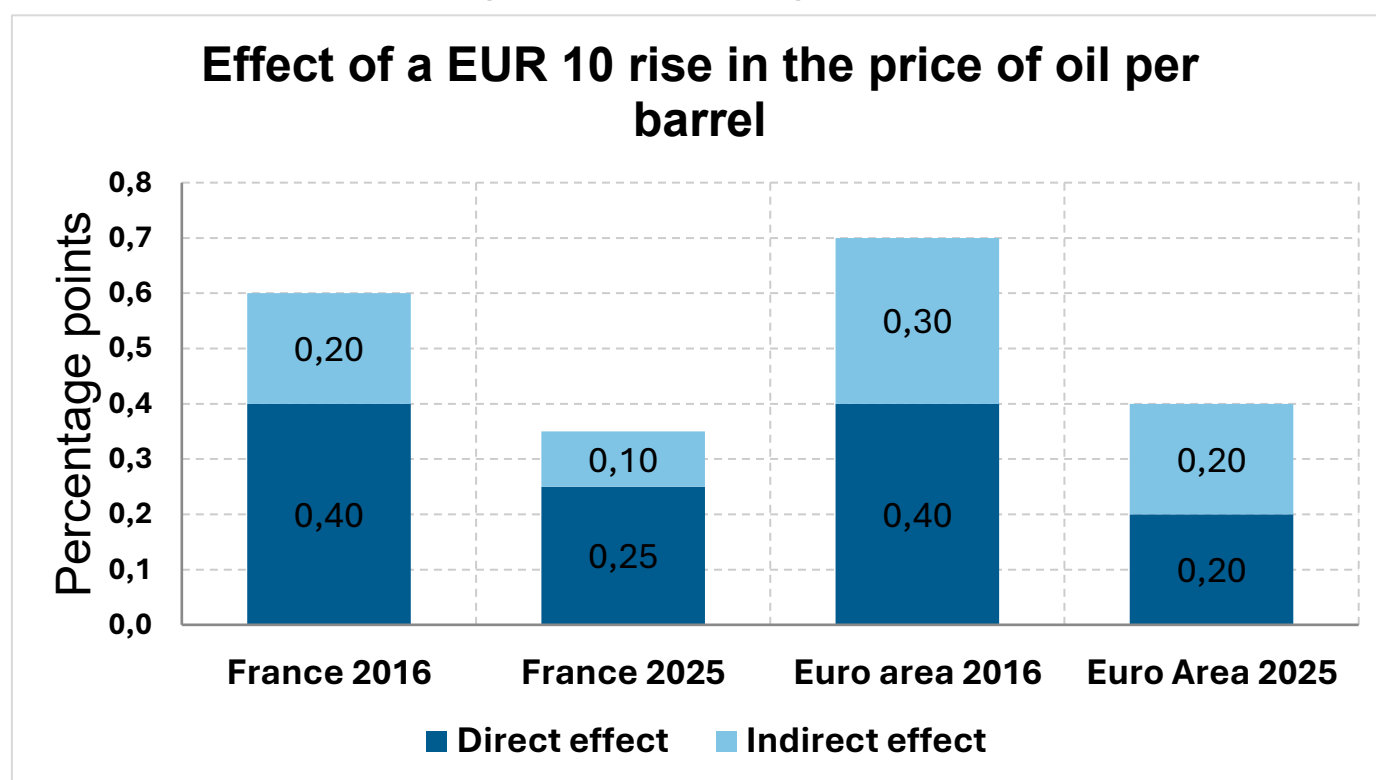


Why does an increase in oil prices have a smaller impact on inflation than in 2016?

By Nicolas Chatelais, Yannick Kalantzis and Youssef Ulgazi

Using an accounting approach, we estimate that a EUR 10 increase in the price of a barrel of oil would now raise consumer prices by 0.3% to 0.4% in France and by 0.4% to 0.5% in the euro area, compared with 0.6% and 0.7% respectively in 2016. This lower sensitivity is due to a reduction in both the direct effects on fuel prices and the indirect effects passed on via production costs.

Chart 1: A rise in oil prices has a smaller impact on inflation than in 2016



Source: authors' calculations

Note: effects on inflation of a EUR 10 rise in the price of oil per barrel, in percentage points. The figures are rounded and represent orders of magnitude. The direct effect corresponds to the rise in the price of petroleum products consumed by households; the indirect effect corresponds to the pass-through of this price rise to other prices via production costs.

The effects of higher oil prices extend well beyond fuel prices

The effect of a rise in oil prices does not stop at the petrol station. Of course, the direct effect on pump prices is significant: the rise in the price of crude oil is [rapidly passed on](#) to the prices of fuel and heating consumed by households. But there is also an indirect effect: oil and refined product prices are factored into the production and transport costs of a wide range of goods and services. Part of the price rise is therefore gradually passed on to food prices, manufactured goods and services, thereby affecting all households.

