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WHO IS PROFITING FROM THE FOOD CRISIS:

**SPECULATION, RENT-SEEKING, AND RENT
EXTRACTION IN OUR FOOD SECTOR**

THE 
LEFT IN THE
EUROPEAN
PARLIAMENT

DIE LINKE.
IM EUROPAPARLAMENT

Broschüre im Auftrag von Martin Schirdewan,
Mitglied des Europäischen Parlaments und
Ko-Vorsitzender der Fraktion
THE LEFT in the European Parliament

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PREFACE

The food industry is a mad world. Instead of providing for the nutritional needs of people, the production and distribution of food is governed by the insatiable hunger of financial corporations to extract higher and higher rents. From farm to fork, multinational food corporations, global finance and their beneficiaries are in control of the supply chains and extracting large amounts of money. Appallingly, farmers and workers are left with crumbs, whilst more and more consumers are struggling with food insecurity. The current food price crisis is just the latest example of the recurrent devastating consequences of commodity speculation and rent-seeking that mark our food industry.

This research study sheds some light on the structure and workings of the twisted world of the food business. From farmers to Nestlé to BlackRock, it maps out the mechanisms of rent-extraction and its beneficiaries. Based on a case study of a number of key European companies, it gives evidence-based insight into the questions of what is driving the current food price crisis and who profits from it.

This research reveals that the current food price crisis is not result of food shortages. Rather, prices are propelled by speculative trading and by corporate strategies that seek to profit from the narrative of skyrocketing costs by hiking sales prices (sellers' inflation). The gains are channelled into financial markets. Strikingly, the study finds that the same financial actors that benefit from speculation do eventually also benefit from the sales price hikes, as ownership in the food business is concentrated in the hands of global finance. In the end, investment advisors, such as BlackRock and The Vanguard Group, reap immense profits from the price crisis, while more and more people in the EU are struggling to afford basic groceries. Food wealth and food poverty are two sides of the same coin.

Politically, the conclusion to be drawn from this study is that we need a "Just Transition" of our food sector beyond the cosmetic improvements proposed by the EU Green Deal that does not tackle this dysfunctional system at its root. We need to make decisive use of tax policies to intervene with financial and corporate profiteering. Above all, we need to break up the concentrated economic power of multinational food corporations and big financial players that dominate the supply chains.

The Left stands alongside farmers, workers and consumers on low incomes to demand back control over the production and distribution of food! We demand fair pay and respect for the invaluable work done from farms to grocery shops. We demand an end to food poverty now! Access to adequate food is a human right.

Let's occupy the food supply!



Martin Schirdewan
Member of the European Parliament
Co-President of THE LEFT in the European Parliament

EXECUTIVE SUMMARY

The current food crisis, compounded with skyrocketing energy prices, has been disastrous for the European population. Contrary to a common narrative of food shortages driving high prices, this report demonstrates that the current crisis is a price crisis not a supply crisis. At no time during the recent price peaks in the wheat market – a staple food badly affected by the war in Ukraine – has global demand outstripped global supply. This does not mean that there are no local food shortages. However, these shortages are driven by a lack of affordable food rather than available food.

The boom in wheat and other staple food prices is driven to a large extent by speculation. Speculative trading in Paris' wheat derivative market, used as a global reference for the pricing of European milling wheat from Spain to the Black Sea, has increased from 30% to 60% of total trade between early 2020 and the end of 2022. Idle cash during the disruptions of the Covid-19 pandemic and uncertainty about future wheat supply due to the outbreak of the war in Ukraine has triggered an inflow of highly speculative capital across food derivative markets and wheat markets in particular. In January 2021, speculative positions amounted to 36 million Euros in the Paris wheat market. In January 2022, this had increased to 58 million Euros and further increased to just above 1 billion Euros in March 2022.

This inflow of speculative capital has both contributed to the price boom and generated large profits for those holding these positions: investment banks, asset managers, hedge funds, and to a lesser extent pension and insurance funds. Following a rough estimate, cumulative speculative earnings by traders in the Paris wheat market between January 2020 and May 2022 (the time of the price peak) could amount to about 22 million Euros.

While consumers have experienced a squeeze in real income due to high inflation driven by rising food and fuel prices, large corporations in the food chain have recorded record profits. The capture of large profits in times of crisis has been made possible by a combination of corporate market power and a concerted corporate strategy, exploiting the narrative of rising costs to justify a rise in sales prices. Sales prices and thus revenues were increased by the same percentage value as the increase in costs experience by these corporations, resulting in an equally large (in percentage terms) increase in profits for these corporations.

On the example of four publicly listed European corporations – Nestle SA, Danone SA, K+S Group,

and Suedzucker AG – and two privately owned corporations – Schwarz Gruppe and Louis Dreyfus –, this report demonstrates how this strategy of matching an increase in costs with an increase in revenue can be found across all segments of the food chain, from agricultural inputs to retail. Exceptionally high profits have therefore been generated on the back of consumers, who are paying prices beyond what would be required to compensate for rising costs of production.

These profits are extracted into financial markets via dividend payments and share buybacks if corporations are listed. If they are privately owned, dividend payments benefit a single or small group of high-wealth individuals. For listed as well as non-listed corporations, some of these profits are also extracted through interest payments, and fees for financial services. Major shareholders benefitting from dividend payouts are large asset managers and hedge funds, and increasingly also institutional investors such as sovereign wealth funds, insurance companies and pension funds. Corporate and investment banks further benefit not only as shareholders but also as providers of financial services.

By far the largest group of shareholders of publicly listed food corporations, and thereby the main beneficiaries of the record profits generated by these corporations are investment advisors, hedge funds, and asset management firms. They take up a minimum 80% of total shareholder ownership of non-restricted shares in four of the largest food and beverage producers: Nestle, Mondelez, Unilever, and Coca-Cola. This group of financial entities has extracted 3.1 billion Euro in dividends from the four European corporations analysed here (Nestle SA, Danone SA, K+S Gruppe, Suedzucker AG) in 2022 alone. The three largest asset management firms (all with headquarters in the US) – BlackRock, Vanguard Group, and Fidelity Investments – are present among the top 10 shareholders of almost all listed food-based corporations. The pattern is replicated in the four listed corporations studied in depth in this report, with the exception of Suedzucker AG which is majority owned via its cooperatives.

Nestle, for example, disbursed a total of 19.3 billion Swiss Franc (20.1 billion Euro) to shareholders via dividend payments, interest payments and share buybacks in 2022, exceeding profits generated that year by 3.6 billion Swiss Franc (3.75 billion Euro). BlackRock extracted an approximate 536.8 million Euros in dividend payments from Nestle alone, while Vanguard extracted 243.8 million Euros. Notably, disbursement of profits to financial markets

dwarfs income tax payments. Income tax paid by Nestle in 2023 amounted to 2.73 billion Swiss Franc (2.86 billion Euro), just above 14% of the total payouts to financial markets the same year.

The level of concentration of horizontal ownership through shareholding can lead to disincentives for competition between corporations located at the same segment or within the same food chain and further facilitates and encourages corporate strategies that exploit moments of crisis to the detriment of consumers and, in many cases also farmers, who have less price setting power than the big multinational corporations sourcing inputs from them. The same group of financial entities – asset managers, investment funds, and investment banks – have also been the main beneficiary of the price boom in food derivative markets. Extraction for them is hence two-fold: via their claim on profits generated by food corporations and via speculative price bubbles in food derivative markets.

The food system on which we rely is geared towards the generation and extraction of rents to be channelled into financial market. Food prices in times of uncertainty are driven by financial speculation, which benefits the same financial actors extracting rents from food corporations. Speculative bubbles and the price volatility in turn provides some corporations with an opportunity to generate more rents by justifying sale price increases with rising costs, leading to what has been called “sellers’ inflation”. As a result, consumers across Europe are increasingly struggling to afford good quality and nutritious food and workers (including agricultural workers and employee of food corporations) see their purchasing power squeezed through sustained high levels of inflation.



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INTRODUCTION: NEVER LET A CRISIS GO TO WASTE!

The compound effect between food inflation and skyrocketing energy markets has been disastrous for the European population. Especially for the groups already at the margins. According to a Joint Research Council study of December 2022, “rising living costs between August 2021 and August 2022 have increased material and social deprivation by around 2 percentage points at the EU level and up to 6 percentage points in selected Member States. The corresponding effects on absolute monetary poverty are considerably larger, and amount to 4.4 percentage points on average and up to 19 percentage points at the national level.”¹ Inevitably, high inflation and high food prices have rapidly contributed to the intensification of already existing conditions of food poverty and insecurity, but also added hundreds of thousands of new people to the group of food insecure across the continent.

At this time of crisis, some large corporations within our food system that trade, process, and produce food – similar to corporations in the energy sector – have recorded record profits and disbursed large payouts to their shareholders. Exceptionally large profits in a time of crisis have been met with accusations of greed and profiteering.² At the same time, higher food prices paid by producers have not materialised in the same increase in profits earned by farmers as higher costs of production have eradicated large parts of the gains made in revenues. This raises the question who benefits from the current crisis, and which structures are enabling these players to benefit. The answer lies in a combination of market concentration, power, and corporate strategy as well

as an increasing interconnectedness between food and financial systems that characterises our current food system.

This report demonstrates that high profits in times of crisis are not an exceptional or isolated incidence or a consequence of the actions of a few ‘misbehaving’ or ‘unethical’ large corporations, but a symptom of a highly dysfunctional and vulnerable food system on which we rely. While the weaknesses of our food system tend to receive political attention only during times of high prices, we argue that policy makers must move away from the focus on external shocks – such as the Covid-19 pandemic and the war in Ukraine – and focus on the structures that produce and reproduce these vulnerabilities to shocks and the internal fallacies of the global food system,³ in order to understand the current as well as past food price crises.

The first part of this report forms a brief introduction on rent seeking in the EU food system through time, moving away from the idiosyncrasies of ‘crises’. It achieves this by mapping the link between profits across the food chain and periods of food crisis, starting from the 2008 food crisis to the current one. This part will also provide a brief overview of sources of profits and whom they accrue to, introduce main stakeholders along the food chain and the way they operate.

