

Euro inflation notes

A 'sticky' problem

- We forecast euro area HICP inflation to average 7.2% in 2023 and 2.9% in 2024. Core inflation will return to the ECB's target only in H2 24. In light of ongoing cost-push inflation, we think markets are underestimating the 'stickiness' in euro inflation.

On the face of it, the November flash HICP figures brought a welcome decline in headline inflation from 10.6% to 10.0%. However, we think the evidence for a similar peak in underlying inflation pressures is less clear-cut and 'stickily' high core inflation could remain a concern for ECB for some time yet.

Firms continue to pass-on higher input costs to consumers and in spite of an approaching recession (see *Big Picture Euro area - Double dip recession*, 28 November), we expect this process of cost-push inflation to extend into 2023, keeping price pressures elevated for longer. Despite the moderation in natural gas and electricity prices, delayed pass-through to household bills will mean energy price inflation will abate only gradually, while the downside risk from price caps seems limited. Core inflation will prove sticky in our view, due to second round effects from higher energy, material, but also labour costs. Our forecasts are above current market pricing and show headline inflation returning to the ECB's target not before the end of 2024, with the green transition and higher than expected wage growth still presenting upside risks.

Energy: the joker

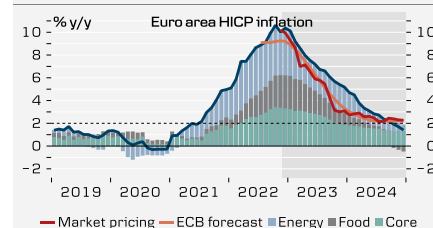
With no end of the Russian-Ukraine war in sight, energy price developments will likely stay volatile, rendering any inflation predictions highly uncertain. While wholesale gas and electricity prices have come somewhat off their previous peaks, the latest energy price shock has yet to fully filter through to consumer prices. The pass-through from wholesale to consumer gas prices is usually only around 13% and can take up to 12 months to materialize (see *EU Commission*). For electricity prices, the effect is even lower, as historically only about 4% of a change in wholesale gas prices is passed on to consumers' electricity prices within 12 months (and only 25% of the effect materializes within the first month). Cross-country heterogeneity is strong and regulatory frameworks and government interventions differ significantly across euro area countries. Even within countries, multiple contracting practices co-exist (f.ex. between different German states), with some households and firms still holding longer-term contracts that lock in prices for several months.

This implies that the rise in wholesale prices observed in 2022 is set to exert continued upward pressure on retail gas and electricity prices throughout next year as well. We think that larger price increases will occur especially with the turn of the year, as many energy providers will seek contractual price increases in light of the new reality in energy markets. We expect HICP energy inflation to peak at 38% in Q4 22 and head gradually lower as negative base effects from the stabilization in oil prices will weigh on fuels for personal transport. The German gas and electricity price brake that is taking effect in March 2023 should also contribute to the slowdown in energy inflation, but the impact from any

Key factors to watch

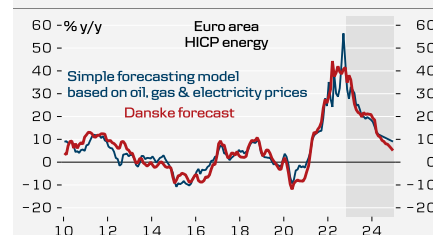
- Potential attacks on European energy infrastructure and EU energy price cap discussions
- Wage negotiations
- Consumer inflation expectations
- Green transition trends
- China's zero-Covid strategy

Markets are underestimating euro inflation risks in 2023/24



Source: Eurostat, ECB, Macrobond Financial, Danske Bank

Energy price inflation will decline only gradually



Source: Eurostat, ECB, Macrobond Financial, Danske Bank

Assumptions: Brent oil at 95 USD/bbl in 2023-24; natural gas at 100 EUR/Mwh in 2023 & 70 EUR/Mwh in 2024. Note: Past performance is not a reliable indicator of current or future results.

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future EU gas price cap seems limited (see also *Euro inflation notes - Energy variations*, 10 October). On the other hand, delayed pass-through from higher gas and electricity prices due to long-term contracts will keep a hand under energy inflation in 2023 in our view. France, which froze gas bills in October 2021 and capped electricity price increases at 4% in 2022, will also allow bigger price rises of up to 15% from January 2023.

