

The rise in commodity prices, a determining factor in inflation in 2021

In a context marked by the global economic rebound, inflation should pick up sharply in 2021, averaging +1.5% across the year compared with +0.5% in 2020 and 1.1% in 2019. This clear uptick should be driven in particular by the increase in energy prices: prices fell sharply in 2020 as the global economy slowed, whereas in 2021 the prices of energy products, particularly Brent crude oil, have almost returned to their pre-crisis levels. In Q1 2021, oil prices and the prices of food (corn, soy and wheat) and industrial commodities increased sharply, with demand buoyed by the global economic recovery. The increase in these prices should contribute to the overall acceleration of consumer prices over the course of the year, with rises of 0.4 points for energy products, 0.3 points for industrial commodities and 0.1 points for food. Furthermore, the business tendency surveys do not yet indicate the presence of knock-on effects for wages, although wage increases are possible in some sub-sectors of industry.

In 2021, the rise in inflation should partly represent a reaction to the unusual price movements of 2020

In 2021, estimated and forecast monthly inflation displays an upward trend which can be partly attributed to the atypical fluctuation of prices in 2020. Indeed, monthly inflation is usually expressed in year-on-year terms, i.e. as the difference between prices in a given month and those prices in the same month of the previous year. In order to better understand the variations in inflation in 2021, we can simulate the rate of inflation which would have been observed (or forecast) if prices in 2021 had varied in a manner consistent with their average trajectory (we call this “counterfactual inflation,” reflecting both the long-term trend for price variations and the reaction to the atypical fluctuations of 2020). The difference between the inflation forecast/observed in 2021 and this counterfactual inflation thus represents the price fluctuations specific to 2021 (“effects specific to 2021,” see ► [box](#)).

In 2021, counterfactual inflation accounts for a significant proportion of headline inflation (0.9 points, with headline inflation forecast to average 1.5% over 2021). It increases mechanically over the first months of 2021, rising from 0.1% year-on-year in January to 1.2% in May, then remaining by and large superior to 1.0% until December (► [figure 1](#)).

The increase of inflation in early 2021 is driven largely by energy prices, an after-effect of the slump in oil prices in the spring of 2020: the base effect linked to energy prices thus has a positive effect on inflation from April 2021 onwards, intensifying in May and remaining observable until December. All in all, it should contribute 0.2 points to inflation in 2021.

Prices of services constitute the other major determining factor in counterfactual inflation, contributing 0.5 points to headline inflation over the year as a whole: as a result of the public health crisis and subsequent restrictive measures, the prices of certain services – particularly transport services – experienced unusual monthly fluctuations, which were less pronounced than usual.

Methodology

A counterfactual index was created in order to highlight the different components of inflation in 2021, and identify price variations specific to 2021.

To begin with, a counterfactual value is constructed for inflation by calculating the variation in consumer prices in 2021 using the average monthly variations recorded in recent years (2014-2019). In this scenario, prices in 2021 reflect their average seasonal variation and trend: the year-on-year figures thus represent what inflation would have looked like if the year 2021 had witnessed “normal” price variations. As well as reflecting the trend variation in prices, this counterfactual inflation also incorporates the consequences of atypical price variation in 2020 (“base effects”) as well as other effects including changes to the CPI weighting system and the return of more familiar seasonal variation in prices.

The difference between this “counterfactual” inflation and the actual variation seen in the consumer price index (available in provisional form for the months up to June, then forecast from July onwards) is then defined as “inflation specific to 2021,” reflecting price variations whose causes are specific to 2021. ●

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The prices of food products also have a positive impact on counterfactual inflation, albeit a more modest one (contributing +0.1 points to inflation over the year). They also have a negative impact in April and May: in these months in 2020, the prices of food products rose as a result of supply chain difficulties caused by the first lockdown and robust household demand. Finally, tobacco prices have a positive effect on counterfactual inflation (+0.2 points on average over the course of the year), but this contribution tapers away as the year progresses, as a result of the end of the twice-yearly increases in the price of cigarettes, formerly scheduled for March and November.

Meanwhile, manufactured goods have a negative impact on counterfactual inflation: this is particularly due to the delaying of the summer sales, meaning that prices of these goods fell less sharply than usual in July 2020, leading to a decrease in counterfactual inflation for July 2021.