The second part takes four listed and two non-listed European companies as case study to first trace both the evolution of profits and profit sources before and during the recent food crisis and second their extraction into financial markets. We focus on the corporations that capture rents and the final beneficiaries extracting these rents. Profit extrac-

¹ https://joint-research-centre.ec.europa.eu/jrc-news/inflation-increases-poverty-unevenly-widening-gaps-across-eu-2022-12-06_en

² <https://www.theguardian.com/environment/2022/aug/23/record-profits-grain-firms-food-crisis-calls-windfall-tax> and <https://www.theguardian.com/business/2023/mar/12/global-greedinflation-big-firms-drive-shopping-bills-to-record-highs>

³ Such as the excessive reliance on long-distance trading, the increasing competition between food, feed and fuel, the role of the industrial food system in producing climate change while being extremely exposed to it, etc.

tion takes place through shareholder payouts and leveraging of balance sheets. We investigate and highlight the recipients of these payouts and their role in the food system. We deliberately take a food chain perspective rather than exclusively focusing on food trading houses.

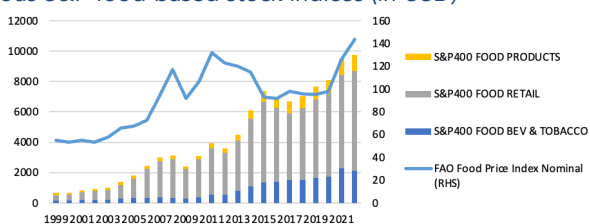
The third part focuses on food markets and the actors involved in price setting. We look at the evolution of the types of traders active in commodity derivative markets and compare price trends to physical demand and supply conditions. We thereby demonstrate that the current food crisis – as has been the case with previous food crises – is a price and not a supply crisis. We focus on open interest data from the Paris wheat market specifically as a staple food and provide a ‘back on the envelope’ calculation of profits generated by ‘financial’ and ‘non-financial’ traders due to their activities in these markets and unpick who these traders are.

The fourth part sketches out policy solutions for a just food transition with the aim to expand the scope of the ongoing conversation on the EU Framework Law for Sustainable Food System and dialogue with the different suggestions that have been made at the national and EU level to address increasing levels of food insecurity and rural poverty. Given the combination between the structural nature of the problem – which requires long-term solutions and political strategies – and the urgency to address the ongoing fragilities – which requires short-term solutions and political tactics – the recommendations will operate along different time-frames and suggest that immediate actions should always have in mind the final target of a socially and environmentally just EU food system.

PROFITS AND PROFIT EXTRACTION FROM FOOD

Times of price volatility and uncertainty present opportunities for profits extraction in the form of financial speculation and rent seeking. Food crises, past and present, remunerate a few corporate and financial actors with billions in profits and dividends. The concentration of revenues at certain segments of the food chain (e.g. the trading, branding, and retail segment) or outside the food chain (e.g. investors behind corporations or financial actors trading food derivatives) is a key characteristic of contemporary food systems. Figure 1 depicts the evolution of equity indices that trace corporations in the food and beverage industry and the FAO food price index. Corporate profits in the sector closely track food prices, indicating profit opportunities for corporations in times of rising food prices.

Figure 1: FAO food price index and various S&P food-based stock indices (in USD)



Source: FAO and Datastream (authors' calculations)

While the performance of large corporations, commonly included in stock market indices, tracks the overall food price index, farmers' income does not necessarily move accordingly and the impact of soaring food prices on the sector has been heterogeneous across EU member states. According to EUROSTAT data, agricultural income, defined by deflated (real) factor income per annual work unit

(AWU),⁴ which is called indicator A in Figure 2, has increased between 2021 and 2022 for the EU as a whole. The continuous increase since 2010 has notably been achieved by a smaller total agricultural labour input; see blue line Figure 2 and the uptick in 2022 by a rise in factor income due to rising prices. However, while the rise benefitted farmers in some countries (e.g. Germany, Luxembourg, Denmark, and Poland), farmers in other countries saw a decline in real income (e.g. Rumania, Portugal, and Lithuania).

Studies on specific EU food products like tomatoes expose the very limited percentage retained by farmers because of auctioning processes, intense competition and fear of losing access to markets.⁵ Outside of the EU, a recent study by the UK think tank Sustain has revealed that farmers receive less than 1% of the price that is paid by consumers for five of the most common foods.⁶ EUROSTAT data tells a story of continuous and progressive transformation of the countryside in the last twenty years as "the number of farms in the EU decreased by about 37 % in the relatively short period between 2005 and 2020. This corresponded to the loss of 5.3 million farms across the Member States, the vast majority of which (about 87 %) were small farms of a size under 5 ha."⁷ These losses of small farms and the abandonment of farms are only partially reflected in the aggregates in Figure 2 but explain to some extent the heterogeneity across EU countries.

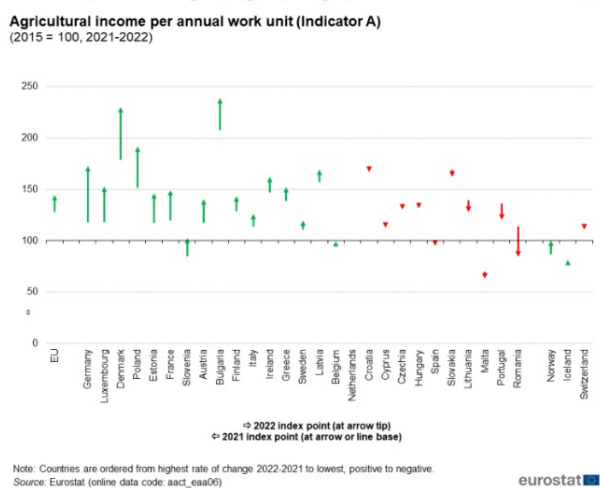
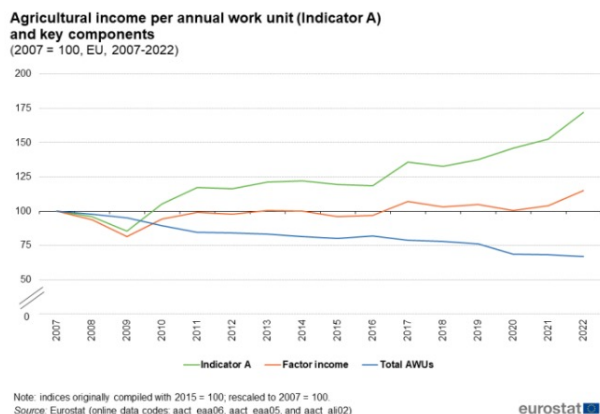
⁴ AWU expresses the volume of work done in full-time work equivalents.

⁵ Tomaso Ferrando (2021). Gangmastering Passata: Multi-Territoriality of the Food System and the Legal Construction of Cheap Labor Behind the Globalized Italian Tomato, 14 FIU Law Review, 521. Available at: <https://collections.law.fiu.edu/lawreview/vol14/iss3/8>.

⁶ Sustain, "Unpicking food prices: Where does your food pound go and why do farmers get so little?", 2 December, online <https://www.sustainweb.org/publications/dec22-unpicking-food-prices/>.

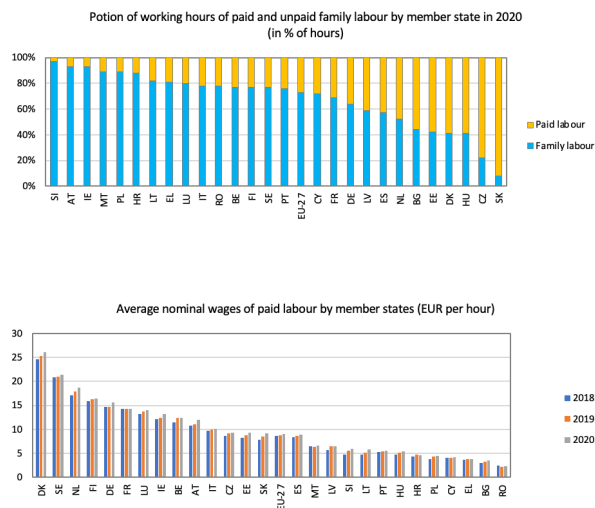
⁷ https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Farms_and_farmland_in_the_European_Union_-_statistics#The_evolution_of_farms_and_farmland_between_2005_and_2020

Figure 2: Agricultural income per AWU across time and countries



These statistics also hide conditions for agricultural wage labour. The reliance of our food system on cheap and casual wage labour, operating under poor and cramped working conditions has been in the spotlight since the Covid-19 pandemic. The reliance on wage labour for agricultural production varies greatly across member states; see Figure 3 (top). While nominal hourly wages have increase slightly since 2018 for most member states, for some member states nominal wages have been stagnant, e.g. France, Greece and Cyprus; see Figure 3 (bottom).

Figure 3. Contribution of wage of agricultural wage labour across member states



Source: Farm Accountancy Data Network (FADN); preliminary data⁸ (authors' calculation)

While some members of the food system, especially small farmers, wage labourers and consumers, have been squeezed, others have benefitted from the recent food price crisis, as it has been the case in previous crises. These patterns are the symptom of a highly dysfunctional food system, with its flaws becoming visible in moment of crisis where opportunities of rent capture and extraction are high. However, the structures creating these symptoms and enabling some players to accumulate high profits in time of crisis exist beyond the moment of crises.

Our current food system is characterised by (i) high levels of market concentration (i.e., a few large corporations filling an entire segment),⁹ and (ii) high concentration of ownership across these corporations (i.e., the same few organisation hold a substantial number of shares of dominant food corporations).¹⁰ The combination of high concen-

⁸ <https://agridata.ec.europa.eu/extensions/FarmEconomyFocus/FarmEconomyFocus.html>

⁹ Iris Van Dam, Benjamin Wood, Gary Sacks, Olivier Allais & Stefanie Vandevijvere (2021). A detailed mapping of the food industry in the European single market: similarities and differences in market structure across countries and sectors. *International Journal of Behavioral Nutrition and Physical Activity*, 18(54): <https://doi.org/10.1186/s12966-021-01117-8> and Jennifer Clapp (2023). Concentration and crises: exploring the deep roots of vulnerability in the global industrial food system. *Journal of Peasant Studies*, 50(1): 1-23. <https://doi.org/10.1080/03066150.2022.2129013> and Jennifer Clapp (2022). The rise of big food and agriculture: corporate influence in the food system. In Colin L. Sage (ed.) *A Research Agenda for Food Systems*. Cheltenham: Elgar.