Food: upside risks from war and green transition

The war in Ukraine has not only upended energy markets, but also sent a shockwave through global food commodity prices, as supply chains of agricultural products have been severely disrupted. While some agricultural commodities have come off their previous peaks, the global food supply situation remains tense, and renewed price spikes cannot be ruled out.

Food prices are an important driver of euro area HICP inflation, given the high weight of food in the consumption basket (slightly above 20%) as well as the strong volatility of food inflation. The increase in euro area food price inflation during 2022 has been quicker than usual and outpaced the rise implied by commodity price rises, due to a combination of increased pricing power, broad-based input cost increases (i.e. from fertilizer) and EUR depreciation (read more in *Euro inflation notes - Food for thought*, 1 July).

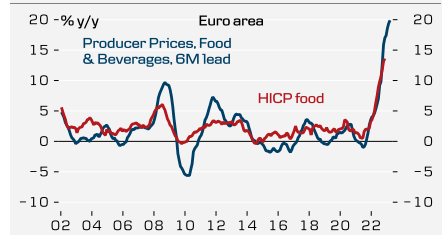
Despite the decline in food commodity prices in recent months, euro area food price inflation has continued to defy gravity, illustrating that a moderation in commodity prices remains a *necessary*, but not *sufficient* condition for a slowdown in inflation. With a peak in PPI for food producers not yet in sight, further increases could lie in store for the coming 1-3 months. Going into 2023, we expect food inflation to ease with the slowing global economy and base effects kicking in. But much will depend on the war developments in Ukraine and further increases in wage input costs, climate change and the food industry's transition towards greener production leave upside risks that extend well beyond 2023.

Wages: still falling short of inflation

While movements in commodity prices dominate as near-term drivers for euro inflation, wage developments will have important implications how durable inflation pressures will remain in 2023 and beyond. This will also have important repercussions on the pace and degree of policy tightening enacted by the ECB. With wages being a crucial cost item, especially for services firms, there has historically existed a close link between wage growth and core inflation, with a six to twelve month lag.

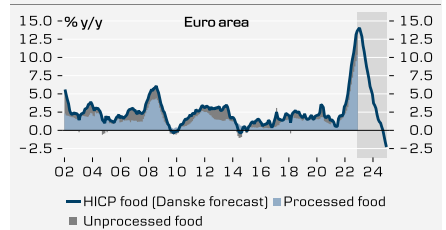
We expect euro area wage growth (measured by compensation per employee) to pick up to 4.9% in 2023 (from 4.2% in 2022), before moderating back to 3.6% in 2024. Labour shortages and a relatively resilient labour market, combined with higher realized inflation is strengthening unions' bargaining power. Higher minimum wages will also reinforce the positive wage dynamic. To what degree higher wage costs are eventually passed on to consumer prices also crucially depends on the extent of firms' pricing power, profit margins and the general economic backdrop. The environment for passing on higher input costs to consumers has been unusually benign in 2022. With the approaching recession, firm pricing power could weaken. To protect their margins and competitiveness, employers have been pushing for more flexible one-off payments instead of persistent wage increase during the latest bargaining rounds. Overall, we do not expect the development of a 'wage-price-spiral', with wage growth still falling short of inflation during 2023. Consumers continue to see the current inflation spike as temporary (see *ECB study*). High frequency data based on job ads (see *Bank of Ireland wage tracker*) shows that wage growth has become more broad-based (with 60% of occupational categories seeing growth in excess of ECB's 'stable

PPI food has yet to peak



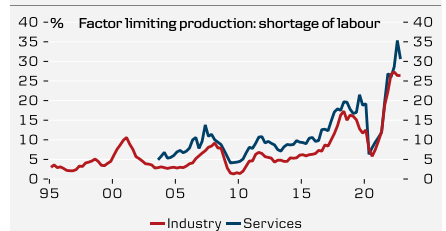
Source: Eurostat, Macrobond Financial, Danske Bank

Food price inflation to head lower in 2023



Source: Eurostat, Macrobond Financial, Danske Bank

Tight labour market is putting upward pressure on wages



Source: Eurostat, Macrobond Financial, Danske Bank

inflation benchmark' of 3%), but tentative signs of peaking wage growth have already appeared in some euro area countries. That said, risks for the wage outlook remain tilted to the upside in our view, especially if the recession fails to cool labour demand and consumer inflation expectations rise further.

Core: a 'sticky' problem

While the 2021-22 euro area inflation surge was initially driven by supply factors, various underlying inflation measures suggest that domestic price pressures have broadened of late, as demand has rebounded strongly with the lifting of pandemic restrictions (see *ECB study*).