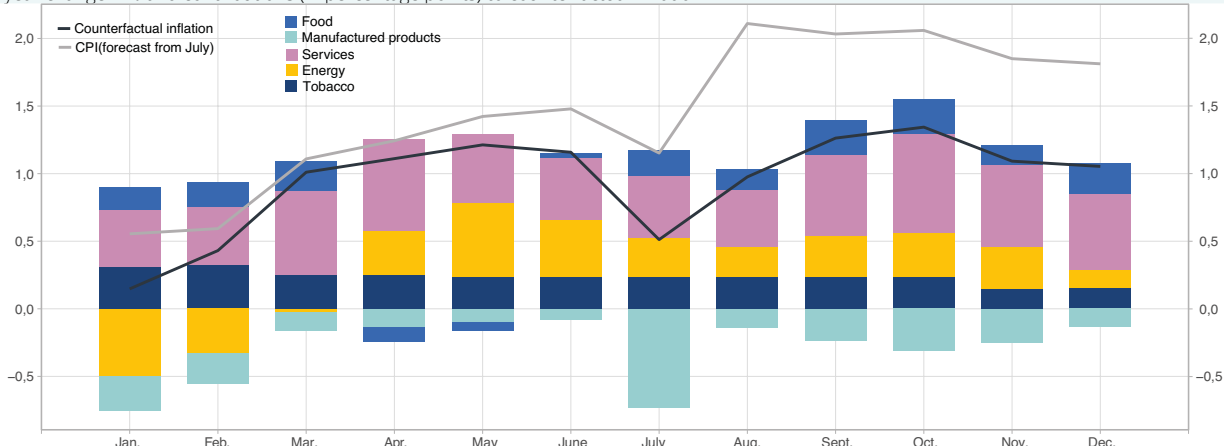
The specific circumstances of the year 2021 are expected to contribute 0.6 points to headline inflation

As an annual average, counterfactual inflation should be 0.6 points below the consumer price index (as observed, and then forecast from June 2021 onwards). This difference corresponds to the inflationary effects specific to 2021, and their impact on the consumer price index, particularly in our forecasts (► figure 2). The proportion of inflation which can be attributed to developments specific to 2021 should be considerably smaller than that linked to counterfactual inflation. Nonetheless, after a one-off increase in January (linked to the postponement of the January sales), it should continue its broadly upwards trend until August, before dropping off slightly thereafter.

The main determining factor in the effects specific to 2021 should be energy prices, as a result of the constant

► 1. Headline inflation forecast for 2021, "counterfactual" inflation and contributions to the latter

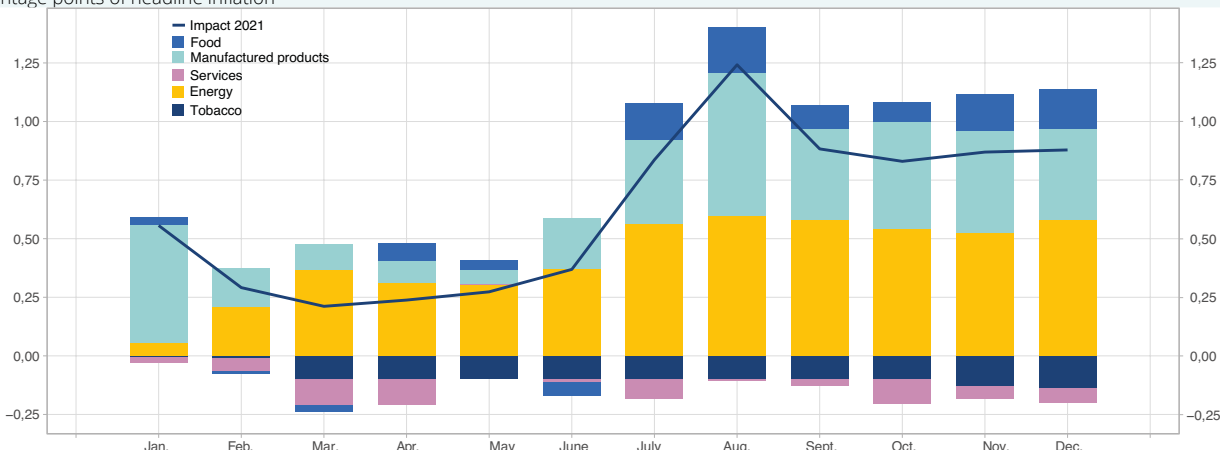
year-on-year change in% and contributions (in percentage points) to counterfactual inflation