¹⁰ Mohammad Torshizi & Jennifer Clapp (2021). Price Effects of Common Ownership in the Seed Sector. *The Antitrust Bulletin*, 66(1). <https://doi.org/10.1007/s12148-021-09011-1>

tration in market segment and ownership has arguably aligned the interests of these corporations, has narrowed the range of products and services available (with detrimental environmental and health consequences), and made the food system vulnerable as single corporations become 'too big to fail'.¹¹

J. Clapp: "At the center of this crisis is the fact that the production of the world's staple crops destined for export is concentrated in a small number of countries, and they are shipped around the world by a handful of trading firms. Much of this globally traded food is grown from a narrow range of seed varieties, using uniform industrial agricultural methods." (16 May 2022).¹²

This level of concentration has also enabled rent capture by corporations at times of crisis and rent extraction by the financial and non-financial organisations and the persons owning them.

To understand the different actors involved at different segments of the food system, we take a food chain perspective differentiating between (i) agricultural input providers, (ii) farmers, (iii) traders and processors, (iv) branders and producers, (v) retailers, and (vi) consumers. We align the food chain with a financing chain, mapping the financial actors involved at each stage, distinguishing between index funds (passive investors), hedge funds (active investors), investment banks (active investors and financiers), private equity funds and asset managers. The lines across segments and between financial and non-financial corporations are blurry and these distinctions serve a purely analytical purpose.

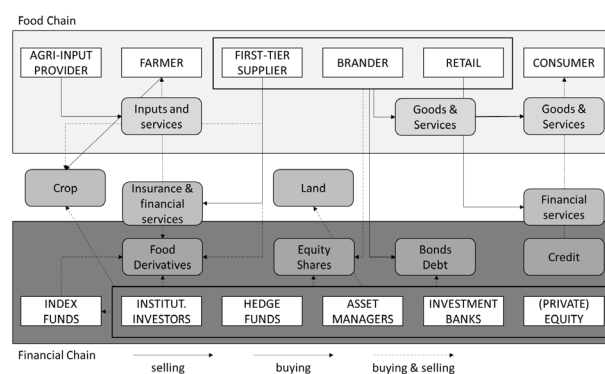
Figure 4 provides a map of the actors involved and how they are interlinked across goods and financial markets. We will introduce each segment separately.

AGRI-INPUTS: FERTILIZER

A handful of companies dominate the \$200bn global fertiliser market. Four companies — Nu-

trien, Yara, CF Industries and Mosaic — control more than 30% of all nitrogen fertiliser production. This market dominance provides them with price setting power and enables them to pass rising costs on to consumers while increasing their profit margins.¹³ According to an analysis by GRAIN and IATP, the G20 spent \$21.8bn more on key fertiliser imports in 2021 and 2022 than in 2020, while the world's biggest fertiliser companies are expected to make almost US\$84bn profit over the same period. Indeed, record profits are recorded by all major fertiliser producers; among them key European providers including K+S Group and Bayer, both located in Germany.

Figure 4. Map of a financialised food system



Source: Adopted from van Huellen and Abubakar (2021) and amended by authors.¹⁴

FIRST-TIER SUPPLIERS (TRADING AND PROCESSING)

The first-tier supplier segment emerged out of a merger between large trading houses and processing companies in the late 1990s. With a paradigm shift in Anglo-American capitalism towards shareholder maximisation, many of the large food producing companies increasingly outsources activities with low return to equity (a prominent measure to evaluate the worth of a company for its shareholders), including storage and processing. With few exceptions,¹⁵ the large trading

[org/10.1177/0003603X20985783](https://doi.org/10.1177/0003603X20985783) and Jennifer Clapp (2019). The rise of financial investment and common ownership in global agrifood firms. *Review of International Political Economy*, 26(4): 604-629. <https://doi.org/10.1080/09692290.2019.1597755>

11 Jennifer Clapp (2021). The problem with growing corporate concentration and power in the global food system. *Nature Food*, 2: 404-408. <https://doi.org/10.1038/s43016-021-00297-7>

12 <https://civileats.com/2022/05/16/op-ed-food-price-spikes-are-about-much-more-than-ukraine/>

13 <https://www.iatp.org/fertiliser-crisis-cost-g20-almost-22-billion>

14 Sophie van Huellen & Fuad Mohammed Abubakar (2021). Potential for Upgrading in Financialised Agri-food Chains: The Case of Ghanaian Cocoa. *The European Journal of Development Research*, 33: 227-252. <https://doi.org/10.1057/s41287-020-00351-3>

15 e.g. Olam which was founded in the late 1980s and benefitted from a wave of deregulation of agricultural commodity markets and a liberalisation of agricultural markets on the African continent as part of structural adjustment programmes imposed by the IMF at the time. Another exception is China's

houses who have now become first-tier suppliers have their origins in the 19th century Europe and USA. The global trade in grain and staple food products is highly concentrated with four companies accounting for an estimated 75% to 90% of the global trade: Archer-Daniels-Midland (ADM), Bunge Limited, Cargill and Louis Dreyfus Company - collectively known as the ABCD group.^{16,17} ADM (1902) and Cargill (1865) were founded in Illinois and Iowa; the American corn belt. Bunge (1818) and Louis Dreyfus (1851) were founded in the Netherlands and France.

All four first-tier suppliers have diversified from grain and food trade into agricultural inputs including seed, fertiliser, transport and storage including, other primary commodities such as metals, oil and gas, as well as financial enterprise including hedge funds and banking services. First-tier suppliers are hence omnipresent in the food system, dominating the purchase, shipment, storage, processing, and sale of food commodities as well as the provision of seeds and fertiliser to farmers. They are dominant players both in the physical as well as financial (derivative) markets. As traders, they benefit from price volatility; fast changing prices, both up and down, present an opportunity to trade at a profit, both in derivative markets and physical markets. Unsurprisingly, first-tier suppliers have reported record profits in 2021 and in previous periods of high and volatile food price.

Cargill reported a 23% increase in revenues, from an already high level of \$134bn in revenues, to a record \$165bn for the fiscal year ending 31 May 2022 and another record \$177bn for the 2023 fiscal year – the highest ever in the history of the 158-year-old company.¹⁸ ADM announced the highest operating profits in its history for two consecutive fiscal years 2021-22 and 2022-23 with \$4.8bn and \$6.6bn respectively; a 38% and a 39% year on year increase in operating profits.¹⁹ According to the annual report of ADM, their commodity inventory position increased 6-fold (fair value accounting) as a result of both quantities and price increases between 2020 and 2021, indicating a strategy of buying (hoarding) in the expectation of further rising prices. Bunge reported an 18%

increase in inventory value due to rising prices.²⁰ Record profits and patterns of inventory hoarding were also reported by smaller first-tier suppliers, such as Olam who reported a 29% year-on-year increase in revenue in 2021 and another 16.8% increase in 2022.²¹

BRANDERS (PROCESSING AND MARKETING)

Branders are large conglomerates that hold a portfolio of food brand names, often accumulated through mergers and acquisitions.²² Due to the prominence of marketing as part of their core business, corporations of the branding segment tend to be better known than the first-tier suppliers. However, the distinction is fluent for some as branders are also involved in food processing and in some instance trading. For instance, the UK's biggest producer of vegetable oil, Edible Oils Limited, is jointly owned by American grain giant ADM and Princes, a UK subsidiary of Mitsubishi Corporation. Further, branders tend to hold shares of listed first-tier suppliers and vice versa. In contrast to the first-tier supplier segments, branders are with few exceptions listed companies and private ownership is an exception.

While not reaching the highs of traders, branders have reported high profits in 2021 and 2022, despite rising costs. These profits are secured by passing on costs to consumers, which is made possible by their market dominance. The UK's highest grossing food company, Associated British Foods (ABF), chief executive George G. Weston told investors at the firm's annual results presentation: *"Revenues benefiting from price increases and operating profit was solid [sic]. We've had to recover a huge amount of input cost from customers that don't like giving you price rises and we've done that job really well – but it's not finished."* A strategy of increasing profits through an increase in prices of its products has also been announced by other large branders. During the 2022 financial year, Nestlé has increased prices by up to 7.5% on its products, Unilever announced that to its shareholders that it has increased prices by an average of 12% to cover increasing costs, and Mondelez raised its prices by 11%.²³ All three branders have recorded high profits in the same year.

COFCO, a state owned food trading and processing company founded in 1949 and held a monopoly position on food imports and exports to and from China until the late 1980s.

16 <https://www.oxfam.org/en/research/cereal-secrets-worlds-largest-grain-traders-and-global-agriculture>

17 Concentration is further growing with the recent merger between Bunge and Viterra: <https://www.foodandpower.net/latest/bunge-viterra-merger-june-23?s=09>

18 <https://www.cargill.com/about/2022-annual-report>

19 <https://investors.adm.com/financials/annual-reports/default.aspx>

20 <https://investors.bunge.com/investors/financial-information/annual-reports>

21 <https://www.olamgroup.com/investors/annual-reports.html>

22 For a visualization of market concentration in the brander segment, see <https://www.behindthebrands.org/about/>.

23 <https://www.opendemocracy.net/en/food-companies-profit-cost-of-living-crisis-nestle-unilever-archer-daniels-midland-mondelez/>

RETAILERS

As the branding segment, the retail segment is highly concentrated with a few companies dominating the European market: Schwarz Group owning Lidl and Kaufland, Aldi, Delhaize, Tesco, Edeka-Verbund owning Edeka, Netto and Kaiser's, and Rewe being the largest. However, market dominance tends to be regional for the retailer segment rather than global as they rely on a capital intensive and complex logistic network. Retailers have also been able to record substantial profits over the past three years despite rising costs. As traders and branders, they are able to pass on rising costs to consumers, while securing a substantial profit margin. Retail sales increased 1.5% in 2020 and 6.8% in 2021 compared to the previous year in the 27 EU states.

