall sector and petroleum vs non-petroleum production trends. The right-hand graph gives clear comparisons, while the left-hand graph shows the whole sector (blue) and petroleum (black) on the left vertical axis and non-petroleum on the right with different scales, which should be taken into account.



Source: Statistics SA, Manufacturing Production & Sales, p3041.2, Quantec

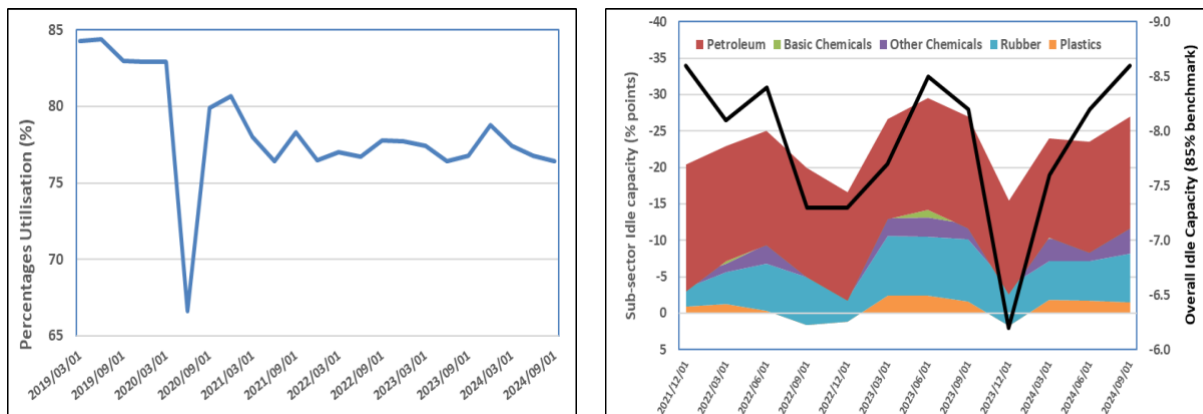


Source: Statistics SA, Manufacturing Production & Sales, p3041.2, Quantec

The graph above shows the overall sector performances and the right hand one, again the variations amongst the sub-sectors.

Production Capacity Utilization in the Chemical Sector

The benchmark for 'full capacity' in production is 85%. The chemical sector is performing well below this benchmark, and this trend is not improving.



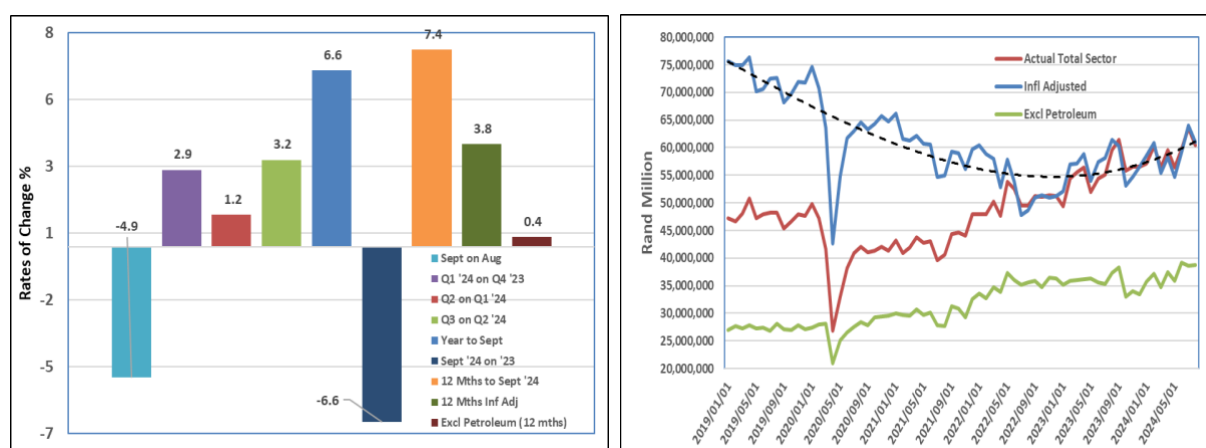
Source: Statistics South Africa - P3043 Capacity Utilisation in Manufacturing

Sales Trends

September was even a worse month than August (-4,9%) and true for all sub-sectors. The same is true for September compared to September 2023. Despite this setback Q3 recorded higher sales than Q2 (+3,2%) and the full year sales number should show +/-4% growth on 2023. Actual sales for 12 months were 7,4% better and inflation adjusted 3,8% higher.

