CHEMICAL INDUSTRIES ASSOCIATION

CIA Economic Report

Third Quarter 2024

Executive summary

Steve Elliott, Chief Executive, Chemical Industries Association

Our economic report has two sections. The first part is a CIA analysis of government statistical data, this section assesses the UK chemical industry's performance against that of the wider economy. The second section presents the results and further analysis of our quarterly industry survey. Our Q3 2024 Business Survey took place between 18 September and 4 October and received responses from 46 chemical companies.

Economic Overview

After entering a recession in the last quarter of 2023, economic output grew above expectation in the first half of 2024 leading forecasters to upgrade their expectations for 2024. The expansion was linked to resilient demand for services and strong consumer spending.

Demand for goods remains subdued and manufacturing output is 2.4% below pre-pandemic levels. Amongst the five biggest manufacturing sectors only Automotive and Pharmaceuticals are currently operating above pre-pandemic levels, whilst Aerospace, Food & Drink, and Chemicals are below pre-pandemic levels.

Focusing on chemicals, despite a strong 2.8% expansion in Q2, output levels remain 29.1% below pre-pandemic levels. Forecasters suggest that Q4 2024 and 2025 will continue to be challenging for the industry but that 2026 and 2027 will both be marked by a 1.1% expansion of output.

Headline inflation in September came in at 1.7%, below the 2.0% target level and below expectations from the Bank of England. In August the Monetary Policy Committee (MPC) cut interest rates from 5.25% to 5.0%, given the latest inflation data in

November we will likely witness another cut. Current inflation trends are the result of good prices deflating and services prices continuing to grow.

Chemical prices have deflated for sixteen consecutive months due to weak demand. Nevertheless, output prices fell less quickly than input prices narrowing the gap between the two. Currently, chemical input prices are 5.6% higher than output prices as opposed to the 7.5% from September 2023.

The UK's labour market remains challenging with chemical companies experiencing difficulties recruiting and pressure to increase remuneration to ensure retention of experienced workers. In the chemical industry, total pay rose by 5.4% in the three months to August 2024 compared to the same period a year prior.

Insights from our industry

Turning to our survey after a strong start to 2024, further contractions were noted in the third quarter of the year. Sales, production levels, and capacity utilisation contracted for almost a third of respondents due to weaker exports. Business investment slightly contracted after Q2's increase, whilst employee numbers recorded the quickest fall of the year. Energy costs increased from Q2 2024 and companies have been unable to pass on the additional costs to consumers resulting in lower margins for a third of surveyed companies.

Looking ahead to the fourth quarter of the year, expectations are weak with less than 25% of respondents expecting higher sales and only 15% higher production levels. Energy prices are expected to increase further due to increased domestic demand through winter; this coupled with weak sales is expected to diminish margins for 17% of respondents. Medium-term expectations are more positive but some of the positivity might be linked to a baseline effect.

The main three challenges for the sector are 'Weakening Demand', 'Energy Cost', and 'Labour Cost'. Expectations over the challenges are not positive with 50% of responses expecting weakening demand to worsen and 61% labour costs to increase.

The last section of the survey highlighted that the top four areas that members would like to see included in the industrial strategy are: investment support, skills shortages, energy support, and net zero help. In terms of Intellectual Property, 30% of respondents are exposed to IP risks and we expect this percentage to continue to increase.

Contents

Economic Update – Return to contraction

This first part of the economic report focuses on official statistics released by the Office of National Statistics (ONS). Publications since the previous economic report (Q2 2024) provide information on GDP, chemical production, chemical trade, inflation for consumers and chemical manufacturers, and pay.

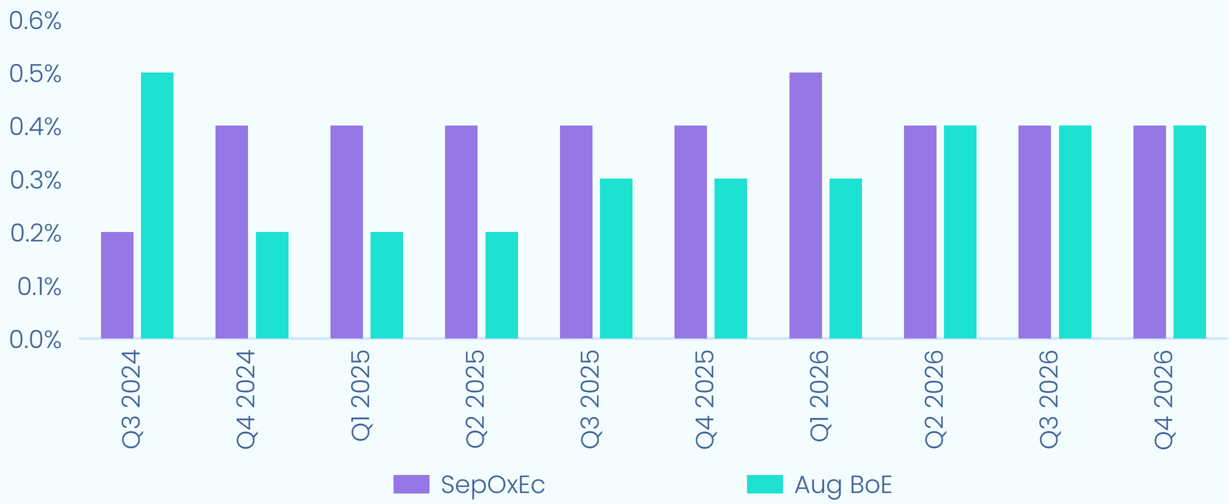
GDP and chemical production

After a mild recession in the second half of 2023, the first half of 2024 was marked by growth above predictions thanks to resilient consumer spending and strong performance from the services sector. In the first six months of the year services output increased by 1.5%, in July and August the growth recorded was 0.1% in both months, suggesting that services will continue to drive sustained economic growth also in the second half of the year. On the other hand, production output – which was heavily impacted by the energy crisis in 2022 – is exhibiting less sustained growth as Q1's 0.1% expansion was offset by Q2's 0.3% contraction. The latest trends for July and August continue to report the same volatility as the 0.7% contraction in July followed by a 0.5% expansion in August. The construction sector's output peaked in Q3 2023 and it is currently 7.2% above pre-pandemic levels but it has been contracting for three consecutive quarters and data from July and August suggest that Q3 2024 will also report overall contraction for the sector.

Forecasts from Oxford Economics (OxEc) and the Bank of England (BoE), made respectively in September and August, are reported in the **below graph**. In this edition of the Economic Report, we have omitted the Office for Budget Responsibility's (OBR) forecast as they were made in March, but we are looking forward to seeing their projections for debt-to-GDP and Real GDP growth over the course of the current government mandate and how will that be affected by the fiscal policy announced in the Autumn Statement.

Graph 1 shows expected growth quarter on quarter by both forecasters, where Oxford Economics' projections are in purple and the Bank of England's in aqua. Both these forecasters expected an overall growth of 1.1% in 2024 but whilst BoE forecasts a

Graph 1: Forecasted real GDP growth from Oxford Economics and the Bank of England



Source: CIA analysis of BoE and Oxford Economics data strong Q3 and a slightly weaker Q4, OxEc's growth expectations are evenly spread. Expectations for 2025 and 2026 from the BoE suggest that we will experience slow growth at the beginning of 2025 but that growth will pick up speed as we progress through the quarters. Oxford Economics, on the other hand, expects to see sustained growth for the remainder of the forecasting period, but with growth rates below H1 2024.

The upcoming Autumn Statement and the fiscal policies established will impact projections for GDP growth and it is likely that tight fiscal policy might hinder growth for 2024 and early 2025. At the same, the outcome from the Autumn Statement will impact the decision from the Monetary Policy Committee (MPC) in their upcoming November meeting to set interest rates.

