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Why inflation is diverging in the Eurozone

Energy is key

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Summary

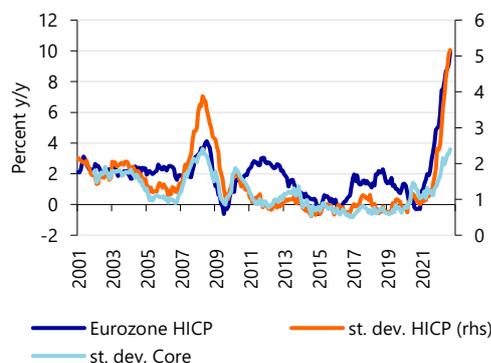
- Inflation rates in the Eurozone have greatly diverged over the past twelve months with France 'only' seeing 6.2% y/y in September, the Netherlands a much worse 17.1% but Latvia, Lithuania and Estonia all seeing rates in excess of a stunning 22%
- We show that a considerable part of this inflation divergence can be traced back to the price of 'energy', its share in the basket, indirect passthrough effects, its statistical treatment and non-harmonized government policies
- Although 'demand' factors, such as tight labor markets have helped to amplify upward pressures on wages (and, hence, core inflation) in some countries, the key drivers of recent inflation divergence are very much (energy) supply-driven in nature
- Although this is no surprise, it underscores that demand analysis alone will not be sufficient to forecast inflation in the year(s) ahead
- In fact, a slew of government measures announced in recent months risks creating further imbalances between supply and demand, thus contributing to inflation volatility

Unprecedented inflation variation

Over the past 18 months, the Eurozone has witnessed the sharpest rise in inflation since its inception. But the inflation wave also stands out from a longer, post-WWII, perspective. What has received less attention, though, is the huge variation in inflation rates *across* Member States.

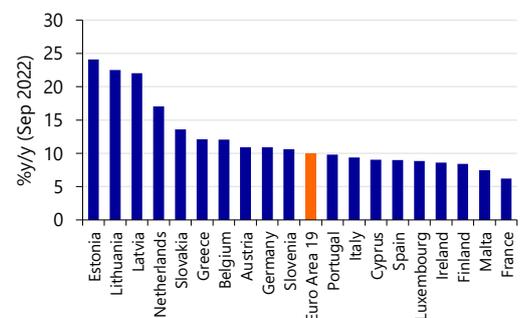
As the charts below show, (cross-sectional) differences in inflation rates (HICP) have not only risen sharply, but the (positive) correlation with the trend in inflation has also been high.

Figure 1: Huge inflation shock, unprecedented inflation variation between Member States



Source: Macrobond, RaboResearch

Figure 2: Headline inflation rates (Sept 2022)



Source: Macrobond, RaboResearch

A similar situation was seen in the years prior to the 2008 Global Financial Crisis, and in the aftermath – albeit with both inflation and variation moving down. Since then, that correlation has largely broken down – until now.

We argue that these inflation differentials can actually tell us something about the nature of inflation and the impact of government policy interventions, and, therefore, that these differences give some hints as regards the future development of inflation.

In the first section we first look at the variation in inflation (or rather its difference from the Eurozone average) from several angles. With energy being by far the most important contributor to recent inflation, we zoom in on this factor. In the second part we discuss recent policy measures or announcements and their impact on inflation in the six biggest member states (which account for some 86% of the Eurozone HICP).

Energy comes first

The *variation* in inflation rates between the Member States is currently extreme. In this section we show that this is first and foremost driven by large differences in the passthrough of (wholesale) energy costs, the share of energy in consumer spending, government interventions, and, to a lesser extent, the indirect 'energy-content' of inflation. Charts 3 and 4 break down the inflation differential with the Eurozone through various lenses. Charts 5 and 6 zoom in on the contribution of gas and electricity costs and of food prices to the headline inflation differential with the Eurozone. We have taken the 12m sum of monthly changes up until September as the basis for this analysis.

Figure 3 splits the difference between individual countries' inflation rates and the Eurozone average into:

- A *price effect*, which gauges whether prices of specific items have risen more or less than the Eurozone average;
- a *composition effect*, where a higher share means a bigger contribution to the overall inflation rate;
- and an *indirect tax effect*.

We estimate the composition effect by assuming that all countries experienced the same per-item price increases as the Eurozone average; to estimate the price effect we assume that the composition of each of the national HICP baskets is the same as the Eurozone¹.

The most salient finding here is that the relatively high inflation rate in Eastern European Member States can be explained by both relatively large price increases of energy and food as well as their relatively large share in the consumer basket.