Financial actors: shareholders, debt holders, and derivative and asset traders

Financial investors seek exposure to food markets through (i) direct investment in food commodities (crops) and food-affiliated assets (such as land, land-based derivatives and food derivatives), and (ii) investment in non-financial corporations who are engaged in the trade, processing, production, and sale of food. In the former case, investors typically invest in food derivatives (futures and options) or food-affiliated derivatives (fuel and fertiliser) that are traded on international commodity exchanges rather than buying the physical product. In the latter case, investors either invest in stocks of corporations, which yield dividends, or they invest in bonds, which yield interest payments.

There is a considerable overlap between financial investors investing in food derivatives and in food-related equity, bonds, infrastructure and land. By far the largest group of shareholders of publicly listed food corporations are investment advisors, hedge funds, and asset management firms. They take up around 80% of total shareholder ownership of non-restricted shares in four of the largest food and beverage producers globally: Nestle, Mondelez, Unilever, and Coca-Cola. This group is followed by institutional investors, such as pension funds, insurance companies and increasingly also sovereign wealth funds, which take up about 5% of total shares in this group.²⁴ While their investment strategy is largely passive (buy and hold), they

are far from passive players in the food chain. For instance, two of Canada's largest pension funds, Canada Pension Plan Investment Board and British Columbia Investment Management Corporation, have recently announced their support of a merger between Glencore's²⁵ Viterra unit and Bunge to create a \$25 billion agricultural trading giant by swapping their combined 49.98% stake in Viterra for investments in the merged entity.²⁶

Having introduced the different segments of the financialised food system, we take a number of European corporations and markets as case studies to demonstrate mechanisms of profit generation and extraction in the contemporary financialised food system.

²⁴ According to data obtained from Eikon; authors' calculation.

²⁵ Glencore Plc is a multinational mining company and currently ranks 12th on the Global Fortune 500, which tracks the largest corporations by revenue globally.

²⁶ <https://www.bloomberg.com/news/articles/2023-05-29/viterra-bunge-merger-proposal-backed-by-canadian-pension-funds#xj4y7vzkg>

DYSFUNCTIONAL FOOD SYSTEMS: PROFITS AT THE TIME

These dynamics of profit creation and extraction and the structures underpinning those are analysed in this section, taking four listed food companies covering different segments of the food chain as case studies:

1. Nestle SA – the largest publicly listed multinational food company with headquarters in Switzerland specialising in food, nutrition, health and wellness and is placed at the food production and branding segment, with some elements of trading;
2. Danone SA – a multinational food and drinks company with headquarters in France specialising in dairy foods, plant-based foods products and baby food and is also placed at the food production and branding segment;
3. Suedzucker AG – the largest sugar company globally with headquarters in Germany specialising in the trading and processing of sugar and is placed at the food processing and trading segment;
4. K+S Group – a multinational producer of salt and potash and magnesium with headquarters in Germany specialising in production, recycling and trading of different chemical compounds and is placed at the agricultural inputs segment.

Insights from these four listed companies are being complemented by a shorter analysis (given the limited access to information about non-listed companies) of two private owned companies:

5. Lois Dreyfus Company – the only EU-based of the large grain traders with headquarters in the Netherlands, specialising in the financial and physical trade, shipping, and processing of food and other primary commodities rang-

ing from agricultural products to metals.

6. Schwarz-Gruppe – a multinational retail group with headquarters in Germany, owning among other subsidiaries the supermarket chains Lidl and Kaufland.

Many of the large trading houses as well as the retail segment remain in private ownership. This allows these companies to operate ‘in the shadows’, with limited oversight from the public and from a diversified shareholder group. For both segments, secrecy is an operational advantage. Information about inventory holdings is fiercely protected from outsiders to secure an information advantage over competitors and financial traders.

We will first focus on the evolution of profit and the sources of profits before and during the recent food crisis in the first sub-section and then move to profit extraction and analysis of the financial beneficiaries in the second sub-section.

3.1 SOURCES OF PROFIT AND RENT CAPTURE

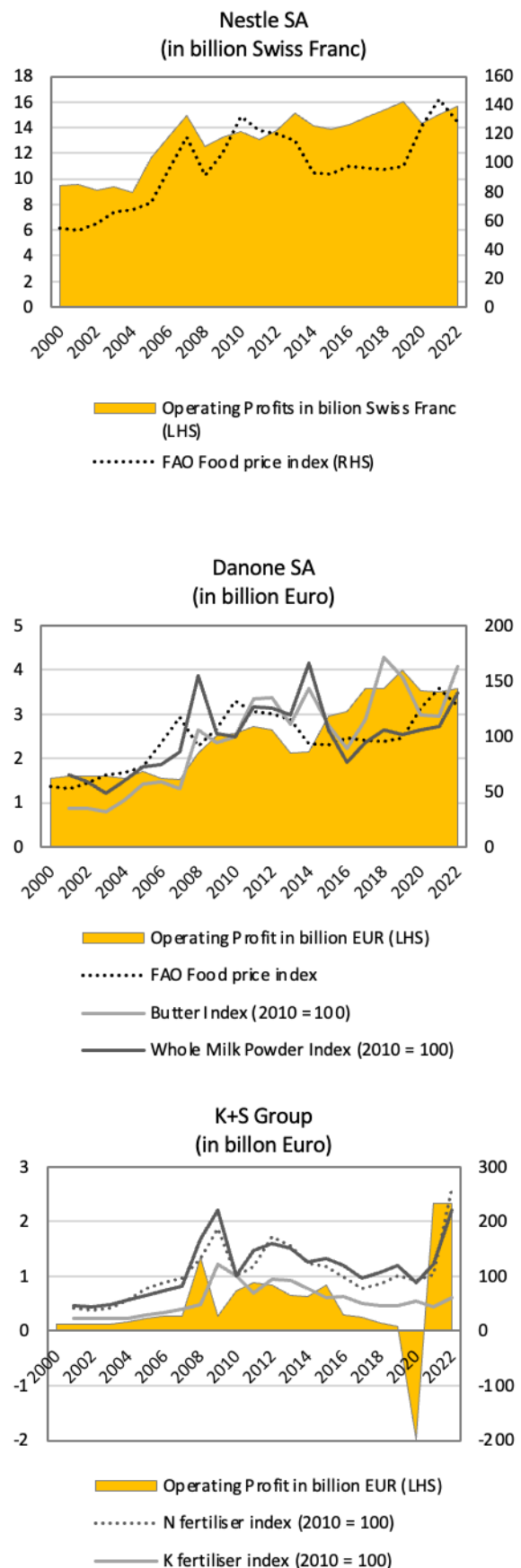
Across all segments of the food chain, profits have been moving in tandem with prices. Profits are hence dependent to a large extent on the primary commodity prices and the financial derivative markets that serve as yardsticks for these prices globally. However, price swings have not been synchronised across commodities. While grain and fertiliser prices have seen a boom during the current food crisis, prices for sugar and dairy have followed a different price trajectory. Profit growth for corporations focusing on these food items have hence been more muted than for corporations dealing with grains and fertiliser. Further, profits are less volatile for corporations at the brander segment, which tend to be more diversified (especially Nestle), than corporations at the agricultural inputs and trader segment, where volatile com-

modity prices pass through to balance sheets.

Figure 5 depicts annual profits extracted from corporate balance sheets and the evolution of food and fertiliser price indices. Price indices for the main products produced by the respective corporation are chosen, alongside the overall FAO food price index. In all four cases, corporate profits track price indices closely, with profits rising during times of price booms. The more diversified the corporation, the weaker this relationship becomes; see Nestle and Danone (relatively more diversified) versus K+S Group and Suedzucker (relatively less diversified).

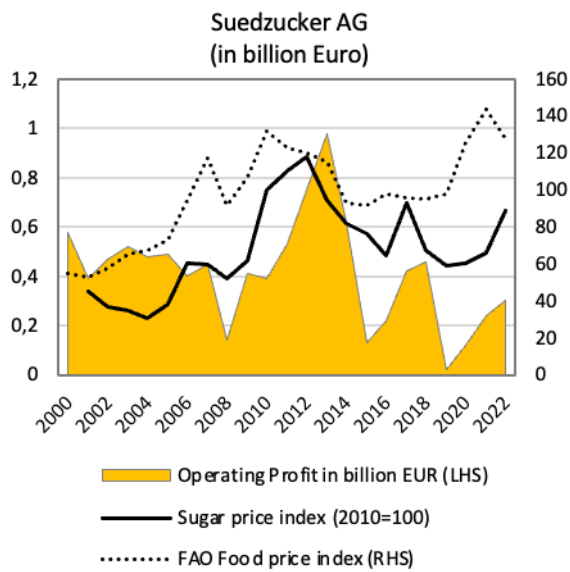
In 2021, at the peak of the FAO food price index, Nestle recorded 15.03 billion Swiss Franc (15.70 billion Euro) in operating profits.²⁷ Operating profits increased further to 15.67 billion Swiss Franc (16.36 billion Euro) in 2022; amounting to roughly the entire 2021 expenditure on health, environment, sport, and recreation by the German federal state.²⁸ Danone recorded profits of 3.50 and 3.58 billion Euro in 2021 and 2022 respectively. The most dramatic increase in profits among the four case studied was reported by K+S Group, with profits closely tracking the development of fertiliser prices which are closely linked to the price of natural gas. With 2.34 and 2.33 billion Euro in operating profits in 2021 and 2022 respectively, K+S Group recorded the highest profits achieved in the past two decades; almost twice as high as the previous record profit of 2008. Since sugar was less affected by the recent price increases, Suedzucker's recorded profits remained with 0.3 billion Euro in 2022 below the previous peak of 0.98 billion Euros 2013, when sugar prices peaked last.