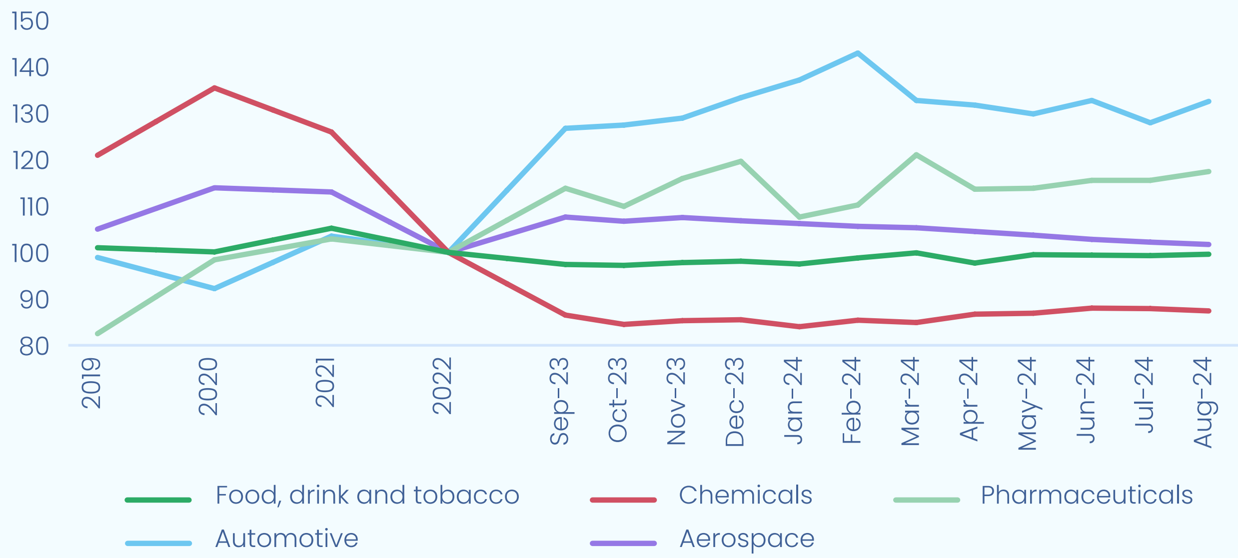
Recently the Chancellor announced an imminent change in debt rule which would free up to £50bn in borrowings. With public borrowings for the first half of the year £6.7bn above the OBR's forecast, the new debt rule will allow UK Government to invest more and maintain the promise to not increase taxes for working people.

Focusing on the output levels for manufacturing, and more specifically chemicals, **Graph 2** below shows the index of monthly output from the five biggest manufacturing sectors over the past 12 months. Food and Drink, Pharmaceuticals, Automotive and Aerospace industries along with the chemical industry are colloquially referred to as the 'Manufacturing Five' or 'M5' because they are the five biggest manufacturing sectors in the UK. Indexes show contractions or expansions from a determined level, in this case, each sector's 2022 average production level.

The blue line represents automotive output. The automotive sector has recorded the highest growth amongst manufacturing subsectors since the pandemic. Thanks to substantial government support and investment in Electric Vehicles through 2023, Automotive output increased by 20.7% and it is currently over 31% above pre-pandemic levels. The main challenges that this sector will face in 2024 are low demand, tougher 'rules of origin' with the EU, and the tariffs in place on Chinese EVs introduced by the US and EU.

The Pharmaceutical sector -light green line- saw its output increase by 9.1% since January 2024 and by 44.6% since the last quarter of 2019 (pre-pandemic). The driver behind this growth is the strong demand from the NHS and consumers. With the UK being a centre of excellence for medical R&D forecasts are optimistic that 2024 and 2025 will also be years of growth for this sector. Moreover, together with automotive and aerospace this sector is at the core of the Advanced Manufacturing Plan and upcoming Industrial Strategy.

Graph 2: Index of monthly output of M5 sectors over the past 12 months compared to 2019's level (2022=100)



Source: CIA analysis of ONS data

The third best-performing sector is Aerospace, represented by the purple line. Despite receiving substantial government support its output has contracted by 5.8% over the past 12 months and it is currently 6.0% below pre-pandemic levels.

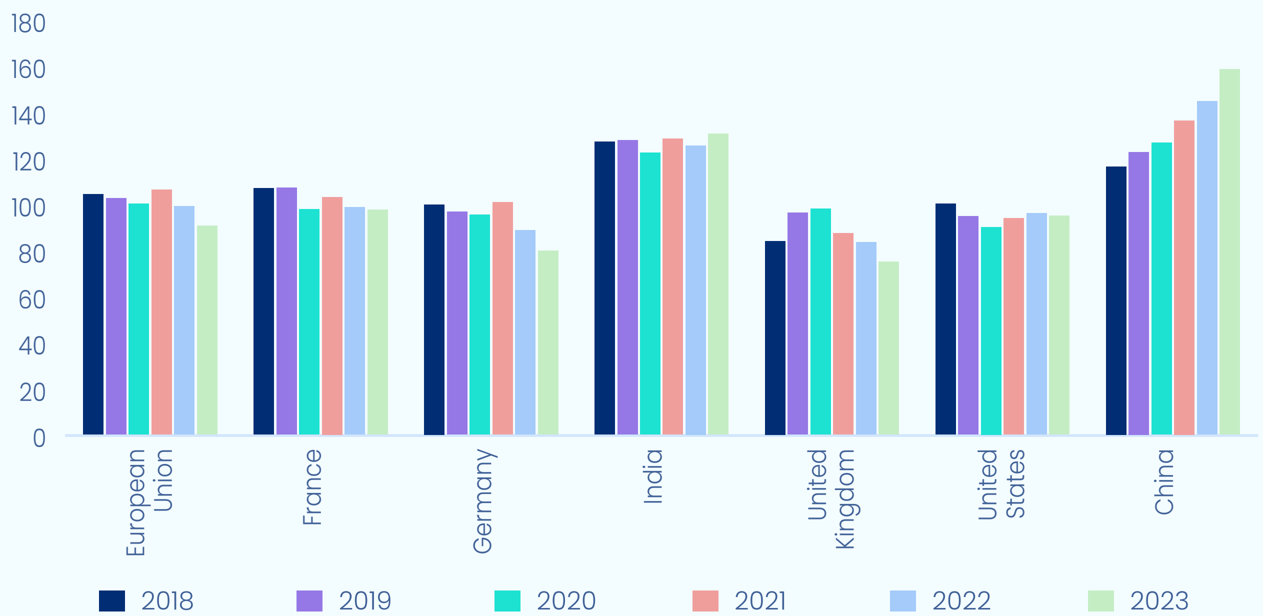
Food, Drink & Tobacco manufacturing represented by the dark green line has been struggling with stagnation for the past couple of years. Output has remained vastly unchanged from the beginning of the year and it is currently 2.4% below pre-pandemic levels.

Lastly, chemical output is shown by the red line. For over two years this sector has been the worst performing across the M5. After strong contractions in 2022 and 2023, in the first half of 2024, output expanded by 4.0% thanks to a strong performance in Q2 2024. In line with official data, our surveys show that the second half of 2022 was particularly challenging for the sector and that stagnation continued through 2023. Q1 and Q2 2024 marked a slight relief for UK chemical manufacturers who experienced higher sales and production levels. Nevertheless, our latest survey coupled with data for July and August suggests that the relief was only temporary as weakening demand returns as the biggest challenge for our members.

Oxford Economics expects 2024 and 2025 to be two more years marked by contraction for the chemical industry, but 2026 and 2027 should be better for the sector with forecasted growth of 1.1% in both years. One of the key factors that has led to the downgrade of UK chemical production's forecasts is international competitiveness. In a globalised world, companies compare geographical areas to decide the location of production hubs. Historically the UK was one of the leaders in industrial production but relatively high operating costs (mainly labour and energy), low government support (other areas receive more financial and legislative support from Government), and Brexit have made the UK less competitive. These factors have incentivised companies to shift production outside of the UK. On this note, we have heard from many international companies that they lost investment against other regions due to policy uncertainty and volatile costs. The developments around the Industrial Strategy expected for Spring 2025 will be focal to determine the future of our industry.

The below graph shows annual chemical production levels from 2018 to 2023 for China, the EU, France, Germany, India, the UK, and the US. Chemical production in the UK, as explained earlier, has been declining since 2021 even if our sector was particularly resilient through COVID and it was one of the few countries to expand production in 2020. German chemical manufacturers have also been struggling in 2022 and 2023 due to the energy crisis and its effect on chemical input prices and consumer industries - namely automotive -. Since

Graph 3: Index of international chemical production (2015=100)



Source: CIA analysis of CEFIC data

Germany is the industrial heart of Europe, European chemical production is heavily influenced by Germany so in **Graph 3** the two locations show similar trends. French chemical industries are currently performing better than the European average, but current output levels remain below pre-pandemic. The US, which amongst Western countries is the best performing, is operating below pre-pandemic levels but thanks to generous government grants, investment in the country's chemical sector has increased and we can expect stronger performance in the next few years.