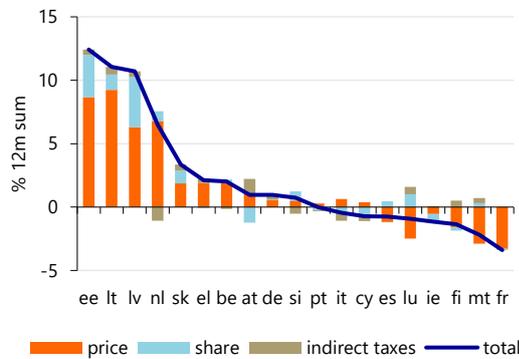
A large negative contribution from taxes in the Netherlands (due to tax cuts on the energy bill and a reduction of fuel excise duties) and a large positive tax effect in Austria (due to the ending of a temporary low-tax regime for restaurants) also stand out.

Figure 4 breaks the inflation differential with the Eurozone into the four key items in the consumption basket: gas and electricity, liquid fuels, food and drinks, and non-energy, non-food items (i.e., core inflation). This shows that price increases for electricity and gas, as well as food and drink, have been the key drivers of inflation differentials. Core inflation differentials play second fiddle, as not only differentials between countries are smaller but also because it is dwarfed by the energy effect.

¹ Our method, which resembles Kirchner contributions (see p. 183 of the Eurostat [manual](#)), does give small statistical discrepancies, but it does help explain whether the inflation differential is driven by a high share of a certain item or by a higher inflation rate than in the rest of the Eurozone.

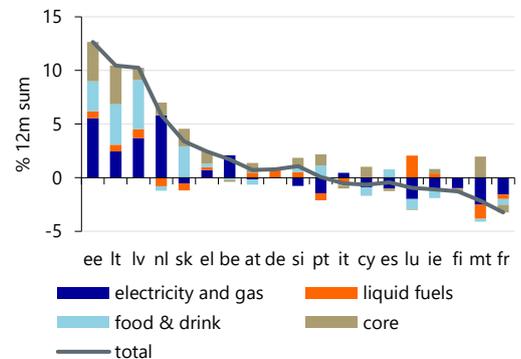
Comparatively speaking, liquid fuels are not a very distinguishing factor *between* countries (except for Luxemburg). This partly reflects the lower share of liquid fuels in the consumption basket but it also highlights the role and influence of the gas and electricity distribution system: whereas liquid fuels can be transported relatively easily, demand-supply imbalances in gas and electricity often need to be resolved at the [local level](#).

Figure 3: Breakdown of inflation differential with Eurozone - by price, share and tax effect



Source: Macrobond, RaboResearch

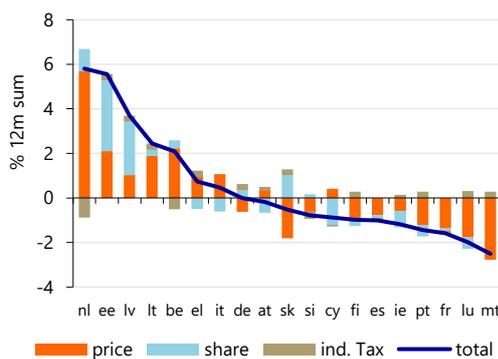
Figure 4: Breakdown of inflation differential with Eurozone - by major item in basket



Source: Macrobond, RaboResearch

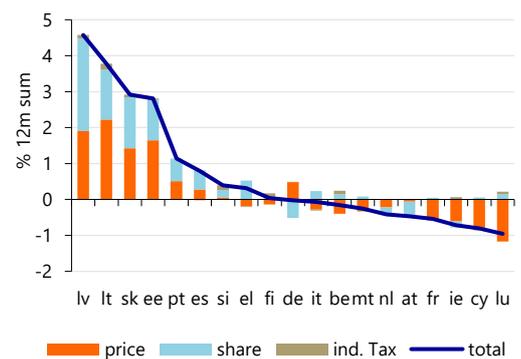
France stands out as the country with the lowest inflation over the past 12 months, in particular because of smaller increases in electricity and gas prices –which is due to government intervention, as we will explain below. By contrast, the big contribution of electricity and gas prices to inflation makes the Netherlands stand out. However, this is largely due to a **different methodology for measuring** these prices: the Dutch statistics office assumes that all households sign a new contract with energy suppliers each month and it has acknowledged that a different methodology –which it is in the midst of developing– would produce a significantly lower inflation rate.² The Netherlands, meanwhile, also shows the biggest cut in indirect taxes for this energy item in the past 12 months.