Contact-intensive services have been an important driver for the core inflation uptick during 2022, as pent-up demand for travel and recreational activities fuelled price increases. However, with the real income squeeze exerting its full force on households, we expect services demand to cool in 2023, leading to slowly declining inflation rates for f.ex. package holidays and recreational services. Transport services inflation will also see a slowdown in our projection on the back of negative oil price base effects. However, not all services categories will see the same dynamic. Housing services prices f.ex. continue to be supported by the rise in borrowing costs (making renting relatively more attractive vs. house purchase).

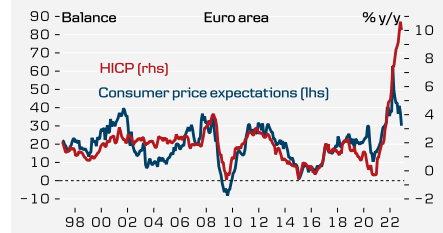
Easing supply bottlenecks and falling shipping costs set the scene for a slowdown in goods price inflation during 2023. With households planning to scale back on major purchases such as cars and furniture over the coming 12M, durable goods price inflation should start to ease. Semi and non-durable goods price inflation could prove more sticky in the near-term, but should eventually also start their downtrend in Q1 23. Still elevated selling price expectations and lagged effects from the EUR depreciation during 2022, constitute upside risks. According to an *Ifo survey*, German firms have on average passed on only 34% of their input cost increases to consumers over the past months and many expect rates of pass-through to accelerate to 50% or more in Q1 23, despite the darkening economic outlook.

Overall, despite the approaching recession, core inflation will prove sticky in our view, due to second-round effects from higher energy, material, but also delayed effects from rising labour costs. Peaking at 4.9% in Q4 22, we expect core inflation to average 3.9% in 2023 (same as in 2022) and return to the ECB's target not before H2 24. This would be in line with the experience from previous high inflation episodes, where it took on average two and a half years for inflation to return to 2% (see *Research Global - High inflation flashbacks*, 5 September).

Last but not least...

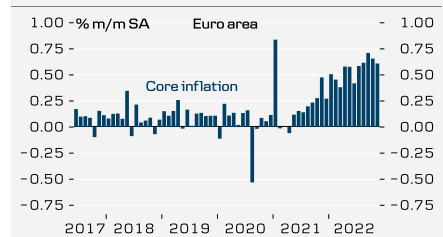
The new year will also bring a range of technical changes that add to the uncertainty surrounding the euro area inflation outlook. Just like under the Covid-19 pandemic in 2020, 2022 saw big changes to 'traditional' consumption patterns. Households spent a larger share of their income on energy consumption during 2022, which could increase the HICP energy weight to 12-14% in our view (compared to 10.9% in 2022) and thereby magnify the impact of energy developments on the HICP dynamics. Core and especially services could in contrast see its weight declining, but with a readjustment of weights in favour of recreational services. Higher weights for volatile items such as food and energy could further increase the volatility in HICP and increase inflation risk premiums. Furthermore, the euro area will get a new member with the turn of the year. Croatia's HICP share will probably be sufficiently small not to be a game-changer for the HICP dynamics, but with its inflation rate standing at 12.7% in October (above the euro area average), it could on balance be another pro-inflationary factor for 2023.

Consumer price expectations have moderated despite new inflation highs



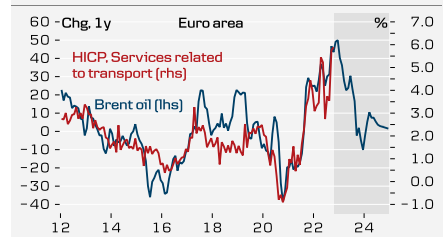
Source: Eurostat, Macrobond Financial, Danske Bank

Underlying inflation still shows strong momentum



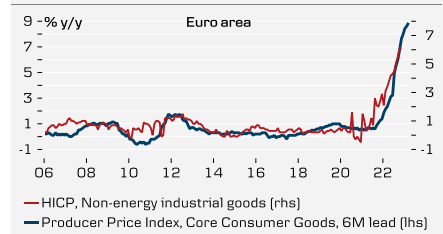
Source: Eurostat, Macrobond Financial, Danske Bank