Over 50% of all chemical production takes place in Asia and thanks to relatively cheap production costs an increasing number of companies is intensifying production in this area. Both Chinese and Indian chemical output levels are above pre-pandemic and forecasts expect them to continue growing driven by strong government support and good availability of raw materials, as well as low production and energy costs.

The recent heavy subsidisation of manufacturing by the Chinese government, coupled with low domestic demand in China – due to high unemployment – has led to an overcapacity. The high volume of finished products has then been exported to the European and American market where domestic consumers are facing strong competition from these aggressively priced goods.

Chemical trade

industrial supply chains. Since every year roughly 70% of all chemicals produced in the UK are exported, international trade and strong trade agreements are essential for our member companies. In 2023 the value of UK chemical imports was £70bn and £62bn for chemical exports.

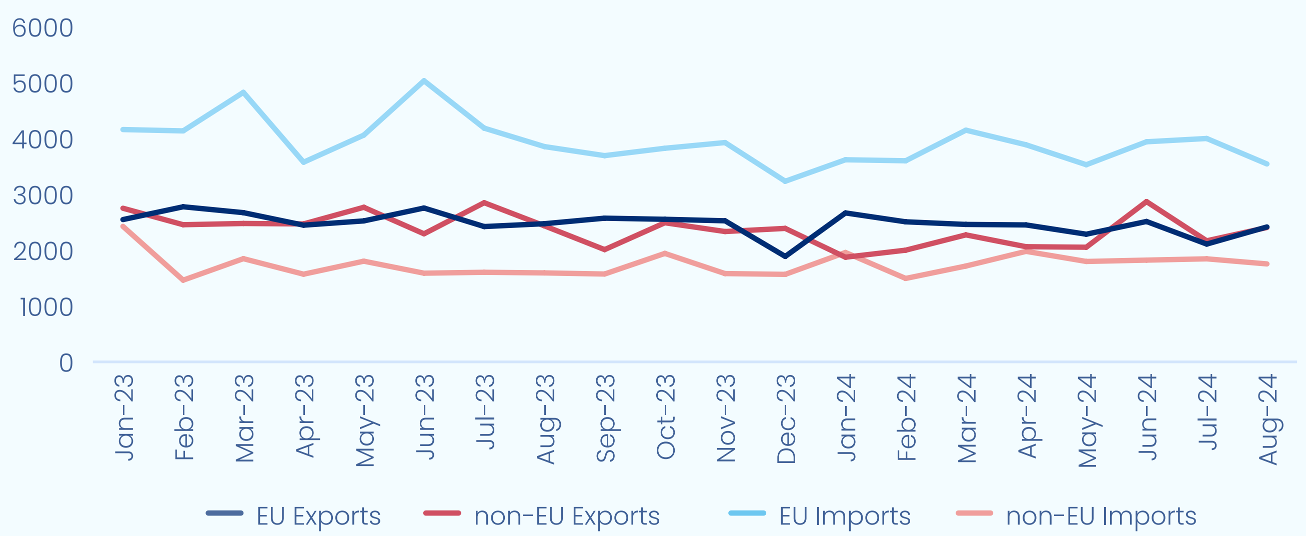
Graph 4 represents chemical imports and exports towards EU and extra-EU countries. The two blue lines represent trade flows with the EU and the two red lines trade flows with extra-EU countries. Exports are illustrated by the two darker lines (dark blue and dark red) and imports are the two lighter lines (light blue and light red).

Focusing on imports first, the light blue line is consistently higher than the light red line indicating that imports from EU countries are higher than imports from extra-EU countries. Over the past year there has been a fall in EU imports likely the result of stagnation of the EU's chemical sector. Non-EU imports have remained vastly unchanged: whilst they peaked in January 2023 they did not follow a decreasing trend over the year.

Moving on to exports, the dark lines are much closer together and they intersect multiple times indicating that the UK exports similar values of chemicals towards EU and extra-EU countries.

Since EU imports - light blue line – are higher than EU exports - dark blue line – the UK is a net importer of chemicals from the EU, extra-EU exports are

Graph 4: Monthly chemical trade in value terms from January 2023 to August 2024 (£mn)



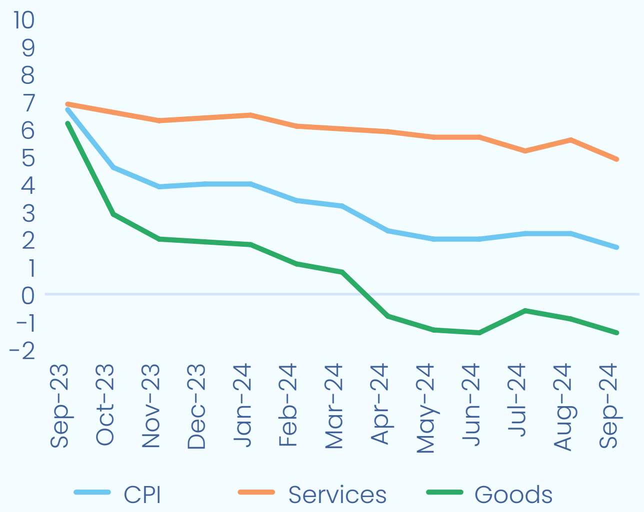
Source: CIA analysis of ONS

higher than extra-EU imports making the UK a net exporter of chemicals to non-EU countries. The total amount of chemicals imported each year is higher than the amount exported so the UK is a net importer of chemicals as a whole. This means that we are highly dependent on other countries to meet the internal demand for chemicals and given that we import roughly twice as many chemicals from EU countries than extra-EU countries it is essential to maintain a stable relationship with the continent's trading block.

Consumer-side inflation

Since the pandemic, the UK has experienced the highest inflation rates in over 40 years. In order to maintain inflation under control the Bank of England increased interest rates which reached 5.25% in August 2023. Across 2024, the Monetary Policy Committee (MPC) expressed doubt over developments in pay growth and how that could impact long-term spending and inflation. Despite these concerns, in August 2024 they cut interest rates to 5.0% but decided to maintain them at the same level in September.

Graph 5: Headline (CPI), goods and services prices inflation over the past 13 months



Source: CIA analysis of ONS

Graph 5 shows inflation of goods and services, and headline inflation (CPI) since September 2023.

The green line represents the price of goods from September 2023 to September 2024. In H2 2022 and Q1 2023, good prices rose steeply due to energy price increases. Throughout 2023, more stable energy prices and subdued demand for goods led goods' inflation to decelerate from 13.3% in January to 1.9% in December. This decelerating trend has continued through 2024 and in April 2024 prices deflated. Deflation of goods prices means that prices are lower in 2024 than in 2023 and it is a symptom of depressed demand for goods. These prices are expected to continue falling until Q2 2025 when demand for goods should become more stable.

Although less volatile, services prices – orange line – are more stubborn and are the main cause of concern for the MPC. Services prices are less directly impacted by energy prices, so they peaked later than headline inflation and goods prices. Nevertheless, they have been more stubborn over the past 13 months due to resilient demand and higher production costs linked to labour costs and rent.

The blue line represents CPI, which is often referred to as headline inflation as it is considered to be the most accurate proxy for price trends within a country. Through 2023 CPI inflation decelerated from 10.1% in January 2023 to 4.0% in December 2023 and it reached the 2.0% target level in March 2024. From Graph 5, it is evident that whilst good prices are putting downward pressure on

headline inflation, quickly growing services prices are offsetting this deflationary trend resulting in inflation around the 2.0% target level. Decelerating services inflation in September resulted in CPI at 1.7%, slightly below the target level. This latest development is likely to result in a 50pp interest rate cut in November.

Forecasts made in August by the Bank of England expected Q3 2024 inflation to be around 2.7%, inflation for Q3 came in at 2.0%. BoE overestimated the impact of growing salaries on customer spending and forecasted a slightly higher pay growth. Inflation for the quarter below expectations increases the likelihood of a considerable cut in November.