Sales Values Seasonally Adjusted	Sept on Aug '24	Year to Sept '24	12 Mths to Sept '24	Q1 '24 on Q4 '23	Q2 on Q1 '24	Q3 on Q2 '24	Sept '24 on '23
Total	-4.9	6.6	7.4	2.9	1.2	3.2	6.6
Coke, petrol & nucl	6.5	14.1	21.3	-3.5	-4.0	5.7	12.8
Basic chemicals	8.3	3.0	0.3	13.1	7.5	4.0	10.8
Other chemicals	2.3	1.3	0.6	6.7	3.5	8.0	3.7
Rubber	2.1	-4.5	4.5	3.5	-1.4	1.4	4.9
Plastic	2.1	6.6	4.4	2.0	3.5	1.1	12.7
Total Inflation Adjusted	-2.8	2.9	3.8	6.4	-1.5	7.2	1.6
Total Excl Petroleum	-4.0	2.6	0.4				2.8

Source: Statistics SA, Manufacturing Production & Sales, p3041.2

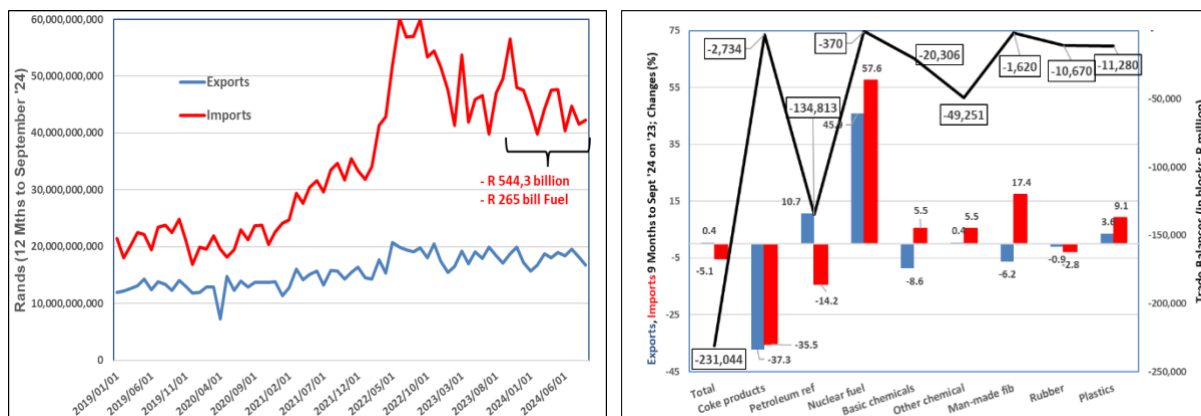


Source: Statistics SA, Manufacturing Production & Sales, p3041.2

The graphics above again shows the differential patterns between the overall sector and the petroleum versus 'the rest' sub-sector. Here the numbers on the right hand graph are actual sales, all on one axis.