Figure 5. Operating profits and food and fertiliser price indices (2000 – 2022)



²⁷ Operating profits are profits after deduction of all costs and expenses and are hence a measure of the total income earned by a corporation. We will look at operating profits rather than gross profits as these are a better reflection of the total rents captured by the corporation.

²⁸ https://www.bundesfinanzministerium.de/Content/EN/Standardartikel/Press_Room/Publications/Monthly_Report/Key_Figures/2022/2022-02-federal-budget.html



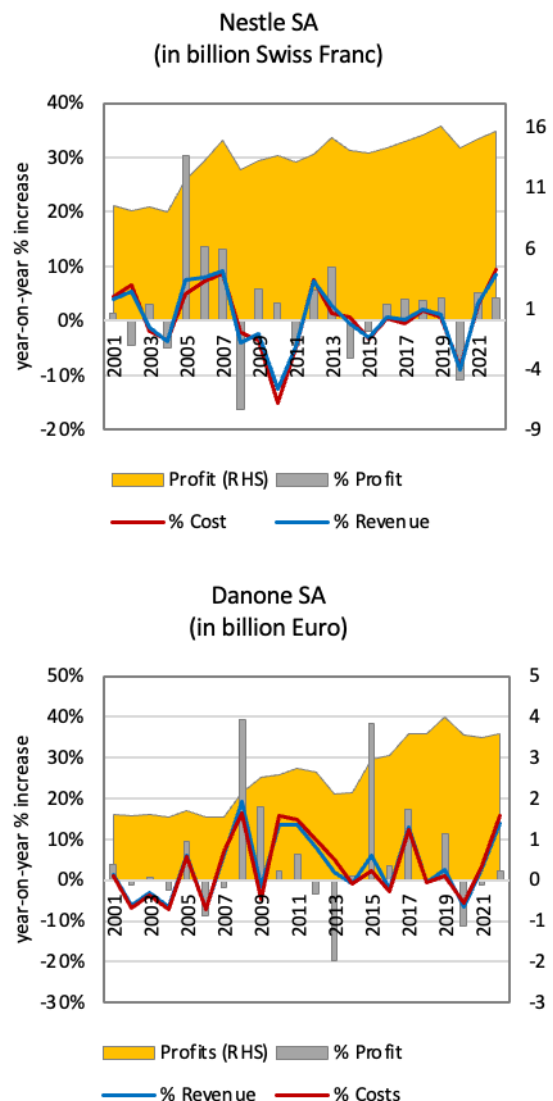
Source: FAO and Datastream (authors' calculations).

This close relationship between food and fertiliser prices and profits appears odd at first, as these primary commodities are key inputs and a rise in prices should result in a rise in costs for these corporations. The increase in profit predominantly arises over a strategy of matching the percentage increase in costs with an equal percentage increase in revenues. In other words, corporations are justifying an increase in sales prices with the increase in costs. However, the proportionate matching of costs and revenues (via sales prices) results in an increase in profits by the same percentage points if profits have been positive to start with. This is possible if all corporations occupying the same position within the food chain apply the same strategy and can rely on their competitor to do so. This coincidence of corporate strategy which plays out in periods of crisis and uncertainty, has motivated economists such as Weber and Wasner (2023) to refer to the current inflation period as "sellers' inflation".²⁹

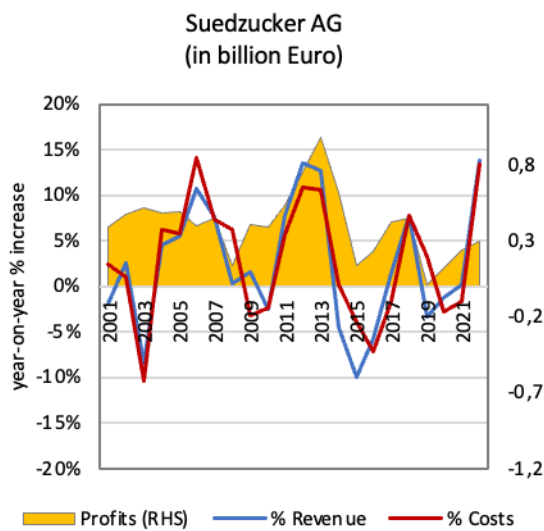
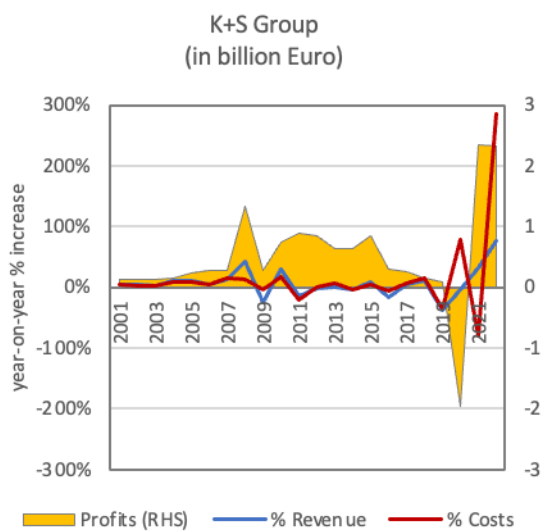
This strategy is evident for all of the four corporations analysed here, as shown in Figure 6. For Nestle and Danone, the two more diversified and

larger corporations with substantial market share in their food chain segment, the strategy has been achieved more successfully than by the two less diversified corporations where costs have been more volatile. Episodes of steep cost increases are therefore an opportunity for rent capture for corporations, with steep increases in profits being recorded during these episodes. This is especially pronounced for those corporations with a significant market share in their food chain segment.

Figure 6. Profit, revenue and costs percentage growth



²⁹ Isabella M. Weber & Evan Wasner (2023). Sellers' Inflation, Profits and Conflict: Why can Large Firms Hike Prices in an Emergency? Review of Keynesian Economics, 11(2). <https://doi.org/10.4337/roke.2023.02.05>. See also <https://www.imf.org/en/Blogs/Articles/2023/06/26/europes-inflation-outlook-depends-on-how-corporate-profits-absorb-wage-gains> for a similar argument.



Source: Datastream (authors' calculations).

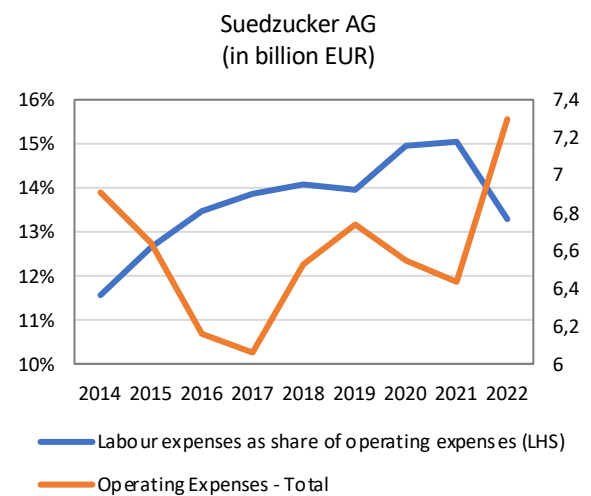
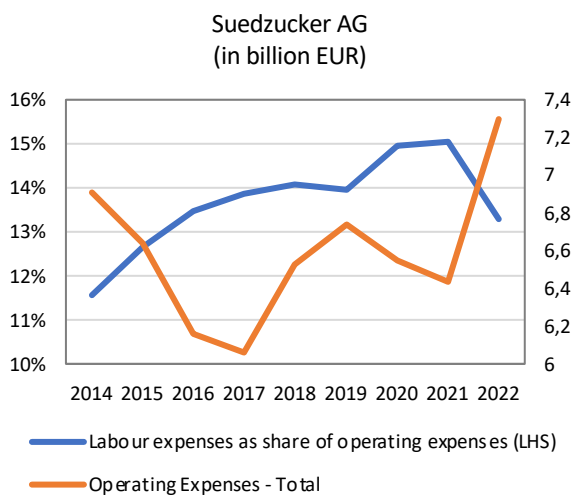
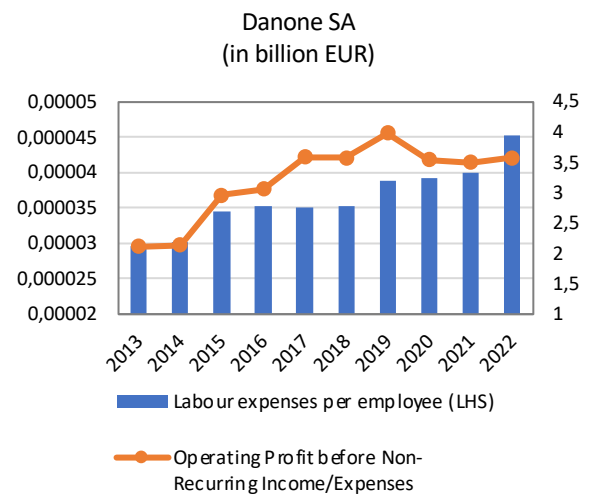
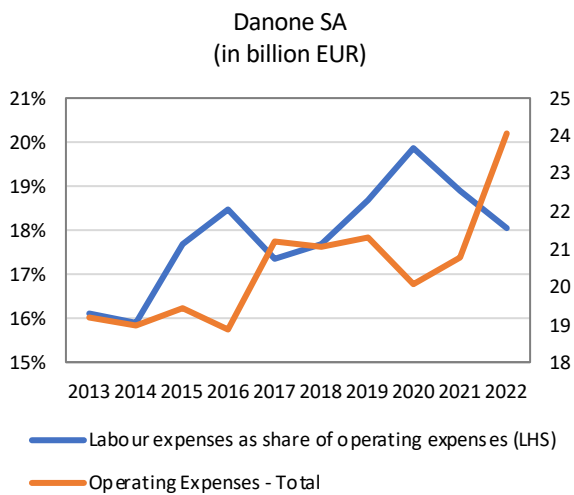
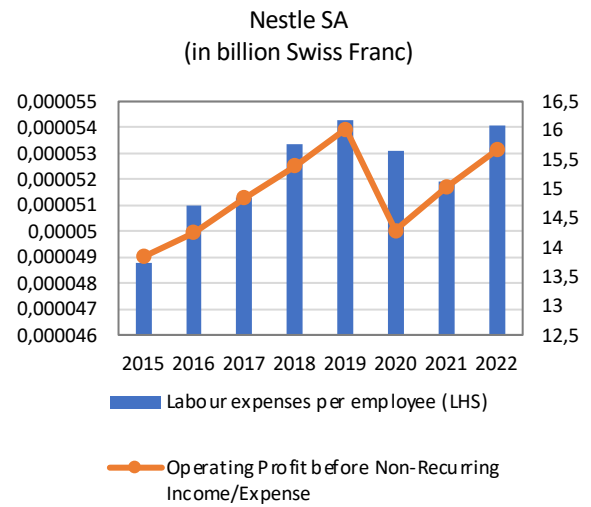
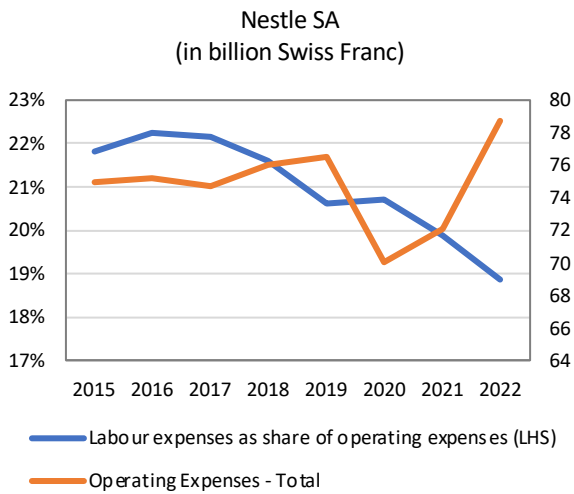
It is important to note that the increase in operating costs depicted in Figure 6 is not driven by an increase in labour costs. While the average wage bill per employee has increased in 2022 for all corporations, non-labour related costs have grown much faster, resulting in an overall decrease in the share of labour related costs in overall operating costs to below 20% for all corporations; see left hand side of Figure 7. Average wages vary with profits, indicating some reward for employees; see right hand side of Figure 7. However, these figures include wages across all paygrades and the increase therefore (at least partly) reflects bonus payments for managers rather than a wage