In September inflation was recorded above 2.0% for the US – 2.4% -, Germany – 1.6% -, France – 1.2% -, and the Eurozone – 1.8% -. Whilst China continues to battle through a subdued domestic market and recorded inflation of 0.4%.

Chemical prices

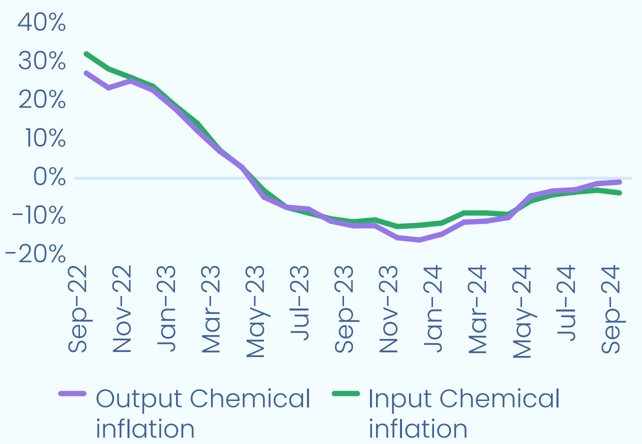
Graph 6.2 shows the level of chemical input and output prices from September 2022 to September 2024, where the purple line represents output prices and the green one inputs ones. With the exception of Q4 2022 - where both input and output prices increase - both prices have been falling with the fastest rate recorded between April and May 2023. Despite this sustained fall, input prices remain higher than output prices as shown by the green line being above the purple one. Whilst input prices have been higher than output prices for over three consecutive years, recently input prices have been falling quicker than output prices resulting in a narrowing of this gap. In September 2022 input prices were 7.5% higher than output prices, and in September 2024 5.6%.

To better understand the narrowing of this gap, **Graph 6.1** shows the growth rate of chemical input and output prices across the same 25-month period. Just as consumer price inflation, inflation for chemical prices is measured considering how much prices have grown – or shrunk – since the previous year.

In **Graph 6.1** two different periods can be identified: the first going from September 2022 to April 2023, and the second one from May 2023 to September 2024. In the first period, prices are inflation – higher prices compared to a year prior- this was due to the energy crisis and its effect on the prices experienced by chemical producers and buyers who in September 2022 experienced inflation over 30%. After this shock to energy prices and thanks to a strong baseline effect, in May 2023 prices started to fall – deflation -. This fall is likely rooted in lower energy prices as well as lower demand. After the re-opening of the global economy industrial production – especially in the European continent – stagnated due to low demand coupled with high costs, and fierce international competition.

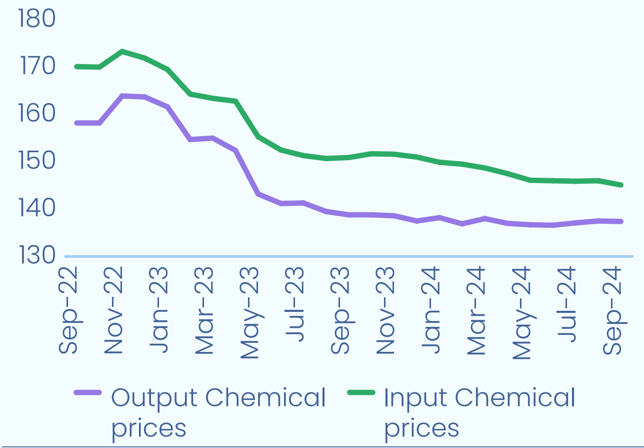
These trends in prices experienced and charged by chemical manufacturers show the additional toll on margins from the energy crisis and weakening demand. Despite experiencing input prices 5.6% higher than output prices, due to weak demand

Graph 6.1: Growth rate of chemical output and input prices over the past 25 months



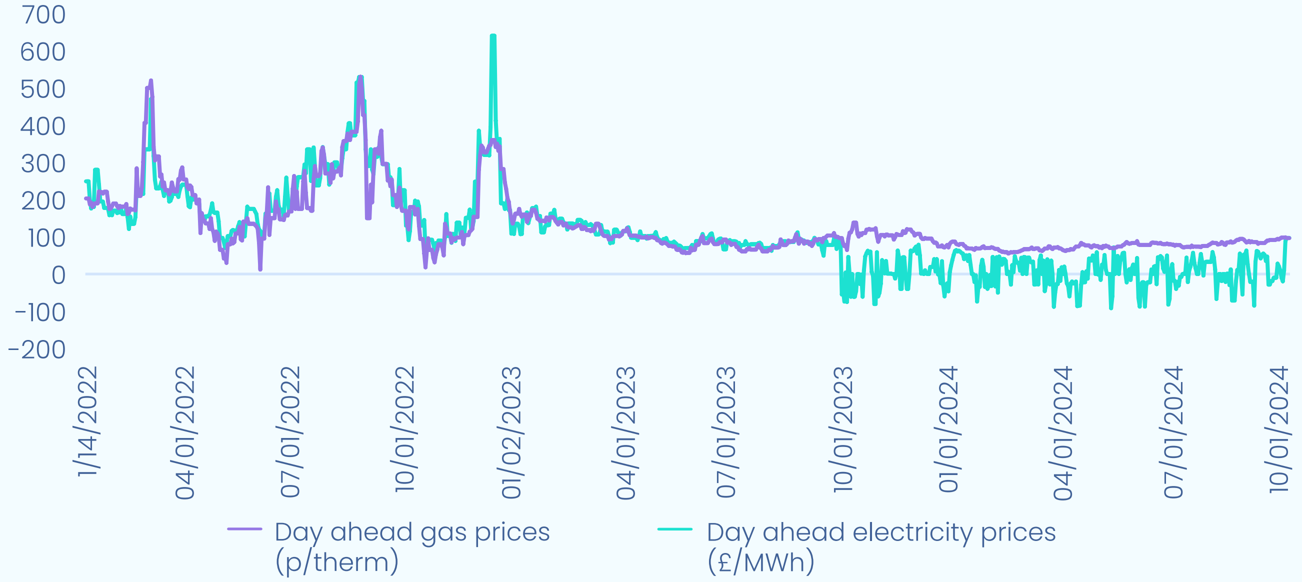
Source: CIA analysis of ONS

Graph 6.2: Price level of chemical output and input over the past 25 months



Source: CIA analysis of ONS

Graph 7: Day ahead gas (p/therm) and electricity (£/MWh) prices



Source: CIA analysis of Inspired PLC data

and fiercely priced international exports UK chemical businesses have been unable to pass on these additional costs to consumers.

Graph 7 displays the day-ahead wholesale gas and electricity prices in the UK over the two years. UK gas and electricity prices have settled at the lowest level since summer 2021 but they remain roughly two times higher than pre-pandemic and extremely uncompetitive on an international level.

Labour market

The aftermath of COVID, BREXIT, and the cost-of-living crisis left the UK labour market in a tight position with companies facing difficulties recruiting and retaining talent. Skills shortages have become one of the most pressing business concerns across different sub-sectors within manufacturing, construction, and services. Coupled with challenges around a mismatch of vacancies and prospective employees, pay negotiations are continuing to put strain on businesses. The cost-of-living crisis has increased animosity amongst workers and resulted in a more aggressive position taken by Unions during pay negotiations. All these factors coupled with uncertainty related to economic conditions and unstable demand, have led some companies to freeze hiring.

Recently the labour market has slightly eased with the employment rate increasing to 75% from 74.4% in Q2 2024 and the inactivity rate decreasing by 0.3 percentage points across the same period. Whilst these data are moving in the right way, the inactivity rate remains 1.3 percentage points higher than pre-pandemic and the employment rate is 1.2% below pre-pandemic.