Inflation in transport services should abate will stabilizing oil prices



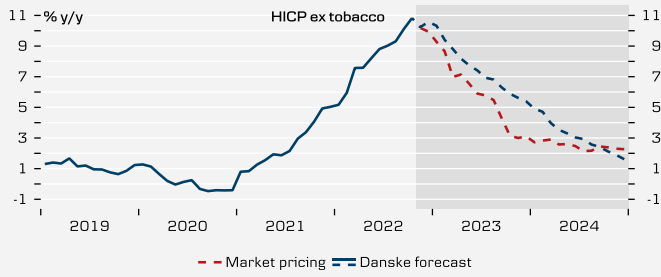
Source: Eurostat, ECB, Macrobond Financial, Danske Bank

Peak in goods price inflation could be approaching



Source: Eurostat, ECB, Macrobond Financial, Danske Bank

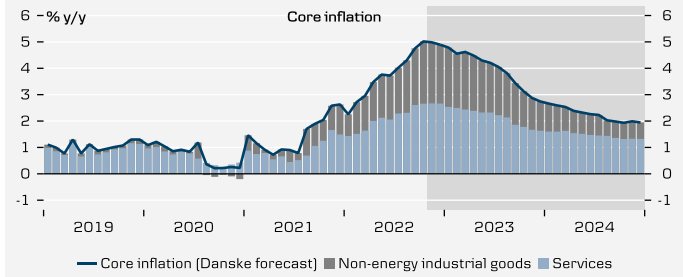
Markets are underestimating euro inflation risks



Source: Eurostat, Macrobond Financial, Danske Bank

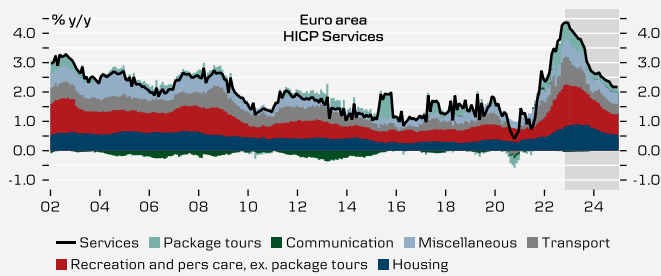
Note: Past performance is not a reliable indicator of current or future results.

Core inflation will return to ECB's 2% target only in H2 24



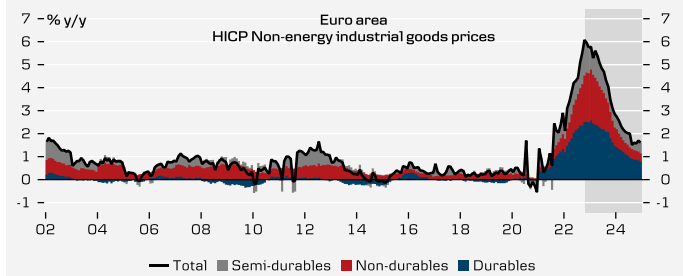
Source: Eurostat, Macrobond Financial, Danske Bank

Real income squeeze should cool service inflation...



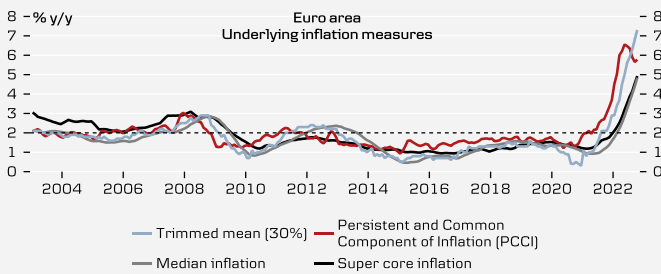
Source: Eurostat, Macrobond Financial, Danske Bank

... and goods price inflation



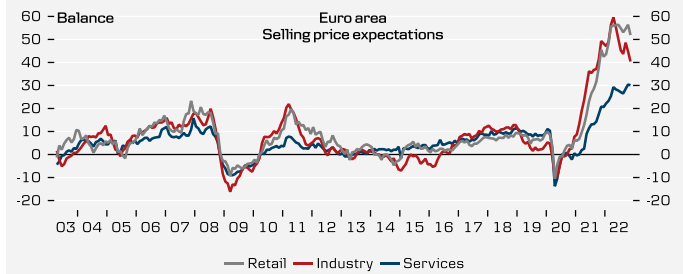
Source: Eurostat, Macrobond Financial, Danske Bank