Figure 5: Gas and electricity is the main source of inflation differences



Note: Contribution of the electricity and gas component to the headline inflation *differential* with the Eurozone
Source: Macrobond, RaboResearch

Figure 6: Although food and drink also plays a decisive role



Note: Contribution of the food and drink component to the headline inflation *differential* with the Eurozone
Source: Macrobond, RaboResearch

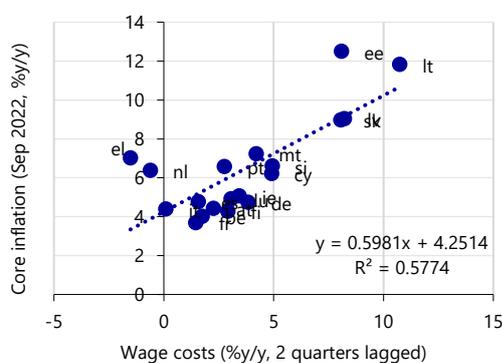
² The Dutch statistics bureau recently [noted](#) that the inflation rate based on the national CPI would not have been 12% y/y in August, but rather between 7.5% and 9.6% if a new method had been used; so 2.4 to 4.5%-points lower. This would explain a good chunk of the inflation differential between the Netherlands and the Eurozone average. It also means that the Eurozone average could be revised down by some 0.2 to 0.3%-points should that methodology be implemented.

Indirect energy effects may be considerable

Differences in the contribution of core inflation to headline inflation differentials can largely be explained by 'price effects', as we would expect. In other words, the most important reason for the contribution of core inflation to be larger in some countries than in others is because core inflation is much higher there, not because the share of core components in the overall index is larger. **There are several drivers behind the core inflation differentials, such as different wage cost developments and indirect energy effects.**

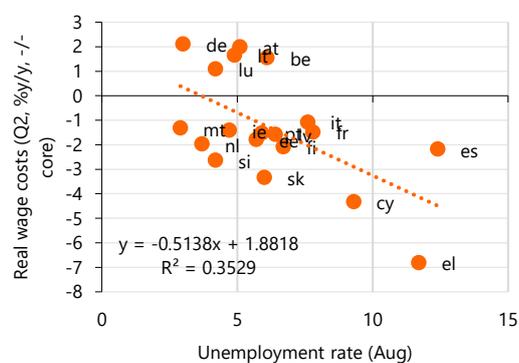
Generally speaking, core inflation is higher in countries with higher growth of wage costs (Figure 7). Moreover, Figure 8 suggests that real wage costs (hourly labour costs adjusted for core inflation) are falling less sharply in countries with low unemployment rates; or are even (still) rising on a y/y basis in some countries, such as Germany, Austria and Belgium. As such the 'cross sectional' Phillips curve relationship between labour market tightness and real wages seems to remain intact. That said, this outcome may be sensitive to the sample of countries chosen. Nevertheless, **differences in core inflation between member states can be partly explained by higher wage growth and/or differences in labour market tightness.**

Figure 7: Positive correlation between wage and core inflation...



Source: Macrobond, RaboResearch

Figure 8: ... and tighter labor market means stronger growth in real wage costs



Source: Macrobond, RaboResearch

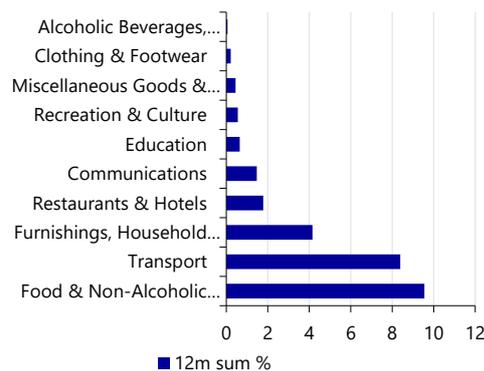
But wages don't tell the full story when it comes to core inflation, especially over the last 12-18 months. There is another role for energy here. **Apart from their direct impact, energy prices have risen to such an extent that this has also become very visible in other goods and services that are usually not associated with energy**, in other words, non-energy inflation. The local bakery has raised its prices not only because the price of grains and other inputs has increased, but also because its energy bill has exploded. The package delivery service is facing a higher fuel bill. And so forth.

Normally, these effects are immaterial or are largely being absorbed by profit margins. But when energy costs rise by over 40% –as they have done over the past twelve months– even goods and services that require only a relatively small amount of energy to produce suddenly have to be priced higher in order for the seller not to take too severe of a cut to their margin. Simply put, even if energy accounts for just 5% of production costs, when energy prices rise 40% that is still a 2% increase in total costs on top of other costs.

In order to gauge this effect on non-energy prices, we ran a series of regressions of HICP data on energy prices, allowing for lagged effects of up to 9 months and controlling for labour costs and non-energy commodity prices. We did this for all 19 Member States as well as the Eurozone average, both on the 2-digit HICP categories (11 excluding energy) and 3-digit level (approximately 46 categories, depending on the member state). A more detailed description can be found in the Appendix A at the end of this piece.