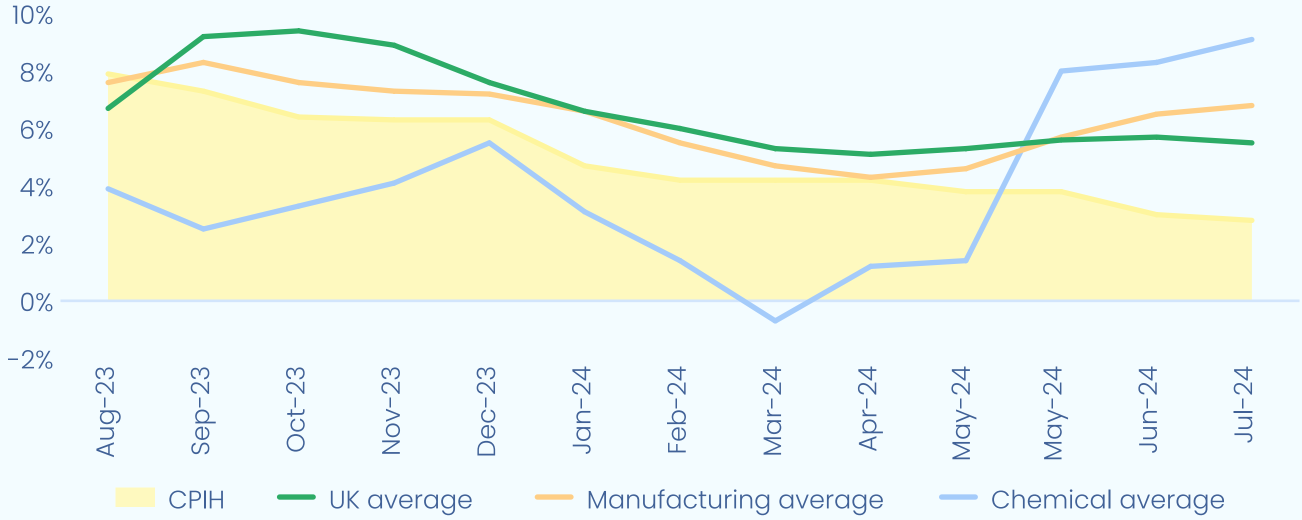
Moving on to pay, through the second half of 2023 and the first half of 2024 pay growth was quicker than inflation resulting in real-terms pay increases and causing concerns amongst members of the MPC regarding expectations for medium-term inflationary trends. Recently UK average pay growth rate has eased and it came in under the expectations made by the Bank of England supporting further cuts to interest rates.

Graph 8 shows the pay growth rate for UK average, manufacturing, and chemical employees compared to CPIH inflation. CPIH inflation is considered to be the most accurate measure of the cost of living as it includes owner-occupiers' housing costs.

The yellow area indicates the level of CPIH inflation, any point within this area is below inflation, and results in real terms pay cuts whilst points above the area result in effective real terms pay increases.

The green line represents pay raises for the average UK employee and as mentioned above, after several months of pay growing quicker than inflation, in the past two months pay growth has slowed down. In the three months to August 2024 compared to the same three months in 2023 total pay (includes bonuses) increased by 2.8%, with

Graph 8: Growth rate of UK average, manufacturing, and chemical pay over the past 13 months compared to CPIH inflation



Source: CIA analysis of ONS

CPIH inflation at 3.1% that resulted in real terms pay cuts. On the other hand, regular pay rose by 3.6% resulting in real terms pay increases of 0.5%. The most plausible reason behind the difference between regular and total pay growth is rooted in baseline effects caused by the fact that last year more companies gave one-off payments to workers due to the cost-of-living crisis. This year with lower inflation, those payments were not necessary and instead, unions and workers have been requesting salary increases.

The orange line indicated the growth rate of pay for the average manufacturing employee, in the three months to August total pay grew by 6.3% whilst regular pay by 6.0%, resulting in real terms pay increases of 3.2% and 2.9% respectively.

Focusing on the average chemical salary - which is represented by the blue line – after pay growing slower than inflation from March 2023 to February 2024, from March 2024 pay has been growing steadily above inflation. In the three months to August 2024, total pay increased by 5.4% whilst regular pay by 5.9%, this resulted in real terms pay increases of 2.3% and 2.8% respectively. As mentioned above, this increasing cost of labour coupled with input prices above output prices, weak demand and fierce international competition are painting a challenging picture for chemical manufacturers.

Rounding up the official data

The first half of 2024 was marked by strong and resilient growth driven by the services which is currently 4.6% above pre-pandemic levels. Manufacturing output has been less consistent as some subsectors have recorded strong growth – Pharmaceuticals and Automotive – whilst others have been contracting – Chemicals and Food & Drink -. Currently, chemical output is 29.1% below pre-pandemic levels despite the strong 2.8% growth recorded in Q2. Forecasts suggest that chemical manufacturers will continue to struggle until the second half of 2025.

Headline inflation in September came in below the 2.0% target level and below expectations from the Bank of England. In August the Monetary Policy Committee (MPC) cut interest rates from 5.25% to 5.0%, given the latest inflation data it is likely that in November the MPC will cut interest rates by 50pp. Current inflation trends are the result of good prices deflating and services prices continuing to grow.

Chemical prices have deflated for sixteen consecutive months due to weak demand. Nevertheless, output prices fell less quickly than input prices narrowing the gap between the two. Currently, chemical input prices are 5.6% higher than output prices as opposed to the 7.5% from September 2023.

The UK's labour market remains challenging with chemical companies experiencing difficulties recruiting and pressure to increase remuneration to ensure retention of experienced workers. In the chemical industry, total pay rose by 5.4% in the three months to August 2024 compared to the same period a year prior.

CHEMICAL INDUSTRIES ASSOCIATION

Survey results

About the survey

At the close of each quarter, we survey member companies of the Association for industry data about current trading conditions and views on what lies ahead. The information from this is incredibly useful in our work and we are grateful to all who respond.

The CIA's Q3 2024 Business Survey was live between September 18th and October 4th 2024. The survey received responses from around 50% of CIA members. This edition of the survey was split into three sections. The first and second sections contained the standard industry performance and challenges & opportunities questions. In the third section, we asked respondents some questions focusing on Industrial Strategy and Intellectual Property.

In the industry performance section, there were three questions that asked respondents whether the 19 variables listed below had increased, decreased or stayed the same in the third quarter of 2024 compared to the second quarter of 2024 and expectations for these variables in the fourth quarter of 2024 and 12 months.

Industry performance variables:

1. Total sales
2. Domestic sales
3. Exports
4. EU exports
5. The rest of the world exports
6. New orders
7. Production levels
8. Capacity utilisation
9. Employee numbers
10. R&D spend
11. Business investment
12. Your level of business optimism
13. Time to deliver
14. Raw material (input) prices
15. Cost of importing
16. Cost of exporting
17. Your energy costs
18. Finished goods (output) prices
19. Your company/site profit margins

When displaying the industry performance data diffusion indexes are used. These are easy-to-interpret statistical tools that can be read in the same way as S&P Global's Purchasing Managers Indexes (PMIs), therefore any figure below 50 indicates a contraction, above 50 an expansion while 50 means it remained constant. To compute these indexes, we combined the percentage of respondents who reported experiencing an increase with half of those who reported experiencing no change.

Industry performance

Performance in the third quarter of 2024

Table 1 displays the diffusion indexes for the 19 variables mentioned in 'About the survey' and the percentage of respondents that reported experiencing a decrease in the variables. The first column is the diffusion index for the performance in the third quarter, the second column contains the diffusion index for what was expected for the third quarter of 2024 when respondents were asked in the CIA's Q2 2024 Business Survey, the third column contains the diffusion index for the performance in the second quarter of 2024, and the final two columns contain the percentage of respondents that experienced a decrease of that variable in the current quarter and in the previous one. This allows comparisons to be made between the performance in the third quarter of 2024 compared to expectations and the prior quarter.

Table 1: Q3 performance compared to Q2's and expectations made in Q2

	Q3 Actual	Q3 Expected	Q2 Actual	Percentage that experienced a decrease in Q3 2024	Percentage that experienced a decrease in Q2 2024
Total sales	45	61	63	33%	15%
Domestic sales	48	58	54	20%	12%
Exports	48	61	62	26%	13%
EU exports	47	58	63	24%	12%
Rest of the world exports	48	63	60	26%	12%
New orders	42	60	64	30%	12%
Production levels	43	61	63	35%	15%
Capacity utilisation	45	60	63	35%	12%
Employee numbers	38	44	49	33%	15%
R&D spend	46	53	50	11%	8%
Business investment	43	52	54	20%	10%
Your level of business optimism	40	61	61	33%	13%
Time to deliver	57	54	52	2%	6%
Raw material (input) prices	48	55	49	26%	29%
Cost of importing	54	57	59	11%	2%
Cost of exporting	53	58	60	11%	2%
Your energy costs	56	57	39	4%	37%
Finished goods (output) prices	48	53	50	17%	23%
Your company/site profit margins	42	50	49	33%	29%

Source: CIA Q3 and Q2 2024 Business Survey

Key take away

After a strong first half of 2024, sales, production levels, and capacity utilisation contracted for the majority of respondents. Employment and investment also contracted, whilst the cost of energy increased at a fast pace in over a year. Lower sales coupled with vastly unchanged output prices leave margins in a tough spot for 32% of respondents.