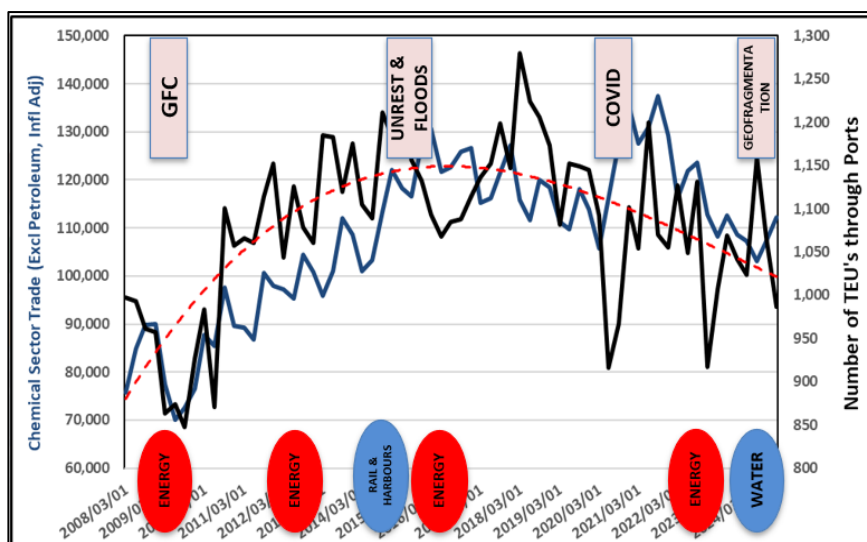
International Trade

The chemical sector **trade balances** (exports minus imports) remained negative (but largely unchanged over the last month) with large fluctuations in import values continuing.



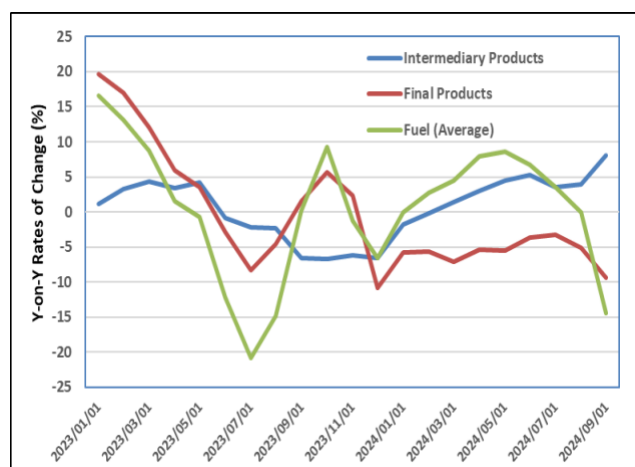
Source: SARS Export/Import data

	Month-on-Month Sept on Aug '24	Year to date Sept '24 on '23	12 Months to Sept '24	Sept '24 on '23	Trade Balance 12 Mths
Exports	%	%	%	%	Billion
Total	7.7	0.4	0.2	1.9	327,238
Coke products	45.7	37.3	38.9	48.5	3,692
Petroleum ref	9.6	10.7	10.6	20.6	202,248
Nuclear fuel	41.7	45.9	38.1	181.2	182
Basic chemicals	15.5	8.6	8.2	20.8	25,748
Other chemical	3.2	0.4	0.2	1.7	65,426
Man-made fib	4.8	6.2	3.1	26.5	2,004
Rubber	14.2	0.9	0.1	13.9	13,419
Plastics	2.9	3.6	4.3	6.6	14,519
Imports					
Total	1.5	5.1	5.0	14.8	
Coke products	27.3	35.5	27.4	60.8	
Petroleum ref	9.1	14.2	12.1	30.0	
Nuclear fuel	18.8	57.6	62.3	24.8	
Basic chemicals	5.6	5.5	0.2	5.1	
Other chemical	7.7	5.5	5.6	12.0	
Man-made fib	13.1	17.4	18.3	28.3	
Rubber	8.0	2.8	2.6	6.4	
Plastics	5.5	9.1	9.0	4.6	



Research into the impact of different external and domestic 'shocks' on container logistics for chemical sector imports and exports (excluding refinery products, inflation adjusted) shows a very high correlation with TEU harbour throughputs. Logistics is a clear binding constraint on international trade for the chemical sector, other than petroleum transported by pipelines.

Chemical Sector Product/Sales Price trends



Production price inflation for the chemical sector has clearly stabilised in a band well below 10%.

Again, the influence of fuel prices on final product inflation is evident and resulted in deflation in September. The table below shows that all final product sub-sectors experienced deflation compared to August and virtually all compared to a year ago.