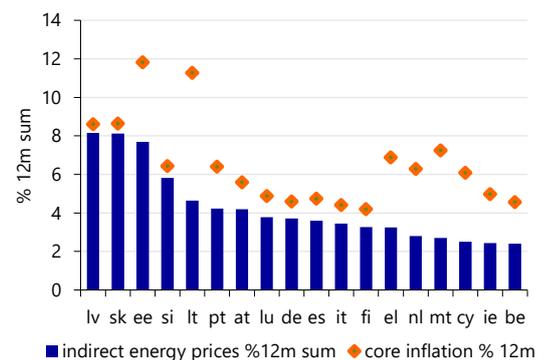
The upshot of this: a very sizeable part of the rise in non-energy inflation can be attributed to this effect. For September, we estimate this at around 3.3 %-points. Food is by far the biggest contributor to this effect. Food prices rose by 11.8% y/y in September, but corrected for indirect energy effects, the rise would have been a much 'more normal' 4.1% y/y. Core inflation (excluding energy and food) stood at 4.8% y/y in September, but would have been 1.7%-points lower without these indirect energy effects. The 'pass-through' effects of energy prices to other prices are very strong in some of the Eastern European states (Slovakia, Latvia and Estonia in particular) as well as in Portugal, Austria, Luxembourg and Germany. They are remarkably modest in France, Ireland and Belgium. As such, these indirect energy effects also explain some part of the cross-country variation in inflation and this further highlights the big role of energy. This point is illustrated in figure 10 below.

Figure 9: Impact of (indirect) energy costs on prices in... (12m sum of increases, September)



Source: RaboResearch

Figure 10: Estimated impact of indirect energy effects, by member state



Note: Core inflation is just for comparison purposes, dark blue bars are not 'contributions' to core inflation
Source: RaboResearch

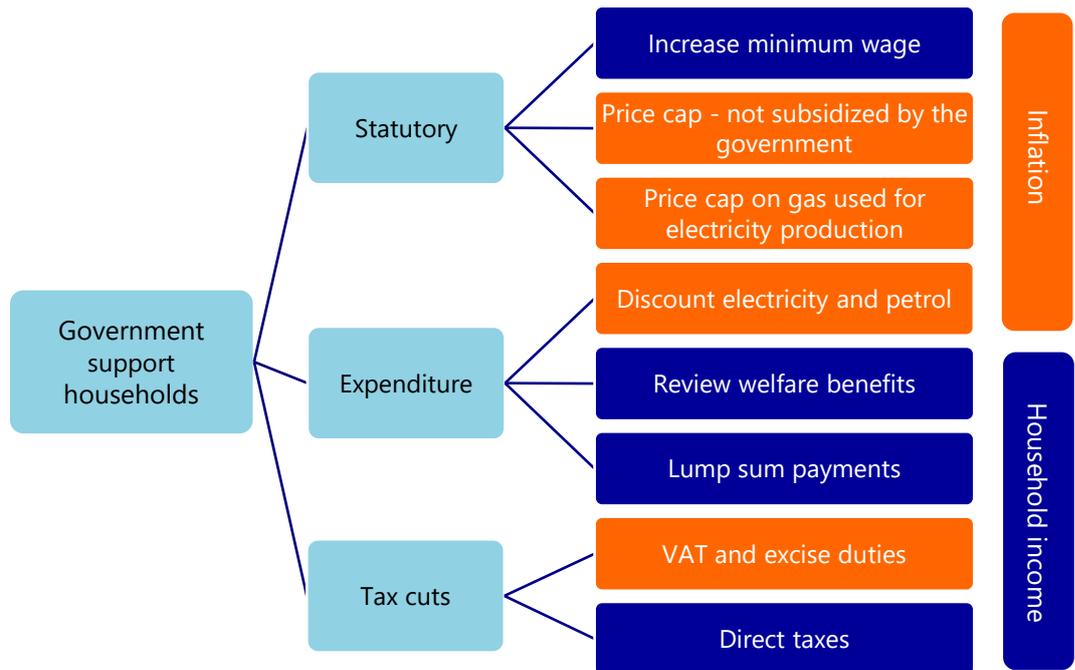
Zooming in on the six biggest member states

Another factor driving inflation differentials is government support. Across the currency block, governments are trying to help households and businesses cope with the massive increase in prices. In this paragraph we focus on measures in the six largest member states which are likely to have had a direct impact on inflation in the twelve months up to September. In a forthcoming piece we will dive deeper into the broad range of support measures announced, to get a comprehensive view of the impact of government support on the economy, now and in the future.