After 18th months of contraction, in the first half of 2024, there was a partial recovery of demand which saw over 40% of respondents experiencing higher sales, production levels and capacity utilisation according to our Q1 and Q2 Business Surveys. Given international industrial production trends and the challenges faced by respondents it was clear that the uptick in demand was most likely temporary rather than a real recovery to historic levels.

These concerns were confirmed in our latest survey which saw a decline in the same the variables for a third of respondents. Focusing on sales first, both 'Q2 actual' and 'Q3 expected' recorded an expansion as 63 and 61 are bigger than the 50 threshold, this indicates that most respondents experienced an increase in sales in Q2 and were expecting the stronger demand to continue in Q3. Despite this high level of optimism, Q3's index below 50 shows that sales decreased for the majority of respondents. The weaker performance of sales is likely linked to a weaker international position compared to the previous quarter. In Q2, exports increase by 37% of respondents and domestic sales by 21%. In Q3, exports increased for 22% of respondents and domestic sales for 15%. Whilst both percentages have decreased, given that over 70% of all chemicals produced in the UK are exported, weaker exports had a stronger impact on the overall contraction of sales in Q3. Weaker sales were then reflected in lower production levels and capacity utilisation.

Among the slower-moving variables, R&D spending and Business Investment expanded over Q1 and Q2 but contracted in Q3. Employee numbers, which have been decreasing for over 7 business surveys, have continued to fall for almost a third of respondents. This is likely linked to difficulties related to the labour market, such as skills shortages and steep labour cost increases.

Moving on to costs, raw material costs remained vastly unchanged from the previous quarter with slightly more respondents experiencing a decrease rather than an increase. The slight fall in input prices experienced by our membership is reflected in official ONS chemical price data and it is likely linked to destocking and the delaying of restocking. With geopolitical tensions and more aggressive political positions around trade, it is not a surprise that the cost of trade remains elevated compared to pre-pandemic. Lastly, in Q2 34% of respondents saw their energy costs fall in the quarter, but they were expecting to experience an increase in Q3 due to reductions in power supplies and increases in network and policy costs. With demand remaining subdued companies have been unable to pass on these additional costs to consumers as output prices decreased for 17% of respondents.

Weak overall demand coupled with persistent operating costs resulted in a further reduction of margins for a third of respondents.

Expectations for the fourth quarter of 2024

Table 2 displays the diffusion indexes for what is expected for each of the 19 variables in the fourth quarter of 2024 and the percentage of respondents who expect to see an increase.

Table 2: Expectations for Q4 2024

	Q4 expectation	Percentage that expects an increase in Q4 2024
Total sales	53	24%
Domestic sales	48	11%
Exports	52	17%
EU exports	48	11%
Rest of the world exports	52	17%
New orders	52	20%
Production levels	48	15%
Capacity utilisation	48	15%
Employee numbers	46	9%
R&D spend	47	2%
Business investment	45	4%
Your level of business optimism	43	7%
Time to deliver	49	4%
Raw material (input) prices	50	9%
Cost of importing	48	7%
Cost of exporting	48	4%
Your energy costs	60	28%
Finished goods (output) prices	51	11%
Your company/site profit margins	46	9%

Source: CIA Q3 2024 Business Survey

Key take away

Expectations for the last quarter of the year are moderately positive with 24% of respondents expecting higher sales. Winter is expected to raise energy costs significantly, and some companies are confident that they will be able to pass on some of the added cost to consumers. Overall margins will continue to contract.

As is often the case, future expectations are relatively optimistic as 24% of respondents expect higher sales. Nevertheless, the increase in sales is likely to be small considering that less than 16% of respondents expect to see higher production levels and capacity utilisation. The marginal increase in sales is rooted in relative optimism regarding the international market.

Employee numbers, business investment, and R&D spending are all expected to contract further in Q4 2024 likely due to the continuation of adverse operating conditions and their impact on spending.

Input prices are expected to remain unchanged and the cost of trading to slightly diminish. Specifically to the cost of trading, it will be interesting to see the effect of the American presidential election and how the outcome will impact our members.

As we enter winter, member companies are expecting their energy costs to increase. Slightly over 10% of respondents believe that the increase in sales will allow them to pass on some of the energy cost increases to consumers, but that is not likely to have a meaningful impact on margins which are expected to continue contracting by 17% of respondents.

Expectations for twelve months' time

The data in **Table 3** is derived from members' expectations over the next 12 months, and due to the nature of the survey, this data should be used as a gage of the sentiment of the industry rather than rigid forecasts. Like Table 2, this data contains an index that aims to describe if the variables will increase or decrease and the percentage of respondents that estimate an increase in the next 12 months.

Table 3: Medium-term expectations

	12 months expectation	Percentage that expects an increase in 12 months time
Total sales	79	60.9%
Domestic sales	70	41.3%
Exports	75	52.2%
EU exports	74	50.0%
Rest of the world exports	71	43.5%
New orders	78	58.7%
Production levels	78	60.9%
Capacity utilisation	76	56.5%
Employee numbers	47	13.0%
R&D spend	51	10.9%
Business investment	55	21.7%
Your level of business optimism	72	50.0%
Time to deliver	53	8.7%
Raw material (input) prices	57	17.4%
Cost of importing	52	8.7%
Cost of exporting	52	6.5%
Your energy costs	50	17.4%
Finished goods (output) prices	60	23.9%
Your company / site profit margins	65	43.5%

Source: CIA Q3 2024 Business Survey

Key take away

Due to a strong baseline effect, 60% of respondents expect higher sales and production levels in 12 months' time. Employee numbers are expected to continue contracting but thanks to lower input costs it will improve margins for 44% of respondents.

Our sector has navigated adverse economic conditions for the greater part of the past two years and official data show that current output levels are 30% below pre-pandemic. Whilst output and sales have slightly recovered in Q1 and Q2 the increase was not sufficient to make up for the capacity lost since COVID. For this reason, even if 60% of respondents are expecting their sales and production levels to increase in the medium term that is based on current levels which are significantly lower than the historical average.

Respondents expect exports to outperform domestic demand as the index for exports (75) is higher than the one for domestic sales (70). New orders, production levels, and capacity utilisation are also expected to increase for the vast majority of members.

The forecast for slower-moving variables is more conservative. These variables are less volatile than the previously mentioned ones and are only impacted by long-term shifts in production levels and productivity. Focusing on employee numbers, they are one of the few variables that is expected to worsen in a year's time, this is because 19% of respondents are expecting lower employee numbers. It is unclear whether that is related to long-term losses in market share or increases in productivity.