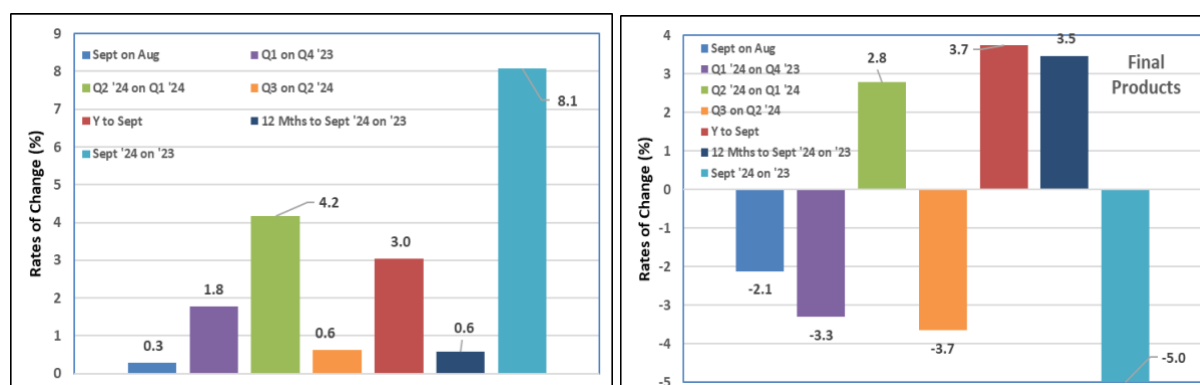
Intermediary product price inflation conversely, recorded 8% inflation overall.

Source : Statistics SA, Production Price Indices, P0142.1, Quantec.

Production Price Indices	Intermediary Prices							
	M-o-M Sept on Aug %	Year to date Sept '24 Index	Prev Y to date Sept '23 Index	Year to date Change %	12 Mths to date Sept '24 Index	Prev 12 mths Sept '23 %	Change 12 mths %	Y-o-Y Sept '24 on '23 %
(Dec '23 = 100)								
Total	0.3	104.6	101.6	3.0	103.4	102.9	0.6	8.1
Basic & Other Chem	0.2	105.3	102.1	3.1	103.9	103.6	0.2	8.5
Plastics	0.6	103.7	100.0	3.7	102.8	101.1	1.6	7.5
Rubber	-	99.4	99.8	0.4	99.3	98.7	0.6	3.7
Final Products								
Total	2.1	100.0	96.4	3.7	100.7	97.4	3.5	5.0
Coal & Petroleum	3.9	98.9	95.7	3.4	100.4	97.5	2.9	10.6
Petrol	5.0	102.6	100.0	2.5	103.5	100.4	3.1	13.2
Diesel	4.6	96.9	95.5	1.4	99.9	99.9	0.0	15.7
Other	1.4	96.7	91.7	5.5	97.3	92.5	5.3	1.7
Chemical Products	0.4	100.5	97.5	3.1	100.4	96.8	3.6	1.5
Rubber & Plastics	0.1	104.1	98.0	6.3	102.8	97.4	5.6	5.6

Source : Statistics SA, Production Price Indices, P0142.1, Quantec

Intermediary (left hand graph) and Final Product Price movements (right hand graph)



Source : Statistics SA, Production Price Indices, P0142.1, Quantec

Chemical Sector Input Cost Index

When we started with the research to understand economic trends in the chemical sector, one of the objectives was to build an Input Cost Index for the sector. Production price indices reflect selling prices and are heavily influenced by the fuel price determinations of the Department of Minerals. Much progress has been made in this endeavour, and your feedback and input in its further development, is crucial for refinement. This general sector-wide analysis can and will be replicated for each sub-sector of the total Sector.