Although there are some similarities in the measures taken, governments seem to have different views on how to best tackle the cost of living crisis – be that out of conviction, complacency or limited fiscal space. For example, many have chosen to cut energy taxes and excise duties; some have lowered indirect taxes, handed out lump sum payments or implemented/expanded social tariffs for less endowed households; whilst again others have put in place outright caps on energy prices or on the increase thereof. Some measures are directly targeted at keeping a lid on prices, while others support households' income.

Figure 11 categorizes government support policies targeted at households into measures that in first instance lower inflation or raise household income. We say in first instance, because paradoxically, government support could backfire. Especially if fiscal measures help to preserve demand for something with limited supply, such as gas, this would only further inflate the prices of such products -and of more downstream goods that are produced with such products. Companies and households not protected against price increases by price caps would be exposed to the new bout of price increases.

Figure 11: Support measures can directly influence prices or support purchasing power via income



Source: RaboResearch

Ranking the member states

We have ranked the six countries by the direct impact government measures have had on inflation so far (Figure 12, see Appendix B for a more detailed overview of policy measures to limit price increases). Measures to clamp down on electricity and fuel price inflation have had the largest impact on the headline inflation figures. Between the two, the impact of measures aimed at tempering electricity prices has clearly been largest in most countries.

The French government took the most far-reaching action on electricity and gas prices by not only reducing the tax rate on electricity as most other countries did, but by also imposing a cap on the price increase of regulated electricity tariffs (4% in 2022, to be increased to 15% in 2023) and gas bills – this covers about 70% of households. According to the French statistics office INSEE, inflation would have been 3.1%-points higher between 2021Q2 and 2022Q2 without the price caps. Spain comes in second. Since July last year the government has cut different kinds of taxes on electricity -although these cuts are no longer visible in our inflation differential data due to the way inflation is calculated. Since 21Q4 the Spanish government has also capped the quarterly increase of the regulated gas tariff to 4%-5% (covering about 1.5mn out of the 8mn domestic gas consumers) as well as increased the size and scope of the social electricity bonus -a discount on the electricity price for vulnerable households with a regulated tariff, subsidized by the government. On top of these tax cuts, since mid-June 22, Spain has capped the [price of gas used for electricity generation](#).³ This has benefitted a little under half of all households⁴. The cap will remain in place until May next year. According to Banco de España, these measures combined

³ In September the government announced to extend the cap to gas fuelled power plants linked to heavy industry.

⁴ Power plants will receive the difference between the market price for natural gas (i.e., the price on the Iberian Gas Market MIBGAS) and the reference price set by the government. The costs are funded by additional congestion income (due to extra exports to France due to the fall in electricity prices) and Spanish consumers benefitting from the measure – this prevents any impact on the public balance, but also limits the impact on inflation. Because of how price setting in the electricity market works, broadly said, a share of Spanish consumers will benefit mostly because they end up paying a lower cost for electricity generated with e.g. renewables. In a recent note, the Bank of Spain stated that in August the cap had subtracted 1pp from the y/y headline inflation figure.

lowered headline year-on-year inflation by slightly over 2%-points in August⁵. Germany seems to have done the least to directly lower electricity and gas prices for households, yet. So far, Germany has focussed on supporting household income (and on helping businesses to cope with high prices). From next year, it also plans to subsidize a share of gas and electricity consumption – as does the Netherlands for that matter⁶.

To temper the price increase of motor fuels, Germany, Italy, the Netherlands and Belgium have cut excise duties over the past year, to various degrees and duration. France and Spain have chosen to hand out a discount on fuel prices through gas stations. When looking at duration and size, Italy has subsidized fuel prices the most in the 12 months to September, while Germany, again, has done the least, because its cuts have lasted shorter.

Finally, governments have also embarked on other forms of price interventions. Germany, Spain, and Italy, for example, subsidized public transportation for several months, while Spain and France have capped the increase of rents. These measures can have a significant impact on the purchasing power of specific households. Moreover, promoting public transport could lower the price of car fuels via lower demand. Yet, the direct impact of these measures on headline inflation has actually been fairly small – which is why we have excluded it from the ranking exercise in Figure 12.

Figure 12: France has been most effective in keeping a lid on inflation, for now...

<i>Country</i>	<i>Liquid fuels</i>	<i>Electricity and gas</i>	<i>Energy %12-month sum</i>	<i>HICP %12-month sum</i>
France	3	1	18.1%	6.1%
Spain	5	2	23.6%	8.7%
Italy	1	3	38.7%	9.0%
Netherlands	2	4	85.3%*	16.0%
Belgium	3	5	54.7%	11.5%
Germany	6	6	38.3%	10.4%

Note: Ranking from 1 to 6, with the country having implemented the most (effective) measures to limit price rises within a category receiving a 1. This is not to say that this country's policy is preferred from a macro perspective due to the possible large negative side effects broad-scale support/ market invention has amid a large negative supply side shock, as we explain in the text.

