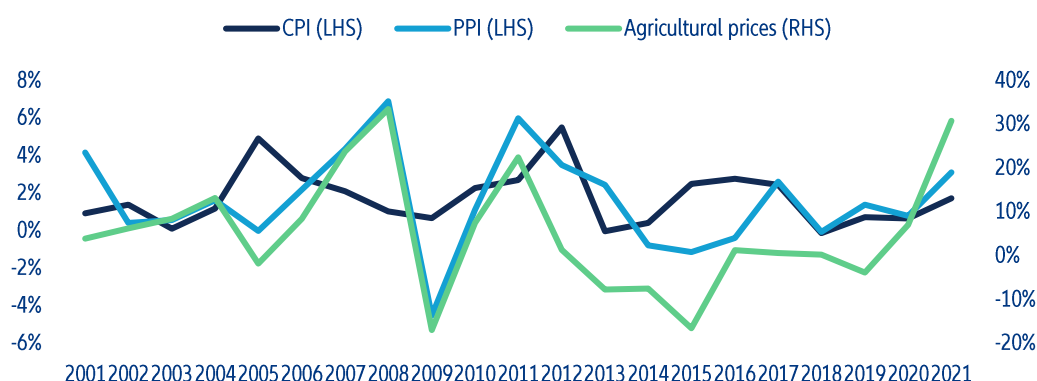


Russia's invasion of Ukraine has added to a context of already high food commodity prices.

A mix of firm demand growth, higher input costs (fertilizer, electricity, freight rates) and years of lower yields sent agricultural food prices up +30.8% in 2021, bringing the index to levels last seen in 2012. Because price growth accelerated markedly in the second half of the year, European consumers only partially felt the pinch in 2021, with food producer prices up +3.1% and food consumer prices up +1.7% compared to 2020. While food producers and retailers were already expecting further food price inflation for 2022 at the beginning of the year, Russia's invasion of Ukraine only added to fears of higher food inflation, given the countries' significance in the agricultural commodity markets. With agricultural food prices now expected to grow another +22.9% in 2022, European consumers should brace for an unprecedented increase in food retail prices (Figure 1).

Figure 1: Eurozone food consumer prices, producer prices and international agricultural food prices (% change YoY)

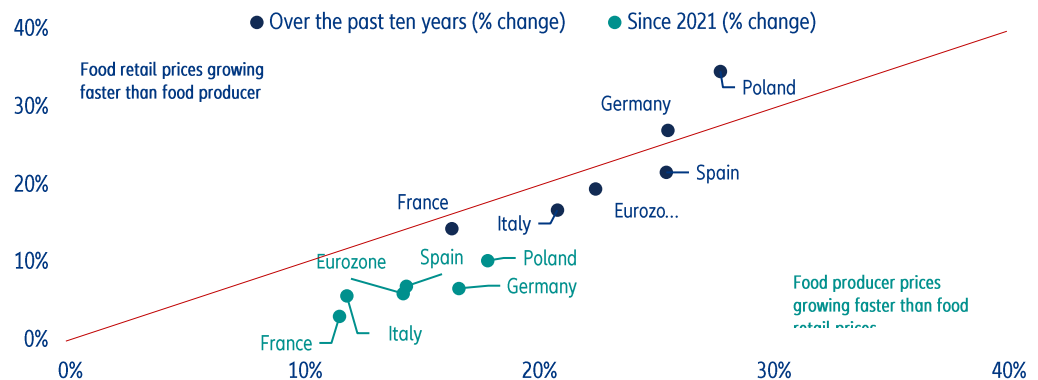


Sources: Eurostat, World Bank, Allianz Research

Retail prices have not fully adjusted for past higher agricultural prices yet.

Looking at food producer prices and food retail prices over the past 10 years, we find both indices have followed broadly similar trajectories in Eurozone countries, suggesting that higher producer prices end up in a broadly matching increase in retail prices in the long term (Figure 2). In the short term, however, we generally observe a lag between the increase in producer and retail prices – largely because of inventories and past contracts between producers and retailers. Looking more specifically at the gap between food producer and retail prices since 2021, we find that retail prices have largely failed to reflect higher food prices, and are only about halfway towards compensating for higher food producer prices.