increase for workers.³⁰ The prominent claim of higher prices being driven by worker's demand for higher wages is therefore unjustified.³¹ The increase in corporate costs is largely driven by the increase in primary commodity prices, including food and fertiliser.

³⁰ <https://highpaycentre.org/ftse-100-ceos-get-half-a-million-pound-pay-rise/>

³¹ <https://www.reuters.com/markets/europe/wage-catch-up-prolong-europes-inflation-battle-2023-03-10/>

Figure 7. Labour costs, operating costs and profits³²



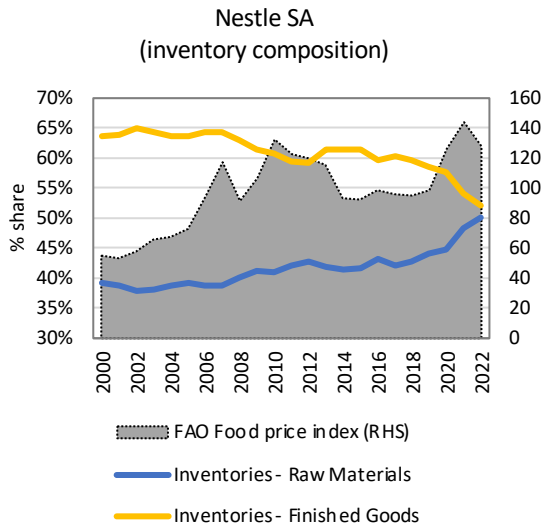
³² Data for K+S Group is insufficient and is hence excluded here.

Source: Datastream (authors' calculations)

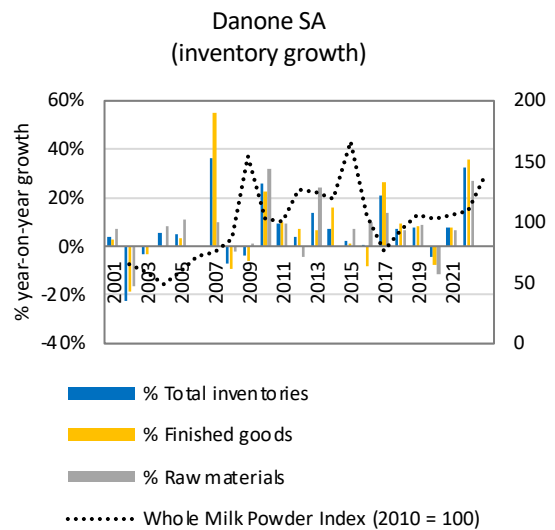
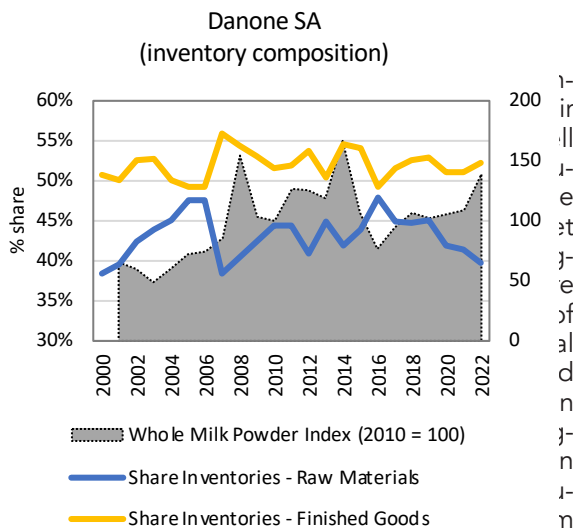
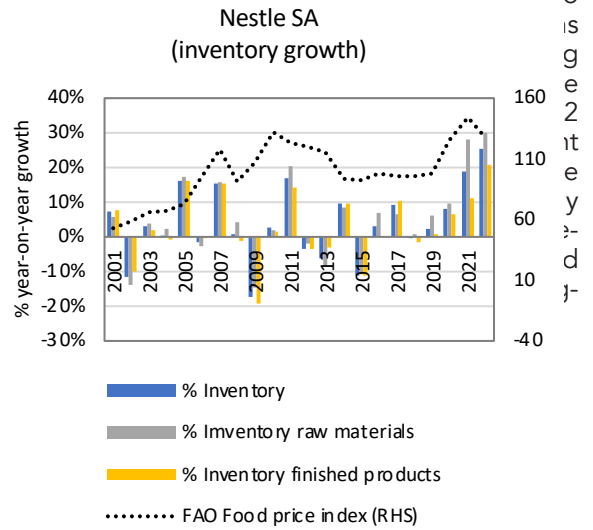
While matching the percentage growth of costs with an equivalent percentage increase in sales prices has been the dominant strategy that underpins some of the record profits recorded by corporations in the food chain over recent years, some have also benefitted from speculative positions – both physical in form of inventories and financial in form of food derivatives. If corporations expect prices to rise further, they can buy more primary commodities than required for their operations and store them for profit; or enter into a buying position via commodity derivatives. Especially for corporations located at the trader segment of the food chain, these are viable strategies as the corporations have the ability to store large quantities of food commodities and are active participants in commodity derivative markets, often maintaining their own broker service.

For all four corporations, inventories in terms of value have increased sharply in tandem with an increase in food and fertiliser prices; see right hand side of Figure 8. However, this does not necessarily indicate speculative hoarding, as the increase can reflect an increase in quantity and/or an increase in price. While the price rise has certainly contributed to the increase in inventory positions for all four corporations, it is impossible to derive whether quantities have increased from publicly available data, which would indicate a strategy of speculative hoarding. Among the four corporations studied here, we only observe an increase in the share of raw materials in overall inventories during the period of a steep price rise for Nestle which could indicate a strategy of speculative hoarding; see left hand side of Figure 8. Overall inventory growth for Nestle also exceeded the increase in prices in 2021 and 2022, further indicating an increase in quantity alongside an increase in price driving the expansion of inventories.

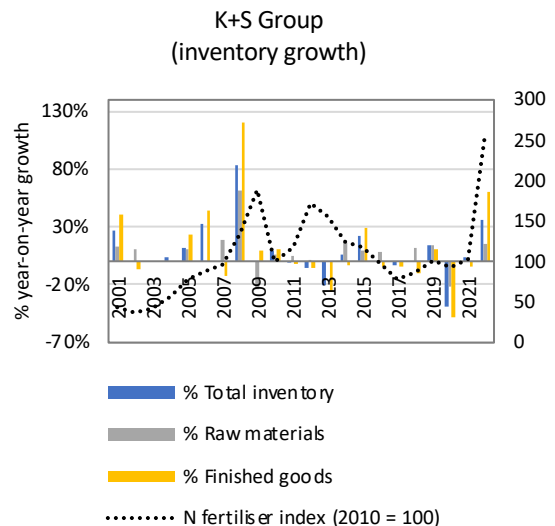
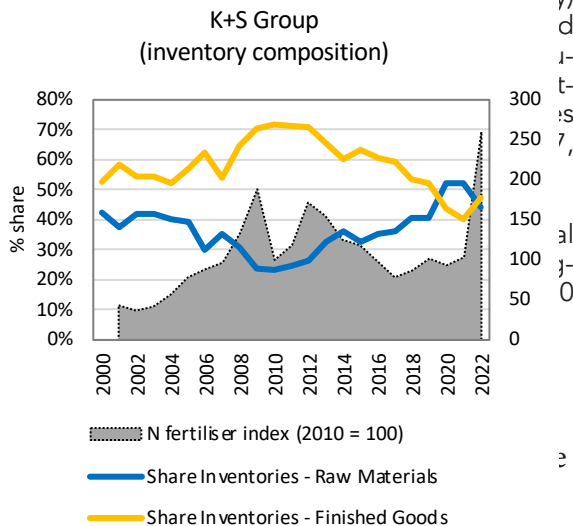
Figure 8. Inventory composition, growth and prices