* This figure is expected to come down substantially once the Dutch statistics office has implemented its revised calculation method for energy inflation.

Source: RaboResearch

Among the six largest member states, energy prices -and therefore headline inflation- have least increased in France. The main reason is that the government has effectively capped the allowed increase in electricity prices. At first instance, the electricity provider EDF had to bear the difference between wholesale and retail prices. Yet through full nationalization of the company, the French government is paying the bill.

We reiterate that the measures described in this paragraph do not paint the full picture of government support. We have merely discussed the measures which have had a direct downward impact on consumer price inflation so far, to help explain existing inflation differentials within the Eurozone. In a forthcoming piece we will analyse the broad set of government support measures, including those that have focussed on propping up household disposable income and support to businesses -and their impact on both short and long-term inflation and several other variables.

⁵ The measures already introduced in July 2021, no longer had an impact on August's inflation figure. The impact of the cap on the price of gas used for electricity production on inflation, greatly depends on the difference between the capped price and the market prices. Hence, due to the fall in the market price, the impact of the cap was much lower in October than in August, for example.

⁶ Our Dutch economy colleagues have estimated that these planned measures will reduce inflation by 2.9%-points next year (in a Dutch language note, [here](#)).

As mentioned before, although possibly helpful in the short term, widescale government support could end up pushing inflation higher, while worsening public finances. Moreover, interventions to keep energy price rises in check, risk creating actual energy shortages, as they hamper the price incentive to cut back on demand for energy in an environment with reduced supply.

Conclusions and implications

A cross-sectional analysis of Eurozone inflation data only further underscores the importance of energy in the current high rates of inflation and differences in the inflation observed in individual countries. Both directly as well as indirectly, higher energy costs have left their mark on inflation. That said, recent government intervention, in the form of tax cuts and other measures to reduce prices, should not be underestimated. Notably in France these measures have been significant and largely effective in containing inflation.

This analysis also raises a number of key trends to watch in the coming months. First of all, should wholesale energy prices stabilize, we are likely to see bigger drops in inflation in those countries where inflation also rose more sharply and quite quickly. To some extent this may also gradually filter through to a slowdown in core inflation, once the 'indirect energy effects' fizzle out. So some convergence is to be expected.

Still, our calculations indicate that around 0.9 %-points of additional upward pressure on inflation from energy passthrough effects remains in the pipeline for the next twelve months (with the majority of that falling before April 2023). Moreover, Rabobank's baseline scenario is for wholesale energy prices to veer back up as the European winter sets in. So both factors could make the convergence process described above a rather slow one.

Another key takeaway is that government policies will probably continue to contribute to inflation variation, unless Member States were to opt for a harmonized approach (which we believe is quite unlikely). Whilst we show that price and tax interventions can be quite successful in holding back inflation, there may well be a price to pay in the medium-term if this means that energy consumption does not fall sufficiently. The risk of a spiral of higher-than-expected energy cost inflation fuelled by further government interventions -as well as the risk of actual energy shortages-, is something that cannot be entirely dismissed and that is a topic we will address in a forthcoming piece. Some first cross-country plots show that so far, especially demand for gas has been cut back amid increased prices, while demand for fuel and especially electricity has shown to be rather inelastic. There are multiple reasons to think of, but most important here, in our view, is that especially those measures that put a lid on gas prices could paralyze the price incentive to cut back demand, and inflate market gas prices.

Last but not least, the big differences in inflation rates across countries raise serious problems for monetary policy as the ECB's one-size policy fits even less than in 'normal' times. With inflation variation likely to remain high in the year ahead, this could further distort mechanisms like inflation expectations and wage formation.

Appendix-A: Estimating the indirect impact of higher energy costs on inflation

Our goal here is to get an idea of the indirect effect from energy prices on non-energy components in the HICP. Data we used were: the overall and lower level (2-digit and 3-digit) HICP index numbers and corresponding weights for each region (20, including the Eurozone average), the aggregate HICP-energy index of that particular region, an aggregate index of hourly wage costs (interpolated to monthly figures) for each region and the HWWA ex-energy commodity price index (same for all regions).