How to read it: in April 2021, headline inflation stood at 1.2% year on year in April 2021. Counterfactual inflation, that is, inflation as it would have been in 2021 if prices had moved similarly to past years (2014-2019), stood at 1.1%. Energy prices contribute 0.3 percentage point to this counterfactual inflation. Source: INSEE

► 2. Effects specific to 2021 and their contributions

in percentage points of headline inflation



How to read it: in April 2021, the effects specific to 2021 contribute 0.2 percentage point of headline inflation. Energy prices contributed 0.3 point and the price of tobacco for -0.1 point. Source: INSEE

rise of oil prices since the start of the year. Energy prices should thus contribute 0.4 points on average to the effects specific to 2021 (► [figure 3](#)), working on the hypothesis that oil and commodity prices will stabilise in H2.

The prices of manufactured goods should bolster inflation by an average of 0.3 points over the course of 2021. The other determining factor should be food prices, which are expected to make a positive contribution to inflation throughout 2021, equivalent to 0.1 points on average, primarily as a result of the increase in food commodity prices. Finally, the prices of services and tobacco should have negative specific effects in 2021, each down -0.1 points on average.

Commodity price increases should contribute 0.7 points to inflation in 2021

One of the factors contributing to the inflation specific to 2021 is the recent upward trend in commodity prices, affecting energy, food and industrial products. In the short term, the impact of these price increases on consumer prices may be transmitted via multiple channels: direct transmission, when price increases affect a product consumed directly by households; or indirect, when price increases affect a production input used by businesses, leading to an increase in

production costs with potential repercussions for retail prices. While these channels may operate concurrently, their lag times are not the same: direct transmission is felt more rapidly than indirect transmission, which depends on companies' capacity to tighten their margins, for example.

The price of Brent crude increased by 46% between January and June 2021, and the knock-on effects for consumer prices of energy products should be virtually immediate, making their full impact felt in H1 2021. The effects should spread more slowly to other sectors (food, industry) via increases in the cost of production, subsequently passed on to consumer prices throughout the year 2021. As such, the increase in oil prices witnessed since late 2020 should impact headline inflation by 0.4 percentage points in 2021: the inflation resulting from variations in energy prices specific to 2021, as seen above, can thus be virtually exclusively attributed to the rising price of Brent crude.

Staple food prices (soy, corn, wheat), and the prices of food commodities in general, also rose in Q1 (► [figure 4](#)) and should remain at a high level in the second quarter. Econometric modelling (error correction model) for the determination of food product prices all along the chain of production (agricultural production, food industry production, consumer prices) suggests a

► 3. Breakdown of inflation in 2021

overall inflation in %, contributions in points

	planned	base effect	effet 2021
Overall inflation in 2021	1.5	0.9	0.6
Food	0.2	0.1	0.1
Tobacco	0.1	0.2	-0.1
Manufactured products	0.1	-0.2	0.3
Energy	0.6	0.2	0.4
Services	0.5	0.5	-0.1

NB: due to rounding-up, the sum of these contributions may differ slightly from the true total.

Source: INSEE

► 4. Variation in the prices of major commodities between Q4 2020 and Q2 2021

Matières premières	Hausse par rapport au T4 2020	Causes
Oil	46%	Higher demand in connection with the economic recovery
Food raw materials	21%	
Wheat	28%	Offer weakened by weather conditions
Soy	22%	Speculation on grain prices and sustained demand
Maize	9%	Delay in sowing in Brazil and concerns about harvests
Industrial raw materials	18%	
Iron	24%	Unfavorable climate in producing countries and anticipation of future demand
Copper	17%	Chinese demand, dollar weakness and anticipation of future demand
Palladium	8%	Rebound in vehicle sales

Source: INSEE

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transmission period of between two and three quarters for the effects to be passed on from commodity prices to consumer prices (► [figure 5](#)). The increase in commodity prices should be passed on to agricultural production costs after one quarter, then passed on to food industry production costs after another quarter or so. Finally, a third quarter is needed for this increase to finally be passed on to consumer prices. As such, the increase in food commodity prices in H1 2021 should primarily affect consumption prices in H2: it is expected to contribute 0.1 points to headline inflation over the year. Here again, the inflation attributable to variations in food prices specific to 2021 will essentially be driven by the increase in food commodity prices.

Finally, prices of industrial commodities also increase in Q1, up 8.3% on Q4 2020, and should bolster headline inflation by 0.2 points in 2021. Increases in commodity prices are passed down the production chain gradually, with transmission lag times of between 2 and 3 quarters. The effect of recent price increases on the consumer price index could thus be observable in H2.