These two channels should not be confused with the so-called “second-round” effects. These arise when the initial price rise is passed on to wages, which in turn fuels further price increases. The estimates presented in this blog post measure the order of magnitude of the direct and indirect effects but exclude this wage channel. They build on and extend the accounting approach used in [a previous blog post published in 2018](#).

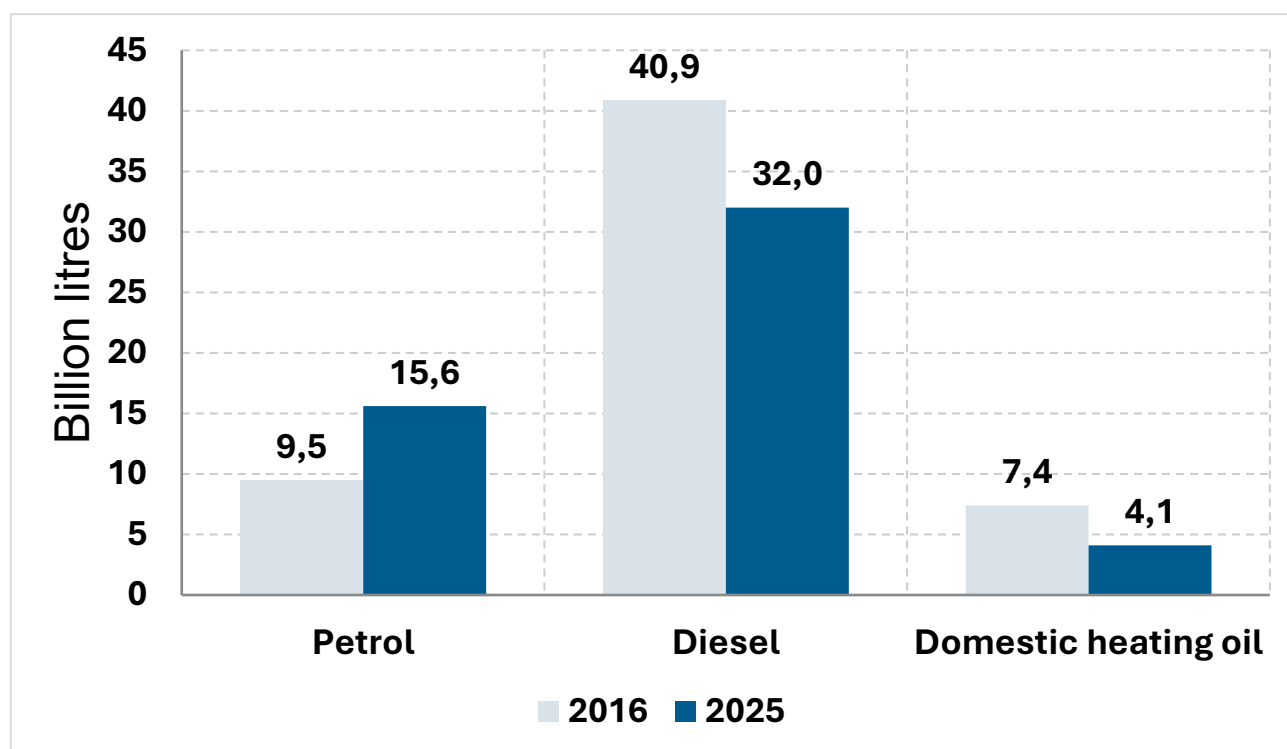
A decline in the direct effect linked to lower household consumption of petroleum products

The most visible effect of an oil price rise is on petroleum products (fuel and domestic heating oil) consumed by households. When the price of crude oil increases, prices at the pump rise rapidly, which directly raises household expenditure.

To measure this direct effect in France, we use a simple accounting approach. We calculate the increase in the cost of fuel and heating oil that would result from a EUR 10 rise in the price of oil per barrel, then divide this additional expenditure by total household consumption. For the euro area, our estimate of the direct effect is based on an econometric approach that links the prices of petroleum products to the price of Brent crude oil.

Today, the direct effect appears to be significantly smaller than in 2016. In France, it has dropped from around 0.4 percentage point to 0.25 percentage point. This result is in line with our [inflation forecasting model for France](#). In the euro area, the direct effect has declined from around 0.4 percentage point to just over 0.2 percentage point.

This change mainly reflects the decline in the consumption of petroleum products. In France, consumption of petrol, diesel and domestic heating oil fell from 57.8 billion litres in 2016 to 51.7 billion in 2025. The rise in petrol consumption has not offset the sharp decline in diesel and, above all, domestic heating oil (Chart 2). In the euro area, the weight of fuel in the harmonised index of consumer prices basket also dropped from 4.8% in 2016 to 4.1% in 2025.