The model used⁷

All indices were transformed to 'quarterly' log changes:

$$\Delta Index_t = \log(Index_t/Index_{t-3}) \quad (1)$$

Then, for each lower level index except the index concerning Energy (Housing, Water, Electricity, Gas & Other Fuels): We estimate a simple OLS model in which the delta index is the dependent variable. The independent variables are: the delta energy index and 3 lags, the delta commodity index and 3 lags, 3 lags of the delta labour costs index, and monthly seasonal dummies (Eq. 2)

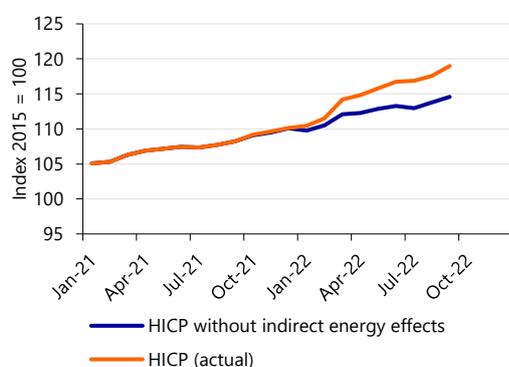
$$\Delta Index_j = \beta_0 + \Delta CommodityIndex * \beta_1 + \Delta EnergyIndex * \beta_2 + \sum_{i=1}^3 Li. \Delta EnergyIndex * \beta_{i+2} + \sum_{i=1}^3 Li. \Delta WageIndex * \beta_{i+5} + \sum_{i=1}^3 Li. \Delta CommodityIndex * \beta_{i+8} + \sum_{i=1}^{11} d_i * \beta_{i+11} + \epsilon_i \quad (2)$$

An example of the estimation results is given in figure 15 on the next page.

After estimation (up until August 2021), we simulate each HICP sub-index holding energy prices constant whilst adjusting all other factors. We only do this when the joint coefficients on the energy variable are significant at the 10% level (using an *F*-test). The difference with the actual outcomes then gives us an estimate of the combined effect of lagged and actual responses to the increase in energy costs. Using the predicted lower level price indices, we generate the predicted overall HICP using the Laspeyres index aggregation method and chain linking. See [HICP Methodological Manual \(europa.eu\)](#).

The gap between the two indices, as per the example below, gives an indication of the cumulative impact of indirect energy effects over the past 12 months. For the Eurozone, summing all individual member states' results, this is around 3.3%-points (when applied to the region's aggregate HICP, this is around 3.8%-points as in fewer cases the energy passthrough effect is rejected).

Figure 13: Indirect energy effects: holding energy prices constant after Aug 2021, Eurozone total



Source: RaboResearch

Figure 14: Breakdown of Eurozone inflation rate into contributions (September 2022)

<i>Total</i>	10.7
Energy (direct)	4.5
Indirect energy effect	3.3
Food (ex indirect energy)	0.9
Remainder (core)	2.0

Source: RaboResearch

⁷ With thanks to Revo Loonen for support in modelling and programming.

To put this in perspective, figure 14 breaks down the overall inflation rate for September into *contributions* of direct and indirect energy effects, food (excluding indirect energy) and other effects. So nearly 70% of the inflation rate in September was due to energy.

Figure 15: Sample estimation results for Eurozone HICP – Food and non-alcoholic beverages

<i>Y = CP01 (Food / non alc. bev.)</i>	<i>Coefficients</i>	<i>T values</i>
(Intercept)	0.0029	1.8
Δ CommodityIndex	-0.0041	-0.6
Δ EnergyIndex	0.0380	2.6
L3. Δ EnergyIndex	0.0460	3.2
L6. Δ EnergyIndex	0.0226	1.5
L9. Δ EnergyIndex	0.0235	1.6
L3. Δ CommodityIndex	-0.0030	-0.4
L6. Δ CommodityIndex	-0.0017	-0.2
L9. Δ CommodityIndex	0.0156	2.2
L3. Δ LabourIndex	0.4427	4.0
L6. Δ LabourIndex	0.0899	0.8
L9. Δ LabourIndex	-0.0008	0.0
Jan	0.0044	2.4
Feb	0.0046	2.5
Mar	0.0033	1.7
Apr	-0.0002	-0.1
May	0.0006	0.3
Jun	-0.0013	-0.7
Jul	-0.0073	-3.8
Aug	-0.0121	-6.4
Sep	-0.0114	-5.9
Oct	-0.0063	-3.3
Nov	-0.0023	-1.2
R2 (adj)	0.5135	
Sample: Jan-1996 - Sep-2021		

Source: RaboResearch

In figure 15 we show an example of an estimate for the Eurozone aggregate HICP index for food and non-alcoholic beverages.

As this table shows, indirect energy effects are significant for the current quarter and lagged effects are also quite significant, notably the first and second quarter lag.

This lagged response is particularly visible in food and non-alcoholic beverage prices (as shown here), hotels and restaurants, and less so in some other categories, such as transport, which generally show a quicker passthrough.