At present, there is no tangible indicator for potential “knock-on effects” at the macro-economic level

Above and beyond the short-term effects discussed above, broader ramifications (known as “knock-on effects”) may be felt in the long term. Increases in consumer prices may lead to pay rises, leading to an increase in production costs and thus to further increases in consumer prices for all products (the “price/wage spiral”).

However, this price/wage spiral does not seem to be having an effect for the moment, at the general level. Business tendency surveys for the manufacturing industry have shown, since the start of the year, a noticeable increase in the balance of opinion regarding the general price outlook, in keeping with the expected increase in the consumer price index (► [figure 6](#)). Nevertheless, in the quarterly survey of businesses in the manufacturing industry, the balance of opinion regarding the general outlook for wages – which in 2019 appeared to be relatively strongly correlated with the labour cost index (wages only)¹ – showed only a tentative increase April 2021, remaining well below pre-crisis levels (► [figure 7](#)). The downturn in activity in

¹ The labour cost index – wages only (ICT – salaires seuls) is conceptually similar to the measurement of average wage per capita (SMPT) in the market sector used in the Quarterly Accounts. These two indicators cover the whole of payroll employment, but the labour cost index measures total payroll in relation to the hourly volume of work, whereas SMPT measures it in relation to the number of people in employment.

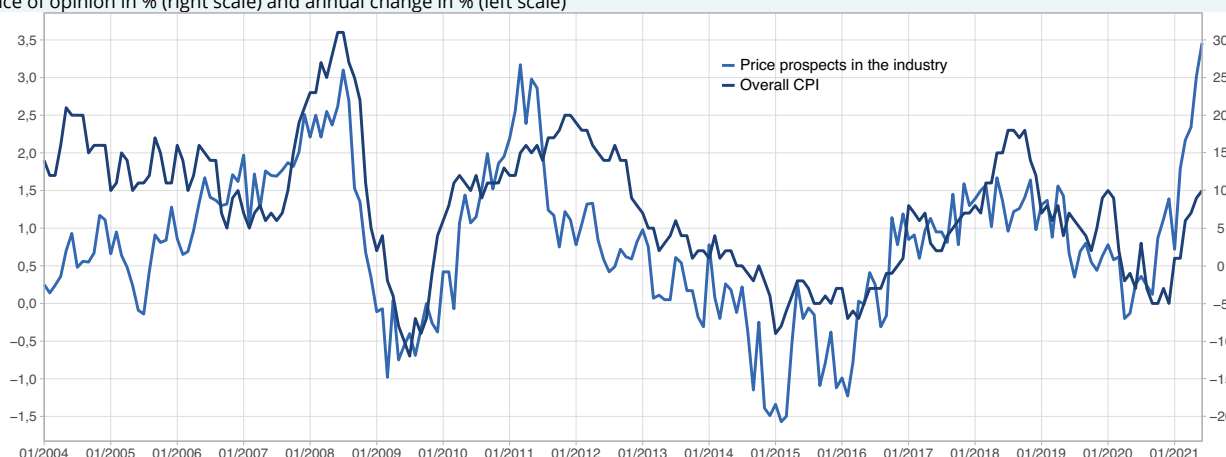
► 5. Estimated lag times and effects of commodity price increases on consumer prices

	Lag time for transmission to consumer prices	Impact on headline inflation
Oil (Brent)	Almost immediate	0.4 points
Food raw materials	2 to 3 quarters	0.1 points
Industrial raw materials	2 to 3 quarters	0.2 points

Source: INSEE

► 6. Overall consumer price index and balance of opinion on the general outlook for industrial prices

balance of opinion in % (right scale) and annual change in % (left scale)



Source: INSEE, monthly business survey in industry

relation to the pre-crisis trends, and the relatively high rate of unemployment, may well explain why upwards pressure on production and consumer prices is not being reflected, at least in the short term, in rising wages.