Figure 2: Change in food and beverage producer price index (horizontal scale, %) vs change in food and beverage consumer price index (vertical scale, %)

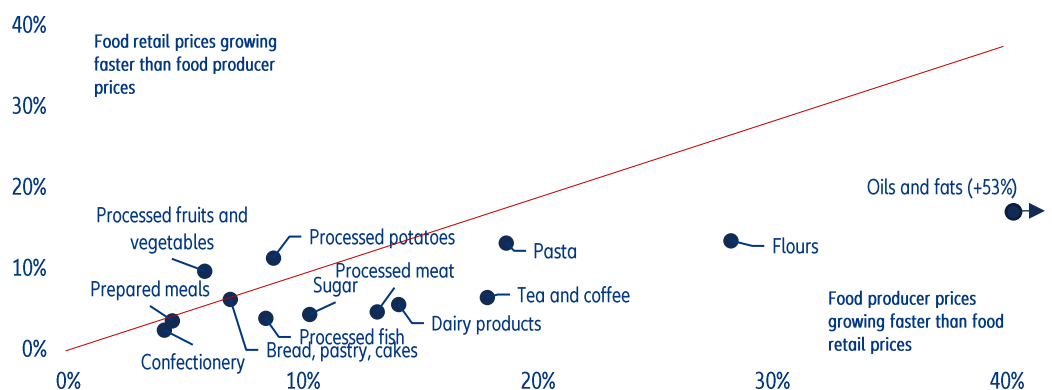


Sources: Eurostat, Allianz Research

Retail prices for consumer staples such as oil or flour still have much to catch up.

Breaking down this aggregate to a product-level view (Figure 3), we observe substantial dispersion between food staples. Unsurprisingly, producer prices have increased the most across categories where Russia and Ukraine hold major shares in international input markets, such as oils and fats (+53%), flours (+28%) and pasta (+19%). Across certain product categories, disruption has been so strong that shortages arose (sunflower oil, typically) and contributed to increase the price of substitutes (olive oil). The magnitude and breadth of the increase across other categories are a reminder that price tensions began long before the conflict, factoring in a general increase in production costs.

Figure 3: Change in producer price index (horizontal scale, %) vs change in consumer price index for selected items (vertical scale, %) since 2021 in the Eurozone

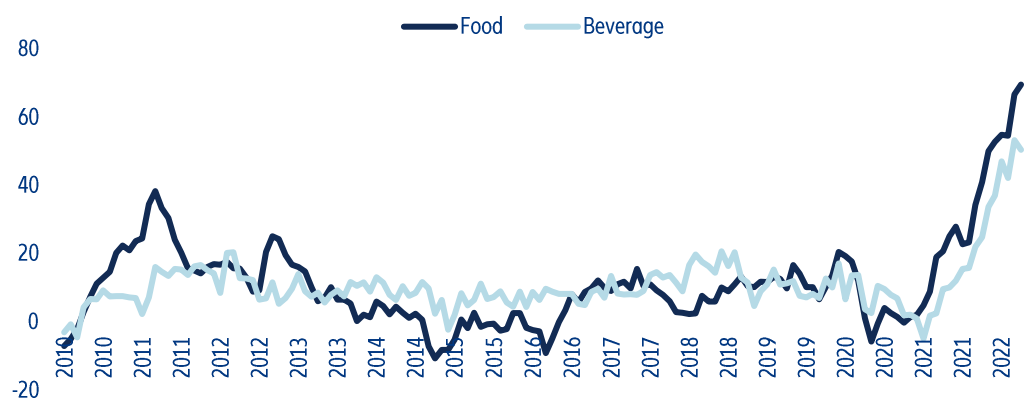


Sources: Eurostat, Allianz Research

Packaged food companies confirm price increases are not over.

We find further evidence of more retail price increases to come in the financials of leading packaged food companies for Q1 2022. Revenue growth in Q1 was positive across the board and largely driven by higher selling prices, with year-on-year increases in the high single-digits. Companies also mentioned that current prices were not yet reflecting the impact of the war in Ukraine and inflation was not only stemming from higher food inputs but also growing freight, labor and packaging costs. A recent survey of European food and beverage companies conveyed a similar idea, with an overwhelming majority of respondents expecting further price increases in the coming three months (Figure 4).

Figure 4: Business survey – “How do you expect your selling prices to change over the next three months” (balance of opinion, Eurozone)



Source: DGE/CFIN

Food retail prices could increase by more than +10% in 2022.