However, it also points at continued upward pressures in non-energy inflation in the coming months even when energy prices themselves have already turned the corner.

Appendix-B: Overview measures to temper inflation

<i>Date</i>	<i>Intervention fuel tax</i>	<i>Country</i>
01-06-2022 / 31-08-2022	Tax cut on gasoline and diesel (resp. 35ct and 19.7ct per liter)	Germany
		France
19-03-2022 / 31-12-2022	Cut excise duties on petrol and diesel (30.5ct per liter)	
02-05-2022 / 31-12-2022	Cut excise duties on gas used for transport to zero	Italy
02-05-2022 / 31-12-2022	VAT cut on gas used for transport from 22% to 5%	
		Spain
01-04-2022 / 30-06-2023	Cut excise duties on gasoline, diesel and LPG (resp. 20.9ct, 13.4ct, 4.9ct p/L)	Netherlands
19-03-2022 / 31-03-2023	Cut excise duties on diesel and petrol (17.5ct per liter)	Belgium
<i>Date</i>	<i>Intervention fuel prices non-tax</i>	<i>Country</i>
		Germany
01-04-2022 / 01-09-2022	18ct. per liter discount on fuel for motorists	France
01-09-2022 / 15-11-2022	30ct. per liter discount on fuel for motorists	
		Italy
01-04-2022 / 31-12-2022	20ct. per liter discount on gasoline and diesel - (15 cent to be contributed by the government, 5 cent by petrol stations)	Spain
		Netherlands
		Belgium
<i>Date</i>	<i>Intervention electricity tax</i>	<i>Country</i>
		Germany
01-02-2022 / 01-01-2023	Cut electricity tax rate from €22,50/mwh to €1 for households	France
01-10-2021 / 31-12-2022	VAT cut on natural gas from 10%/ 22% to 5%	Italy
01-07-2021 / 31-12-2022	Suspension generation tax (7% -> 0%)	
01-07-2021 / 25-06-2022	VAT cut on electricity from 21% to 10% for <10 kW contracted power	
01-07-2022 / 31-12-2022	VAT cut on electricity from 10% to 5% for <10 kW contracted power	Spain
01-10-2021 / 31-12-2022	Cut excise duty rate on electricity from 5.11% to 0.5% (In total 60% tax reduction on taxes levied on electricity)	
01-01-2022 / 31-12-2022	Energy tax cut from 9.4c/kwh to 3.7c/kwh	Netherlands
01-07-2022 / 31-12-2022	VAT cut on gas, electricity, heating from 21% to 9%	
01-01-2022 / (?)	Replace certain taxes by excise duties and adjust to keep revenues constant	Belgium
01-03-2022 / permanent	VAT cut on electricity and gas from 21% to 6%	
<i>Date</i>	<i>Intervention electricity prices non-tax</i>	<i>Country</i>
01-01-2022 / 01-07-2022	Cut Renewable Electricity Surcharge from 6.5 to 3.7 c/kwh	Germany
01-07-2022 / indefinite	Cut surcharge entirely	
01-10-2021 / 31-12-2022	Gas price freeze to level of October 2021	France
01-01-2022 / 31-12-2022	Cap increase regulated electricity tariffs at 4% (about 70% residents) Eliminate general system charges on electricity bills	
27-09-2021 / 31-12-2022	Reduce/ cancel general charges on gas bills Increase and broaden scope of social welfare bonus for electricity and gas bills - (Visible in inflation figure since April 2022)	Italy
01-10-2021/ 31-12-2022	Cap quarterly increase of the regulated gas price at 4%-5% per quarter	
26-10-2021 / 31-12-2022	Increase social electricity and thermal bonus (discount electricity price for vulnerable households with regulated tariff)	Spain
June 2022 / May 2023	Cap on gas price used for electricity generation (in August the measure subtracted a bit more than 1pp from the headline figure)	
		Netherlands
12-10-2021 / 31-03-2023	Extension and broader scope of social energy tariff introduced in pandemic	Belgium

<i>Date</i>	<i>Intervention other prices</i>	
01-06-2022 / 31-08-2022	Monthly reduction to EUR 9 pm for public transport	Germany
01-07-2022 / 30-06-2023	Rent increase capped at 3.5%	France
02-05-2022 / 31-12-2022	EUR 60 for public transport ticket for income <35.000	Italy
01-04-2022 / 31-12-2022	Cap on rent increase of 2%	Spain
25-06-2022 / 31-12-2022	50% subsidy public transport on monthly and multi-trip ticket	Netherlands
		Belgium

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A summary of the methodology can be found on our [website](#)

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