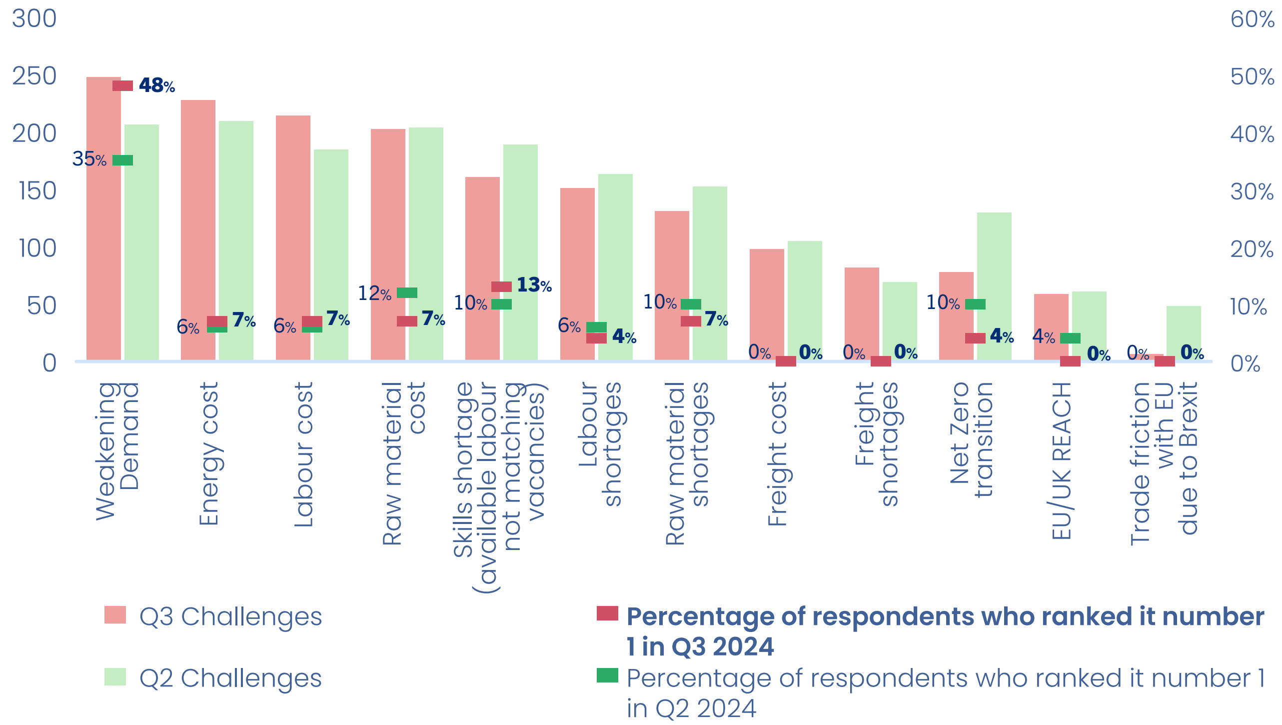
Another variable that is expected to deteriorate in the medium term is input prices, this is probably linked to the more aggressive stance taken by countries towards Chinese exports as well as the inflationary trends across economies. The cost of trading is expected to remain vastly unchanged other than some upward pressure coming from the harshening of geopolitical tensions. Overall energy cost is not expected to change as 17% of respondents are expecting an increase and another 15% a decrease.

Companies are confident that higher sales and production levels, coupled with vastly unchanged costs, will allow them to pass on some of the cost increases experienced in the past few years to consumers. Overall, this trend will increase margins as 44% of respondents are expecting their margins to improve in 12 months' time.

Challenges and Opportunities

The second section of the CIA's Q3 Business Survey focused in more detail on the challenges faced by members and the opportunities that they identified. The first question asked respondents to rank 13 challenges faced by the industry from greatest to smallest with '1' signalling the greatest issue and '13' the smallest.

Graph 9: Industry ranking of business challenges in Q3 and Q2 2024



Source: CIA Q3 and Q2 2024 Business Survey

Key take away

1. Weakening Demand

2. Energy Cost

3. Labour Cost

This quarter's survey recognised: Weakening Demand, Energy Cost and Labour Cost as the three main challenges. Last quarter the three main challenges were: Energy Cost, Weakening Demand, and Raw Material Cost.

The light red bar on **Graph 9** shows the ranking of the challenges in this quarter's survey, whilst the light green bar ranks in the previous quarter (Q2 2024). In the case of Weakening Demand, the light red bar is higher than the light green bar meaning as a challenge it ranked higher in Q3 than in Q2.

The dots represent the percentage of respondents that ranked each challenge as number one, the red dot is the percentage in Q3 2024 and the green one in Q2 2024. Focusing on Weakening Demand, more members have ranked it as the main challenge in Q3 2024 than in Q2 2024. Since in Q2, the majority of members experienced a temporary recovery of demand. It was ranked as the main concern by fewer respondents, whilst in Q3 there was a downturn of demand leading to weakening demand coming back as the number one challenge for members.

Conversations with members highlighted that the Chinese over-capacity is making it harder for UK companies to secure contracts as Chinese exports to the UK and European markets are aggressively priced.

The second biggest challenge to business for our latest member survey was Energy cost. Energy is the biggest expense for chemical businesses as they use it as feedstock and fuel. Since the energy crisis and the resulting higher volatility in prices, energy cost has been among the top three challenges for our members.

Labour costs have also been a pressing issue for businesses for over a year, the cost-of-living crisis increased labour costs for companies. This trend coupled with skills shortages and difficulties recruiting has made labour costs more pressing for our businesses, with 7% of respondents reporting them to be the biggest challenge their business is currently facing. On top of these economic challenges, members have reported that Unions have taken an aggressive stance regarding pay negotiations threatening industrial action.

Raw material costs, which last quarter ranked third, were overtaken this quarter due to higher pressure from labour costs. Nevertheless, the intricated geopolitical situation is pushing input prices up and resulting in more raw materials shortages and delivery delays.

The 'smallest' challenges still pose a serious threat to the industry in the mid-to-long term. They however are not being felt as acutely as low demand, and labour frictions. It is therefore important that these challenges, including REACH, the Net Zero Transition, and Trade Friction with the EU, are not underestimated.

Members also mentioned other challenges that were not in the survey, such as internal competition for investment with other regions, overly aggressive union position regarding pay negotiations, cyber security, aggressive Chinese exports, External labour cost and shortage (contractors/ maintenance), Labour Budget/Changing legislation.

The next question asked respondents whether the 13 challenges from the previous question were improving, worsening, or remaining unchanged. **Table 4** displays the diffusion indexes of the answers with figures above 50 indicating an improvement, below 50 worsening, and 50 equals no change, and the percentage of respondents that expect a worsening in the near future.

Table 4: Expectations over challenges

	12 months expectation	Percentage that expects this challenge to worsen
Weakening Demand	26	50%
Energy cost	37	33%
Labour cost	18	61%
Raw material cost	40	28%
Skills shortage (available labour not matching vacancies)	24	37%
Labour shortages	31	22%
Raw material shortages	41	13%
Freight cost	39	20%
Freight shortages	30	15%
Net Zero transition	39	20%
EU/UK REACH	42	2%
Trade friction with EU due to Brexit	35	2%

Source: CIA Q3 2024 Business Survey

In previous surveys, expectations over energy prices and weakening demand were positive with most respondents optimistic to see improvements in the near future. This survey also recorded negative sentiments also with these two topics.

Starting with weakening demand, through the first half of 2024 roughly a third of respondents were not experiencing weakening demand and almost 40% were expecting the situation to improve or did not consider it an issue. This quarter 50% of respondents forecast weakening demand to worsen and it was marked as the biggest current challenge to business by 48% of respondents. These expectations show that the industry is not optimistic about a recovery of demand in the near future and that cheap Chinese exports continue to flood the European and British market hindering domestic chemical producers.

Moving on to the second biggest challenge experienced by businesses, energy cost was ranked as the main concern by 7% of respondents. Yet, it is the most widespread issue across different sub-sectors due to the chemical industry's reliance on energy. Over 50% of respondents do not expect this issue to change in the short run, whilst a third expect to see energy prices increase substantially through winter.

Labour costs are expected to worsen by 61%, this is linked to the previously mentioned issues around recruiting coupled with the overly aggressive position of Unions regarding pay negotiations. Skills shortages also worry many of our members as they struggle to fill positions in engineering, maintenance, processes, and health & safety regulation. Going forward this issue is going to become more pressing and from conversations with other trade associations it is clear that this problem is not limited to the chemical sector but to the wider UK economy.

Raw material costs are expected to worsen by 28%, whilst expectations over raw material shortages are slightly better with 'only' 13% of respondents expecting deterioration in the next few months.