Chart 2: Decline in the consumption of petroleum products in France

Source: Union française des industries pétrolières, based on figures from the Comité professionnel du pétrole.

Note: Total consumption of the three products fell from 57.8 billion litres in 2016 to 51.7 billion in 2025.

Two estimation methods for determining the order of magnitude of the indirect effect

To measure the indirect effect, we first estimate the total effect of a rise in oil prices on consumer prices. The indirect effect is then obtained by subtracting the direct effect already identified. It is therefore a residual between figures of a few tenths of a point, which are themselves imperfectly measured. The resulting ranges should therefore be interpreted as broad orders of magnitude.

We use two complementary methods for this purpose. The first method (row B of Table 1 below) involves dividing the increase in the net oil import bill resulting from a EUR 10 rise in the price of oil per barrel by household consumption. It assumes, for the sake of simplicity, that this additional cost is passed on in full to consumer prices, either directly or indirectly. It therefore provides a rather high estimate. The import volumes are taken from the [Eurostat's oil and petroleum products annual data](#).

The second method is based on Eurostat's input-output tables, which describe inter-sectoral trade, in order to allocate imported oil more accurately across the various components of demand. In particular, it subtracts the oil used to produce exports and adds the oil incorporated into imported goods other than oil. In the absence of sufficiently detailed data on foreign production technologies and on oil alone, this adjustment (row C in the table) provides, rather, a lower bound (row D).

Table 1: Direct, total and indirect effects on consumer prices in 2025 of a EUR 10 rise in the price of a barrel of crude oil in France and in the euro area (percentage points of consumer prices).

	France	Euro area
Direct effect (a)	0.25	0.21
Total effect, method 1 (b)	0.36	0.45
Indirect effect, method 1 (b-a)	0.11	0.24
Adjustment based on input-output tables (c)	0.85	0.84
Total effect, method 2 (d=b×c)	0.31	0.38
Indirect effect, method 2 (d-a)	0.06	0.17

The sensitivity of consumer prices to oil prices has almost halved since 2016

Chart 1 summarises the main finding. Today, a EUR 10 rise in the price of oil per barrel would increase consumer prices by 0.3% to 0.4% in France, compared with around 0.6% in 2016. In the euro area, the total effect would be 0.4% to 0.5%, compared with around 0.7% in 2016. Sensitivity to changes in the price of oil has therefore dropped significantly in both economies.

It should be noted that the impact for 2016 is slightly higher than that estimated in the 2018 blog post. This revision reflects the publication of final national accounts figures as well as the use of 2016 input-output tables, which were not available when the previous blog was written.

Lower oil intensity throughout the production chain

This decline in the sensitivity of consumer prices to oil prices can be observed in both channels. In France, once the direct effect has been factored out, the indirect effect is estimated to drop from around 0.2 percentage point to 0.1 percentage point. Similarly, in the euro area, the indirect effect is estimated to fall from around 0.3 percentage point to 0.2 percentage point. Rising oil prices are therefore still fuelling non-energy inflation, but to a lesser extent than in the mid-2010s.

The indirect effect of a rise in oil prices depends on the quantity of oil required to produce the goods and services consumed by households. The more oil-intensive production is, the stronger the pass-through of an oil shock to prices throughout the economy. However, between 2016 and 2025, net oil imports declined in volume terms, while household consumption rose in value terms. In France, the number of barrels imported per billion euro of consumption thus fell by around 39%. In the euro area, this figure is close to 35%. This finding remains qualitatively true if one takes into account the differences in oil intensity across the components of demand – notably imports and exports – using input-output tables.

In other words, the production of goods and services consumed by households now requires less oil than it did ten years ago. This reflects, at least in part, an improvement in energy efficiency or a change in the energy mix. Under these circumstances, a EUR 10 rise in the price of oil per barrel now represents a smaller additional cost relative to household expenditure than it did in 2016. The rise in production costs passed on to consumer prices is therefore less significant. This explains the reduction in the indirect effect of an oil shock on inflation.

A shock that remains significant, but less severe than in 2016

Rising oil prices are still fuelling inflation, both directly through the fuel and heating oil consumed by households, and indirectly through businesses' production costs. However, the extent of this pass-through is significantly smaller today than in 2016. This reduced sensitivity can be explained by two complementary developments: households are consuming fewer petroleum products and, more broadly, the goods and services they consume incorporate less oil.

This estimate does not account for either the precise speed of transmission or second-round effects through wages. It provides an accounting benchmark for assessing the scale of a shock. In a context of high oil price volatility, this benchmark is useful: a EUR 10 rise in the price of oil per barrel no longer has the same inflationary impact as it did ten years ago.