Strong underlying inflation pressures



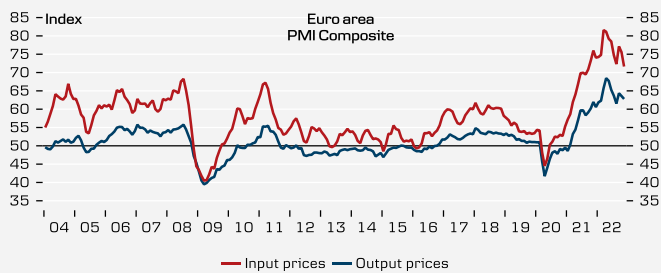
Source: Eurostat, ECB, Macrobond Financial, Danske Bank

Selling price expectations remain elevated



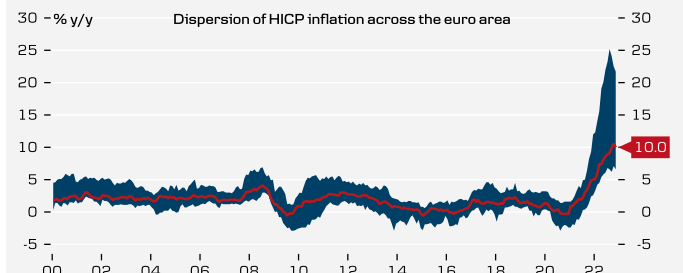
Source: European Commission, Macrobond Financial, Danske Bank