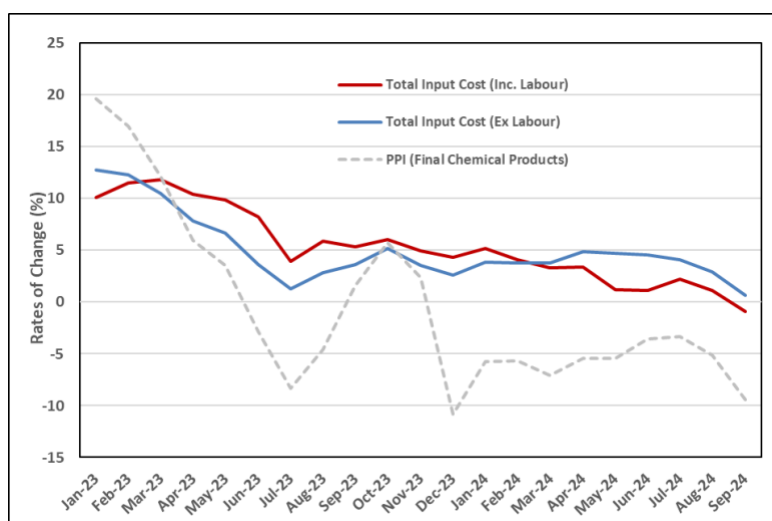
The first important step was to determine the intermediate input product and labour components and their weightings in total costs. Quantec Research is at the forefront of this research in the country and by using the latest (2023) Input-Output tables for the Chemical Sector, we could deduct the values, reflected in the table.

The second step was to compile the publicly available price indices for each component, that reflects the price patterns for each and would be most appropriate for use in this exercise.

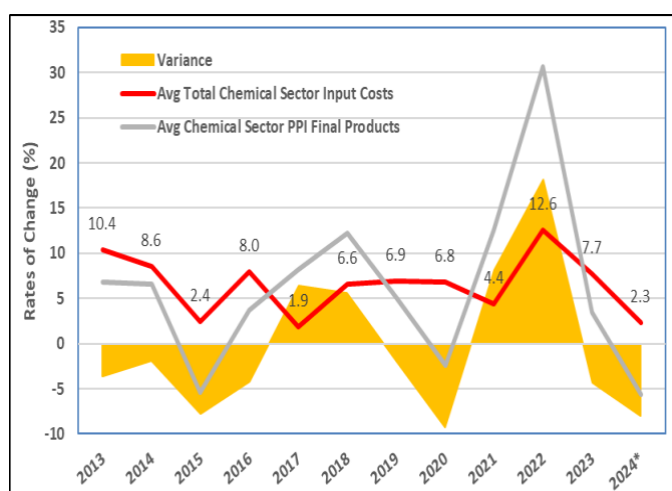
Of great importance is that these indices must be publicly available and timeously (monthly) so, otherwise new surveys would have been necessary, virtually parallel with StatsSA's work.

Cost Basket	2023	Chemical Sector
Intermediate Cost Basket		
Mining & quarrying	37,194	6.55%
Wood & wood products	6,917	1.22%
Coke & refined petroleum	57,396	10.11%
Basic chemicals	27,301	4.81%
Other chemicals	24,631	4.34%
Plastic products	4,014	0.71%
Metal products excluding machinery	10,767	1.90%
Machinery & equipment	942	0.17%
Electrical machinery & apparatus	13	0.00%
Transport equipment	441	0.08%
Electricity & water	8,431	1.49%
Wholesale & retail trade	62,709	11.05%
Transport & storage	36,363	6.41%
Finance, insurance, real estate & business services	26,330	4.64%
Government and Community	32,000	5.64%
Other Intermediate Inputs	900	0.16%
Imported Intermediate Inputs	231,208	40.74%
Total Intermediate Costs (Ex Labour)	567,559	100%
Intermediate Costs	567,559	87%
Compensation of Employees	81,314	13%
Total Input Costs	648,872.5	100%

The initial results are as follows: Monthly Inputs Cost Index for the Chemical Sector



Annual comparison between Input costs and selling prices of final products (PPI)



Avg Total Chemical Sector Input Costs		PPI	Variance	
Year	%	%	% Point	
2013	10.4	6.8	-	3.6
2014	8.6	6.6	-	1.9
2015	2.4	5.3	-	7.8
2016	8.0	3.8	-	4.2
2017	1.9	8.2	-	6.4
2018	6.6	12.2	-	5.6
2019	6.9	5.1	-	1.9
2020	6.8	2.5	-	9.3
2021	4.4	12.6	-	8.1
2022	12.6	30.7	-	18.2
2023	7.7	3.4	-	4.3
2024*	2.3	5.7	-	8.0

2024* up to September

The 'variance' reflects the percentage point difference between the rise in costs and the selling prices of final chemical products. The numbers indicated (red line) reflect average input cost inflation in each particular year.