The exact pace at which food retail prices will align with food producer prices remains highly uncertain, given the volatility of the current environment. To provide a reasonable range of estimates, we compute the impact on 2022 food prices if they were to reflect 75% or 100% of the increase in food producer prices observed between January 2021 and March/April 2022 (latest data available) across countries (Table 1). Judging from past episodes of high inflation and the current market environment, we believe food retail prices would reflect a minimum 75% of the current increase in food producer prices, sending food inflation in Europe and all major European countries slightly below or above the 10% mark for 2022. As per the forecast of the World Bank for agricultural commodity prices, food retail prices would plateau or begin to recede in early 2023.

For the end of 2022, however, risks are clearly on the upside. In particular, large food commodity exporters placing lasting restrictions on international trade could fuel another round of price increases all the way from commodity prices to retail prices.

We set out our reasoning for our 75% pass-through hypothesis in the paragraphs below.

Table 1: Estimated changed in food retail prices under different pass-through assumptions

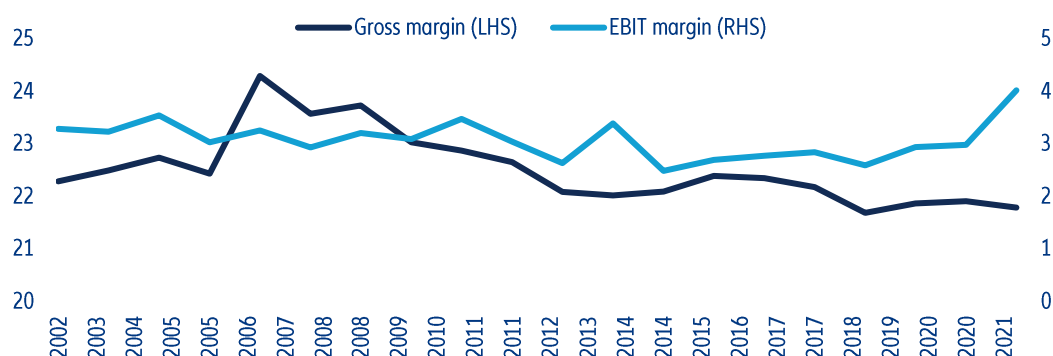
Country / region	Change in 2022 food retail prices if...	
	Food retail prices reflect 75% of the increase in food producer prices	Food retail prices reflect 100% of the increase in food producer prices
Eurozone	9.5%	13.0%
EU27	9.4%	12.9%
France	8.2%	11.0%
Spain	9.5%	13.0%
Italy	8.3%	11.3%
Germany	10.7%	14.8%
Poland	10.6%	15.0%

Source: Eurostat, Allianz Research calculations

Past episodes of high inflation showed retailers absorbed only a fraction of higher costs.

Looking at the gross and EBIT margins of listed European food retailers during past periods of high food inflation (2007-2008, 2011-2012), we observe that profit margins came out only slightly lower (Figure 5). The median gross margin shrank by about -50bp to -70bp on an annual basis when food inflation peaked, while the median EBIT margin declined by a more modest -30bp to -40bp compared to their past trends. Consistent with the previous chart showing a long term convergence between producer and retail prices, the spread between gross and EBIT margins suggest that companies tend not to fully reflect higher purchasing costs onto prices in the short run, with a view to preserve their market shares, and optimize costs further down the income statement (selling, general and administrative expenses, investment, etc.).

Figure 5: Gross profit and EBIT margin of listed European food retailers, median value



Source: Bloomberg

The number one reason behind the pricing power of retailers is that food products are staples and, as such, overall consumption in volume terms remains resilient to economic downturns when compared to discretionary goods. Over the past 20 years in the Eurozone, household expenditure for food never went into negative territory in value terms, and went only slightly negative in 2008, 2012 and 2013 in volume terms (Figure 6).