Input price inflation is starting to ease



Source: Markit, Macrobond Financial, Danske Bank

Fiscal measures are blurring the 'true' inflation pressures



Source: Eurostat, Macrobond Financial, Danske Bank

Euro area HICP heatmap

	Weight	11/2022	10/2022	9/2022	8/2022	7/2022	6/2022	5/2022	4/2022	3/2022	2/2022	1/2022	12/2021
All-Items	100	10	10.6	9.9	9.1	8.9	8.6	8.1	7.4	7.4	5.9	5.1	5
Food & Non-Alcoholic Beverages	17		15.5	13.8	12.4	11.5	10.4	8.7	7.4	5.7	4.7	3.9	3.5
Food	15		15.9	14.1	12.7	11.8	10.7	8.9	7.7	5.8	4.8	4	3.6
Non-Alcoholic Beverages	1.5		11.1	10.1	9.4	8.5	7.4	6.6	5	4.2	3.4	2.8	3.1
Alcoholic Beverages, Tobacco & Narcotics	4.3		4.2	4.1	3.8	3.5	3.2	2.7	2.2	2.3	2.2	2.2	2.2
Alcoholic Beverages	1.8		6.6	6	5.3	4.7	4.3	3.3	2.3	1.7	1.3	1.4	1.6
Tobacco	2.4		2.4	2.6	2.7	2.5	2.4	2.2	2.1	2.7	2.9	2.9	2.6
Clothing & Footwear	5.3		3.8	3.2	2.1	0	0.6	1.7	2	2.1	2.1	-0.2	2.8
Clothing	4.2		4	3.4	1.9	-0.4	0.4	1.7	2.1	2.2	2	-0.5	3
Footwear	1.1		2.9	2.7	2.5	1.6	1.3	1.9	1.5	1.6	2.5	1	2.2
Housing	18		23.2	21.1	19.7	17.7	16.9	16.3	15.9	17.2	13.4	11.9	9.7
Actual Rentals for Housing	7.1		2	1.9	1.8	1.8	1.6	1.5	1.3	1.2	1.2	1.2	1.1
Maintenance & Repair of the Dwelling	1.3		10.4	9.4	9.4	9.4	8.6	8.4	7.7	7.1	6.6	5.8	5.4
Water Supply & Misc. Dwelling Services	2.9		2.7	2.4	2.3	2.2	2.2	2.1	2.1	2	1.9	1.6	1.9
Electricity, Gas & Other Fuels	6.6		59.2	55.5	51.9	46.5	44.9	43.5	42.8	47.5	36.3	32.1	25.4
Furnishing	6.7		8.5	7.8	7.4	6.9	6.5	5.9	5	4.2	3.8	2.8	2.8
Furniture & Furnishings	2.3		9.4	8.7	8.7	8.7	8.5	7.6	6.4	6.1	5.7	4.5	4.3
Household Textiles	0.44		7.2	6.1	6	5.5	5.3	4.8	4.8	3.4	3.6	2.1	2.2
Household Appliances	1.1		7.5	7	6.1	5.5	4.9	4.5	3.5	2.4	1.9	1	1.8
Glassware, Tableware & Household Utensils	0.55		6.6	6.6	6.2	5.7	5.6	5.3	4.5	3.5	3.2	2.5	2.9
Tools & Equipment for House & Garden	0.56		5	4.7	4.4	4.1	3.9	4.2	3.9	3.2	2.6	1.8	2.7
Goods & Services for Routine Maintenance	1.8		9.9	8.8	8	7.2	6.2	5.6	4.8	3.8	3.3	2.2	1.8
Health	5.1		1.8	1.4	1.2	1.3	1.1	1.3	1.1	1	0.9	0.8	0.9
Medical Products, Appliances & Equipment	2.1		2.1	1.6	1.4	1.4	1.1	1	0.5	0.6	0.4	0.2	0.7
Out-Patient Services	2.2		1.5	1.2	0.9	1	1	1.4	1.5	1.2	1.1	1.1	0.9
Hospital Services	0.74		1.9	1.8	1.8	1.7	1.6	1.7	1.8	1.8	1.7	2	1.4
Transport	15		10	10.9	9.9	12.7	14.4	14	13	14.6	10.3	9.4	10.4
Purchase of Vehicles	3.9		8.5	8.4	8.5	8.1	7.7	7.4	6.9	6.2	5.9	5	5.1
Operation of Personal Transport Equipment	8.8		11.1	12.9	12.6	17.3	21.1	18.5	17	21.2	14.3	13.2	14.2
Transport Services	1.9		7.5	7.3	1.1	1.6	-2	7.1	7.9	2	2.2	2	5.1
Communications	3.1		-0.9	-0.8	-0.7	-0.8	-0.3	-0.4	0.1	0	-0.4	-0.4	0.6
Postal Services	0.15		4.1	4	4.4	4.3	3.9	4	4.1	4.1	3.5	3.5	3.3
Telephone & Telefax Equipment & Services	2.9		-1.2	-1	-1	-1.1	-0.5	-0.6	-0.1	-0.2	-0.6	-0.6	0.5
Recreation & Culture	7.9		4.9	4.6	4.8	4.4	4.4	3.6	3.6	3.1	3.1	2.8	2.9
Audio-Visual & Photographic	1.3		-0.1	0	0.1	-0.3	0.2	0.2	0.1	0.7	0.5	0.5	1.4
Other Major Durables for Recreation & Culture	0.38		8.7	8.1	9.2	8.5	7.6	7.7	6.4	6.2	4.6	4	4.8
Other Recreational Items, Gardens & Pets	2.3		6.4	6	5.3	5.3	5.7	4.7	4.6	4	3.8	3.2	3.4
Recreational & Cultural Services	1.8		3.6	3.4	3	2.3	2.2	3	2.8	2.3	2.3	2	2
Newspapers, Books & Stationery	1.3		5.4	4.9	4.4	4.5	4.5	4	3.9	3.2	3	2.7	2.6
Package Holidays	0.7		9.7	9.2	12.4	10.7	11.5	5.3	8.8	6.7	9.2	11.6	6.9
Education	0.98		4.1	3.8	-0.8	-0.9	-1	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9
Restaurants & Hotels	8		8.4	8.5	8.1	8.3	7.9	7.1	5.9	5.1	4.4	4.1	3.5
Catering Services	6.6		7.1	6.8	6.4	6.1	5.7	5.4	4.6	4.1	3.7	3.3	2.9
Accommodation Services	1.5		13.7	15.1	13.4	16.1	17.2	13.8	11.2	10	7.5	8.2	6.5
Miscellaneous Goods & Services	9.7		3.8	3.4	3.2	3	2.7	2.6	2.4	2.2	2.1	1.9	2.3
Personal Care	2.9		6.2	5.4	4.9	4.1	3.6	3.4	2.9	2.3	2.2	1.9	2.1
Personal Effects N.E.C.	0.88		4.7	4.5	4.4	4.1	3.8	3.9	3.6	3.1	2.7	1.5	2
Social Protection	1.8		2.9	2.7	2.3	2.1	1.9	1.9	1.8	1.8	1.8	2	3.6
Insurance	2.4		1.5	1	1.3	1.7	1.7	1.9	1.7	1.8	1.8	1.8	2.1
Financial Services N.E.C.	0.62		5	5.1	5.1	5	2.9	3	3.1	3.1	2.8	3.2	2.8
Other Services N.E.C.	1.1		2.8	2.6	2.6	2.5	2.4	2.3	2.2	2	1.8	1.6	1.6

Source: Eurostat, Macrobond Financial

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