Moving onto opportunities, the most recurrent themes were:

1) Sustainability/Net Zero/Innovation
2) Potential support for manufacturing from Labour (Industrial Strategy)
3) New products or expansion to new markets
4) AI/Digitalisation/Automation/Technological adoptions for Net Zero
5) Sanctions on China
6) Maintaining operations/Filling spare capacity

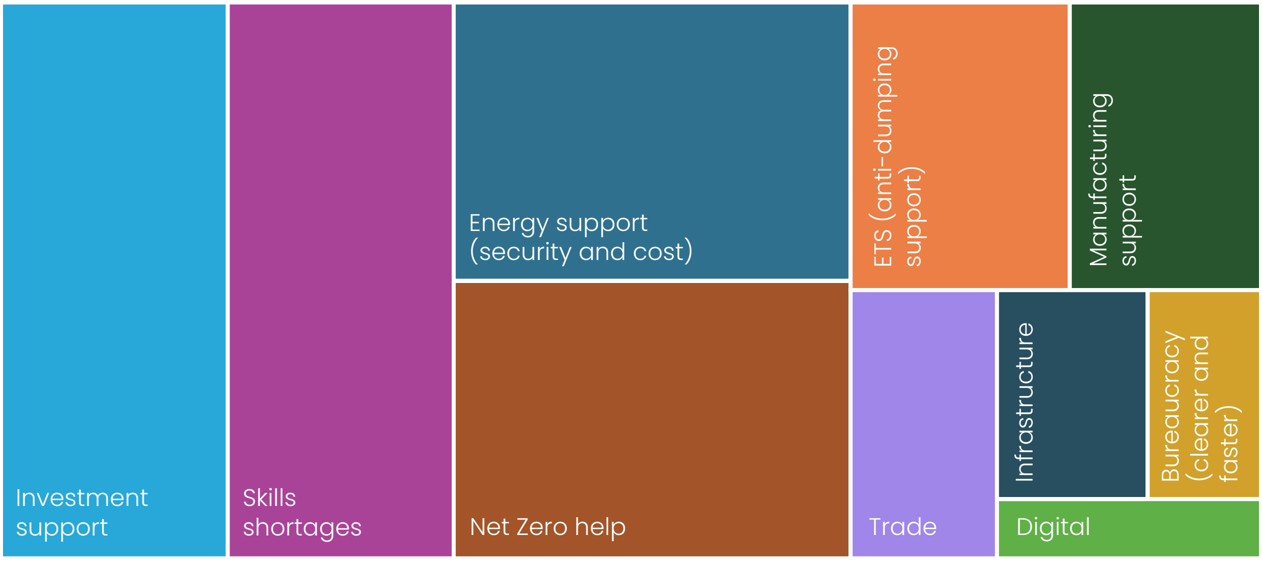
Open-ended questions

The final part of the survey asked members some open-ended questions about two topics: industrial strategy and intellectual property.

Industrial strategy

With the recent release from the government around Industrial Strategy and the Call for Evidence based on the published report: 'Invest 2035: the UK's modern industrial strategy', in this survey we asked members which are the main three areas that should be addressed in an industrial strategy.

Graph 10: What are the top three topics that you would like to be addressed in the Government's Industrial Strategy?



Source: CIA Q3 2024 Business Survey

The main four topics that should be addressed in the upcoming industrial strategy from government are:

- Investment support (mentioned in 18% of responses)
- Skills shortages (mentioned in 18% of responses)
- Energy support (mentioned in 16% of responses)
- Net Zero help (mentioned in 16% of responses)

Starting with Investment support, most responses mentioned the need for additional support for international investors in the manufacturing sector and tax reliefs. Other key factors that were mentioned are the need to support investments in R&D, the establishment of grants for business development, and investment in a low carbon economy (e.g. CCS clusters).

The second area, skills shortages has recorded entries around support for employers that provide training, up-skilling, and apprentice development for staff. It also expressed the necessity for government to invest in labour skills capability and in up-skilling programmes more in line with industrial needs. Lastly, members have also been vocal about the need to reform the apprenticeship levy.

The asks around energy support were focused on both security of energy markets and reducing the cost of energy. The energy crisis highlighted the need for a secure supply chain for energy as well as the impact that higher energy costs can have on the economy.

Input around Net Zero mentioned the necessity for clarity on how government will support and subsidise decarbonisation and for stability through the establishment of long-term policies. Companies require a firm timeline on the cost of CO_2 emissions as well as a deadline for kerbside collection for plastic recycling. Together with these asks they mentioned the need to establish more severe repercussions against greenwashing.

The fifth most recurrent area was the necessity to provide clarity over the treatment of CO_2 and the Emissions Trading Scheme. Similarly, some entries were recorded for members asking for stricter anti-dumping policy to support the competitiveness of domestic producers.

Support for manufacturing was also mentioned in 8% of responses with most asks being around long-term subsidies to promote domestic manufacturing and into clusters.

Trade and the establishment of a strong FTA that allows UK manufacturers to expand to new markets whilst defending their Intellectual Property and competitive advantages were mentioned in 6% of responses.

Investment in stronger public infrastructure (roads as well as the grid for electrification) were the eight most common areas that should be addressed in the industrial strategy.

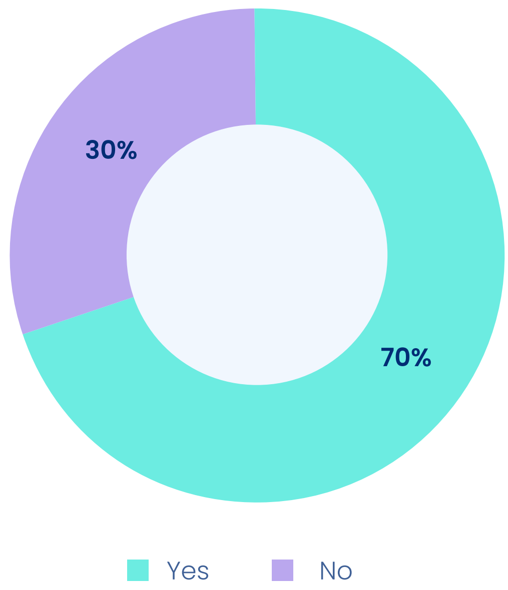
The last two areas are digitalisation – including support for companies undertaking digitalisation processes – and the improvement of the current bureaucracy. Numerous members mentioned that the changes to the bureaucratic system by making it cheaper and faster would strongly impact their perception of the UK as a place to invest.

Overall all the responses had one running theme: the need for clear and long-term policy.

Intellectual Property

The last question of the survey asked whether their business could be exposed to Intellectual Property (IP) risks. .

Graph 11: Is your business exposed to IP risks?



Source: CIA Q3 2024 Business Survey

The above graph shows that only 30% of respondents are impacted by IP risks. Whilst this percentage might feel low, traditional chemical manufacturing tends to be protected by company know-how rather than patents. The chemical sub-sectors that tend to be mainly impacted by IP regulation are pharmaceuticals, and R&D heavy sectors (such as green chemistry and specialty chemicals).

Whilst we understand that only 30% of our respondents are currently exposed to IP risks, we expect this percentage to increase in the future as more UK companies will focus on the development of new chemicals to aid with the Net Zero economy transition.

As CIA we advocate for the Patent Box and following conversation with members we will start advocating also for the need for 'second use' patents to be extended beyond medicinal and pharmaceutical uses.

Key takeaways from the survey

After a strong start to 2024, further contractions were noted in the third quarter of the year. A third of respondents to our survey noticed lower sales, production levels, and capacity utilisation. The main driver of the contraction was a weaker international market, as 26% of respondents reported lower exports than in the previous quarter. Slower moving variables also recorded a contraction with employee numbers falling at the quickest rate of the year. Energy costs have increased from Q2 2024 and companies have been unable to pass on the additional costs to consumers resulting in lower margins for a third of surveyed companies.

Looking ahead to the fourth quarter of the year, expectations are weak with less than 25% of respondents expecting higher sales and only 15% higher production levels. Business investment and employee numbers are also set to continue falling. Winter is expected to further increase energy prices, coupled with weak sales are expected to diminish margins for 17% of respondents. Medium-term expectations are more positive but some of the positivity might be linked to a baseline effect.

The main three challenges for the sector are 'Weakening Demand', 'Energy Cost', and 'Labour Cost'. In the previous survey, 'Energy Cost' overtook 'Weakening Demand' as the main challenge but due to weaker sales, weakening demand was ranked as the main challenge to business by 48% of respondents. Expectations over the challenges are not positive with 50% of responses expecting weakening demand to worsen and 61% labour costs to increase.

The last section of the survey highlighted that the top four areas that members would like to see included in the industrial strategy are: investment support, skills shortages, energy support, and net zero help. In terms of Intellectual Property, 30% of respondents are exposed to IP risks and we expect this percentage to continue to increase.

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