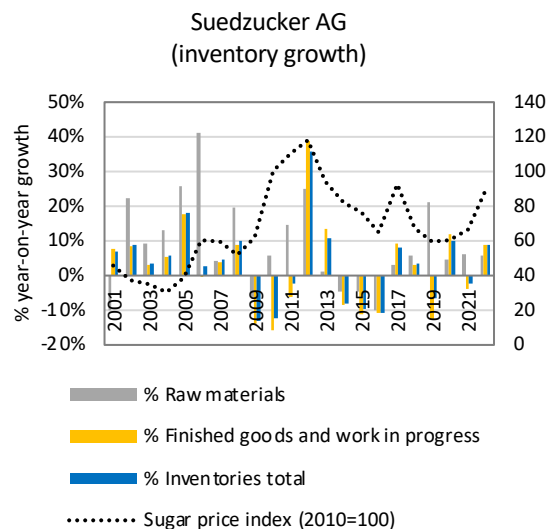
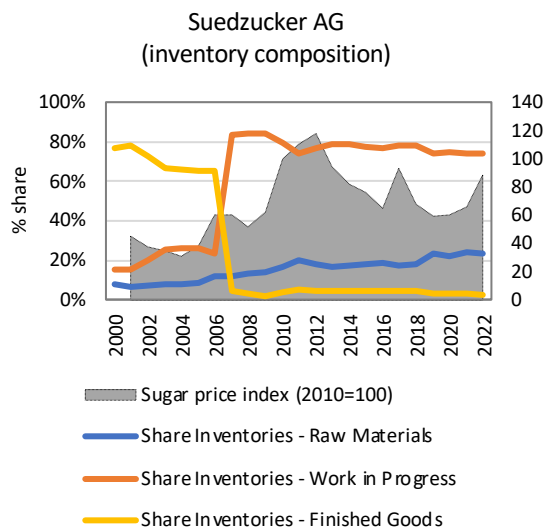


million Swiss Franc (323 and 219 million Euro) gain was reported by Nestle in 2021 and 2022 respec-



of speculation, leading gains and losses in Figure 9 are entered after accounting for the offsetting





Corporations trade in derivative markets to manage their price risk (e.g. to insure the value of their inventory position against price collapses) as well as to speculate on the basis of proprietary and superior market information. This is particularly the case for larger corporations with substantial market share and corporations located at the trader segment of the food chain. If inventory positions are fully hedged and markets work so that the price of the derivative matches the prices of the physical commodity, all losses or gains from hedging should be offset by gains and losses from inventory. A gain or loss only arises in the instance of strategic hedging; that is in the case of over- or under-hedging in the expectation that the market moves in a particular direction. Strategic hedging is therefore a form of speculation. Hedging gains and losses in Figure 9 are entered after accounting for the offsetting gains or losses made on the inventory (or currency) position for which the hedge was placed and could therefore indicate speculative activities.³⁵ Unfortunately, Nestle, Danone and Suedzucker report outstanding derivative contracts for hedging purposes but only started reporting gains and losses in 2017, which limits our analysis to that period.

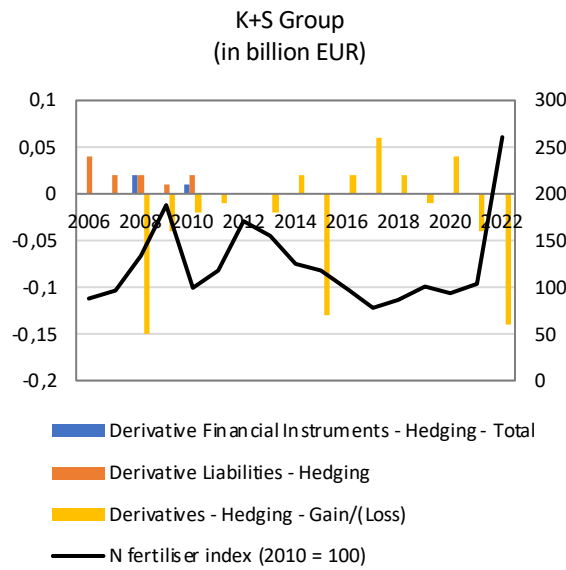
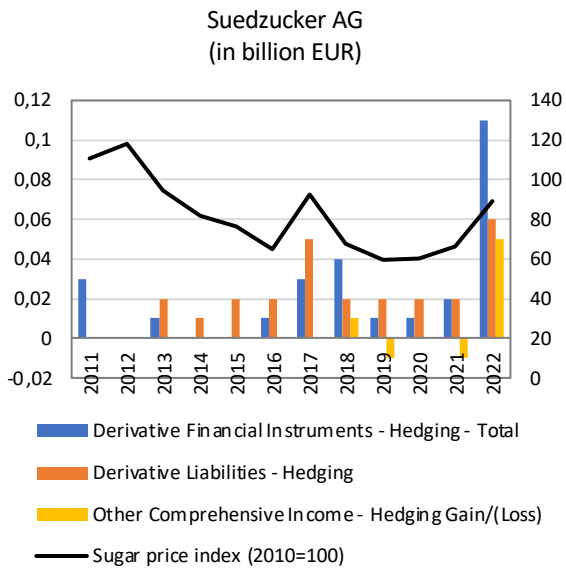
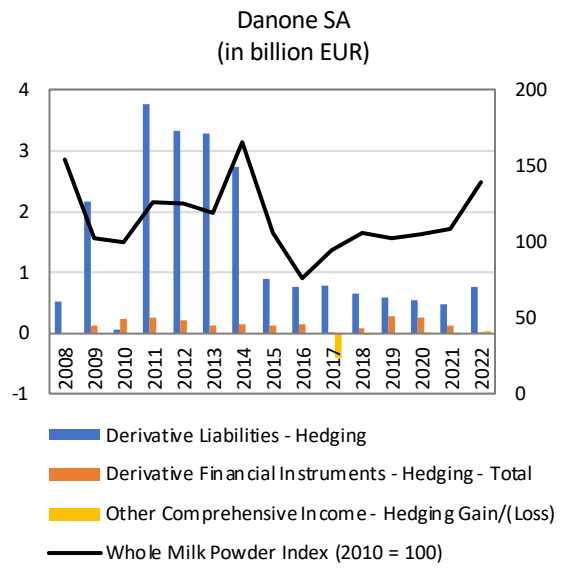
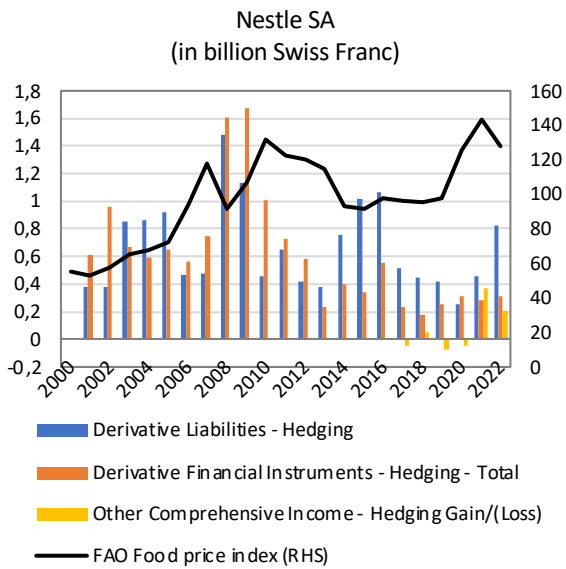
and losses are relatively large and erratic, indicating an active positioning in derivative markets. Large losses were recorded in 2008, 2015 and again 2022 with a loss of 140 million Euro in 2022. The recent loss could be related to speculative losses or to the unprecedented volatility experienced by energy markets during the Covid-19 pandemic, which resulted in a temporary de-linking of derivative and physical markets and therefore undermined hedging effectiveness.³⁶

Both Nestle and Suedzucker report substantial hedging gains over recent years, which could suggest some speculative hedging. A 310 and 210 million Swiss Franc (323 and 219 million Euro) gain was reported by Nestle in 2021 and 2022 respectively and Suedzucker recorded a 50 million Euro gain from hedging in 2022. For K+S hedging gains

³⁵ Purely speculative positions, with not hedging designation, are not counted in Figure 9.

³⁶ Adam Hanieh (2020): COVID-19 and global oil markets, Canadian Journal of Development Studies / Revue canadienne d'études du développement, DOI: 10.1080/02255189.2020.1821614.

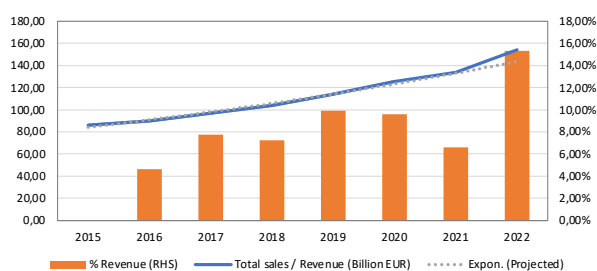
Figure 9. Grains and losses from positions in derivative markets



Source: FAO and Datastream (authors' calculations)

The previous analysis of the four case study corporations has relied to large parts on published balance sheet data. This data is available in the public domain for corporations that are listed on a stock exchange. For non-listed corporations, such as Louis Dreyfus and Schwarz Gruppe the analysis must rely on press releases and statements by the corporation. Detailed balance sheet data is not available. Louis Dreyfus reported profits for 2021 up by more than 80% on the previous year, as revenues rose by nearly a quarter to 1.62 billion USD (1.48 billion Euro). They also report a 25.8% increase in inventory value because of price increases and potentially quantity increase.³⁷ Schwarz Gruppe, a diversified multinational retail group has also been able to increase revenues beyond its previous growth trend; see Figure 10. However, profit figures are unavailable.

Figure 10. Revenues, revenue percentage growth, and projected revenues for Schwarz Gruppe



Source: Schwarz Gruppe press releases and Statista (authors' calculation)

Judging by the limited available data, both Louis Dreyfus and Schwarz Gruppe appear to have employed similar strategies as their listed counterparts, with both corporations recording large increases in profits and revenues. For Louis Dreyfus, a large food trading house, parts of these profits are likely to originate from speculative hoarding (physical storage) and possibly also from speculative hedging and trading on food derivative markets.