At this stage the variation between sub-sectors is relatively small (► **figure 8**). The balances of opinion regarding the general outlook for wages remain below their 2010-2019 average levels across all sub-sectors, in spite of the recovery from the low

point witnessed in Q2 2020. Some sub-sectors are dealing with a combination of strong demand and supply chain difficulties, but there has also been a resurgence, albeit a moderate one at this stage, of recruitment difficulties, which are nonetheless less prevalent than they were before the pandemic (► **figure 9**). The variation in these indicators will be monitored attentively in the business tendency surveys over the coming quarters. ●

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► 7. Labour cost index (LCI) - wages only - manufacturing industry and balance of opinion on the general outlook for wages in the manufacturing industry

balance of opinion in % (right scale) and annual change in % (left scale)

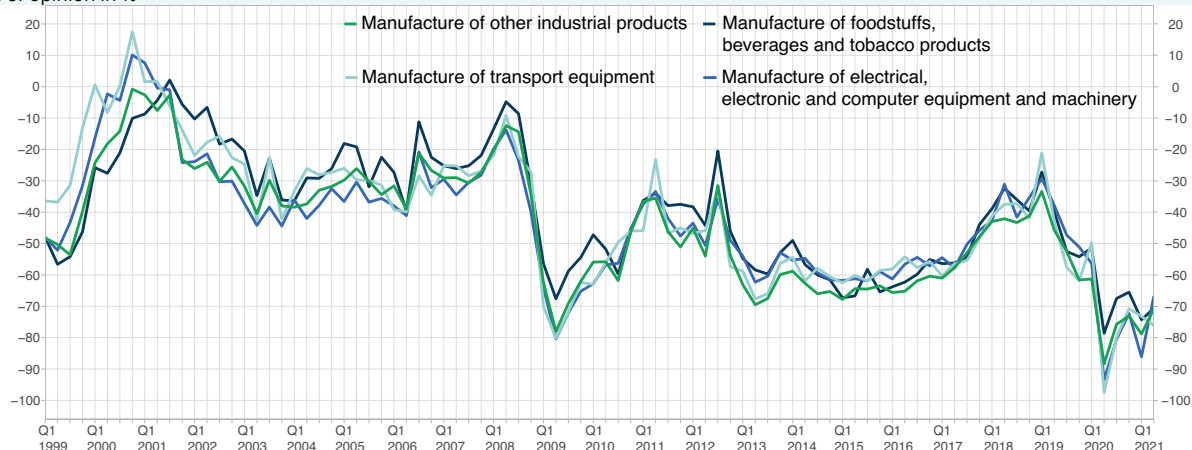


How to read it: the question relating to wages is only included in the business tendency survey for industry.

Source: INSEE, monthly business survey in industry

► 8. Balance of opinion on the general outlook for wages in different sub-sectors of industry

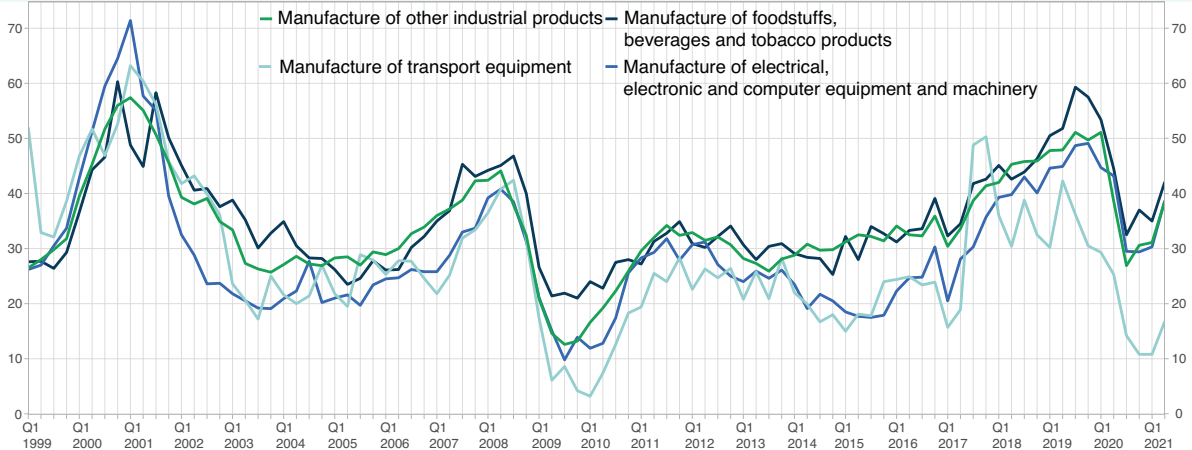
balance of opinion in %



Source: INSEE, quarterly business survey in industry

► 9. Companies affected by recruitment difficulties in different sub-sectors of industry

in %



Source: INSEE, quarterly business survey in industry