Figure 6: Household consumption expenditure for food and beverages, Eurozone, % change



Sources: Eurostat, Allianz Research

But this apparent stability of food consumption at an aggregate level is misleading. The most common behavior among consumers amid fast-increasing prices is known as downtrading, i.e. satisfying similar needs by favoring cheaper substitutes or competing products. Consumers also typically adapt their baskets to save spending on goods or brands they value the most. In this respect, periods of high inflation represent a real competitive challenge for retailers, which have to strike the right balance to preserve both minimum sales and profitability levels. Retailers typically navigate periods of high inflation by carefully managing their price mix, that is adapting price increases across products depending on observed price elasticities. A typical strategy among retailers is to sacrifice profit margins for high-frequency, low price-point goods to retain customers. More selective mix management (i.e. focusing on higher margin products) and lower promotional expenses (less goods sold at a discount) are the others levers pulled by retailers to preserve their profitability.

Retailers have more pricing power now than in past inflation peaks.

The face of retail has considerably changed in the past few years. In addition, the current inflation surge is unfolding at a very particular time for the industry as Europe is exiting two years of a pandemic. Compared with past periods of high inflation, we would anticipate retailers to pass on more of the increase onto consumers this time around:

- First, the incentive for retailers to preserve sales volumes at the cost of lower prices appears less strong than in the past. Food retailers are emerging from two years full of operational challenges but which turned out very beneficial, both for sales and profits. Food retail sales were still +10% above 2019 levels in Q1 2022 and profits have been exceptionally high for more than two years.
- Second, most food retailers are more value-driven than they were in the past. Previously, many were increasingly placing emphasis on value and service, offering a broader range of higher value-added products, matching the aspirations of part of their customers (more local, organic, high nutrition products etc.). They also developed a wide range of innovative services to increase customer loyalty (pick-up or delivery services, self-checkout, dedicated mobile applications etc.) precisely to escape price-based competition and leave the low-price segment to discount chains. A return to very aggressive pricing behaviors seems unlikely since it would compromise years of efforts.
- Third, investment in technology has considerably helped retailers to adopt dynamic pricing strategies. The increasing use of analytics in the industry is helping retail chains to fine-tune their pricing strategies, not only at a company-level but increasingly at store (optimization of the local product pricing or product mix) or even personal levels (customers receiving personalized promotions on their mobile

apps). The objective is at least twofold: keep consumers loyal by providing competitive prices where they matter most to them and avoid sales and profit dilution with blanket promotions.

Paradoxically, the increasing market share of discounters in some European countries could also contribute to higher food inflation. No-thrill packaged food incorporates a comparatively higher share of input costs as a percentage of total costs vs branded packaged foods, meaning their prices are likely to increase at a faster pace compared to that of brands where other costs are more flexible (advertising, promotional expenses, etc.). Large packaged food groups dedicate the equivalent of 3-8% of their annual sales in advertising alone and a little bit extra on other marketing activities (market research, consumer studies etc.).

European consumers should brace for a EUR250 surge in their 2022 food bills.

European households dedicate 12% to 25% of their consumption expenditure on food and beverages, with the highest share among countries with comparatively lower incomes, and within a given country the highest share in households with comparatively lower incomes. For some, higher food prices could only weigh on their capacity to save; for others, it could further challenge their capacity to satisfy vital needs.

Using our central estimate of retailers passing the equivalent of 75% of the past increase in food producer prices onto consumers, we compute that food inflation would cost the average European consumer an extra EUR243 for the same basket of food products vs 2021, with estimates ranging between +EUR200 to +EUR250 in Europe's four largest consumer markets. Coming on top of a more general increase in the cost of living (fuel, electricity, rents, away-from-home food, etc.)¹, this surge in food prices is likely to revive debates on possible welfare payments to relieve the burden on the most vulnerable households.

Table 2: Estimated per capita impact of food inflation for 2022

Country / region	Share of food and beverages in total household consumption (2019)	Estimated per capita food and beverage spending (2021, euros)	Estimated inflation impact on per capita food and beverage spending (euros)
Eurozone	12.5%	2,456	+233
EU27	13.0%	2,287	+243
France	13.1%	2,739	+224
Italy	14.3%	2,745	+229
Germany	10.8%	2,367	+254
Spain	12.5%	2,108	+200
Poland	16.4%	1,423	+152

Source: Eurostat, Allianz Research calculations

¹ See [Eurozone inflation: How bad can it get?](#), May 2022

These assessments are, as always, subject to the disclaimer provided below.

FORWARD-LOOKING STATEMENTS

The statements contained herein may include prospects, statements of future expectations and other forward-looking statements that are based on management's current views and assumptions and involve known and unknown risks and uncertainties. Actual results, performance or events may differ materially from those expressed

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