3.2 PROFIT EXTRACTION IN A FINANCIALISED FOOD SYSTEM

In the previous section, we have established the main mechanism through which corporations have generated large profits in times of crisis. This rent capture has been achieved through two mecha-

nisms: (i) the matching of cost increases by sales price increases in percentage terms, which results in an equal percentage increase in profits, (ii) speculative inventory holdings and hedging positions.

Profits generated are partly reinvested into the corporations generating them. However, the largest part is extracted through financial instruments. Profit extraction takes two forms: equity and debt, which are also the two sources of finance available to corporations. Holders of equity are rewarded through dividend payouts as well as share buybacks³⁸, which increases the value of the equity they are holding. Equity can be traded on exchanges (public companies) or traded in closed transactions (private company). Holders of equity are shared holders or shareowners; they have a claim to the company. Credit is facilitated via corporate bonds, which are tradable on exchanges, or via syndicate or non-syndicate loans obtained from banks and other financial institutions. Debt instruments yield interest for the creditor. We look at the mechanisms and the size of rent extraction first and then look at the owners of both equity and debt to identify the beneficiaries of rent extraction.

3.2.1 NATURE AND SIZE OF EXTRACTION

The main mechanism of extraction remains dividend payments and dividend yields have tracked operating profits closely; see Figure 11. The exception is K+S Group where the size of dividends has been relatively delinked from very volatile profits. Nestle has increased dividend yields from 2.16% to 2.61% from 2021 to 2022, rewarding shareholders with higher payouts. Danone increased its dividend yields from 3.64% to 3.94% over the same period, and Suedzucker increased its dividend yields consecutively from 1.42% to 1.53% to 1.64% over the past three years, closely tracking its increase in operating profits during this time. K+S Group did not pay any dividends in 2021, possibly due to the losses incurred during the Covid-19 crisis in 2020. Dividend payments were resumed in 2022 with a relatively conservative 0.8%. However, dividends yields are not the only mechanisms through which profits are extracted.

In addition to an increase in dividend yields, com-

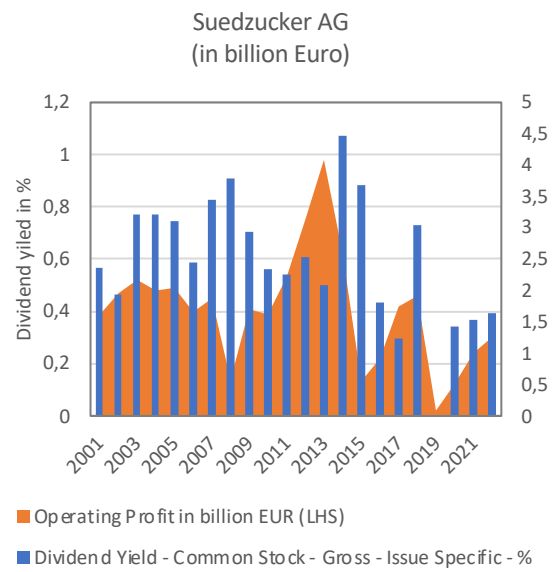
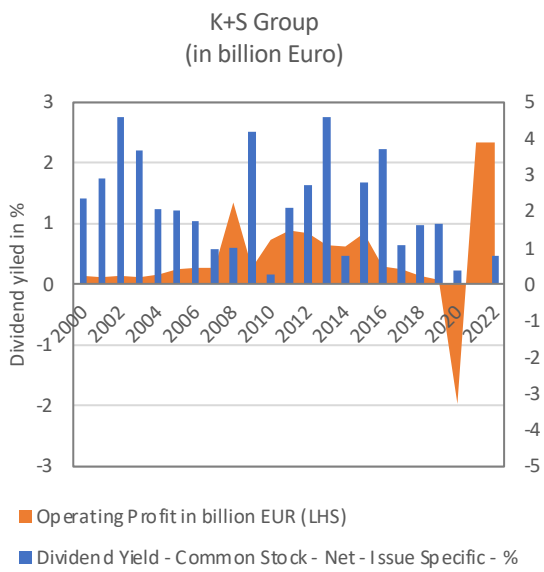
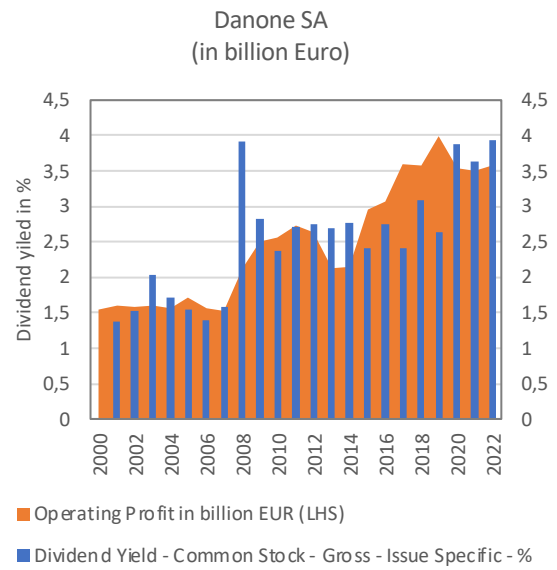
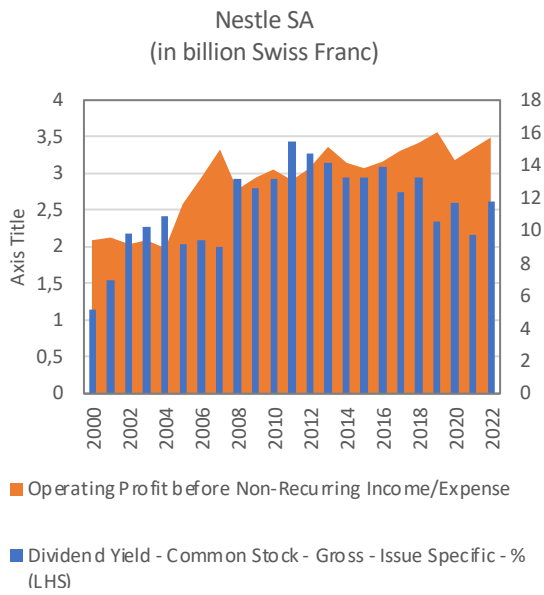
37 <https://www.ldc.com/annual-report-2021/>

38 By purchasing their own shares, corporations are creating artificial demand for their shares, which tends to result in an increase in the value of the outstanding shares. Shareholders are thereby rewarded as the value of their assets (shares) increases, i.e. they are rewarded by capital gains.

panies have also rewarded shareholders through share buybacks³⁹ and some of the cash accumulated over the last two years has already been bookmarked for this purpose. Especially Nestle has used share buybacks extensively as a tool to reward shareholders and utilise cash reserves to strengthen their equity value; see Figure 12. In 2022 alone, Nestle spend 10.7 billion Swiss Franc (11.1 billion Euro) on share buybacks; about 70% of the total profits generated that year. As a result, total payouts are exceeding profits generated for several years. In 2022 Nestle disbursed a total of 19.3 billion Swiss Franc (20.1 billion Euro) to shareholders via dividend payments, interest payments and share buybacks, exceeding profits generated that year by 3.6 billion Swiss Franc (3.75 billion Euro).

³⁹ Share buybacks are highly controversial practices as they are prone to be exploited for insider trading and market manipulation. Different regulatory frameworks address these concerns; for a critical discussion see: Lance Ang (2023) The regulation of share buybacks and insider dealing: a comparative analysis, *Capital Markets Law Journal*. <https://doi.org/10.1093/cmj/kmad006>.

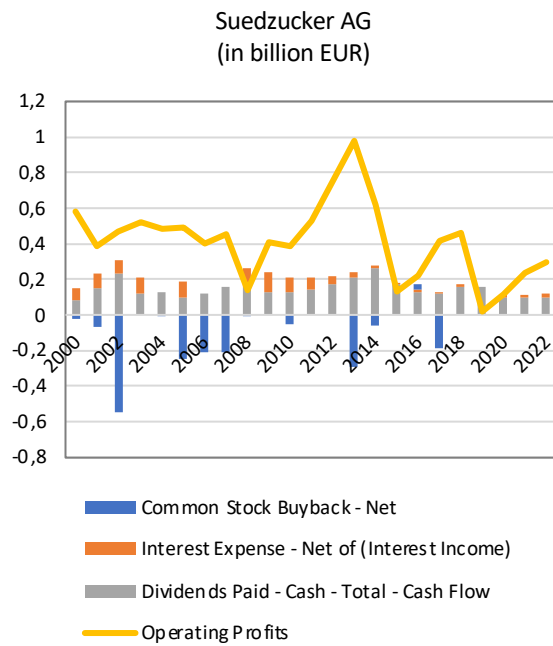
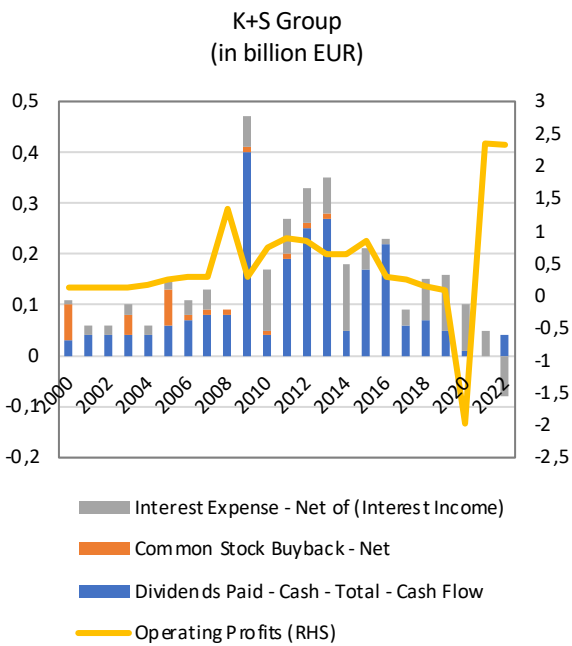
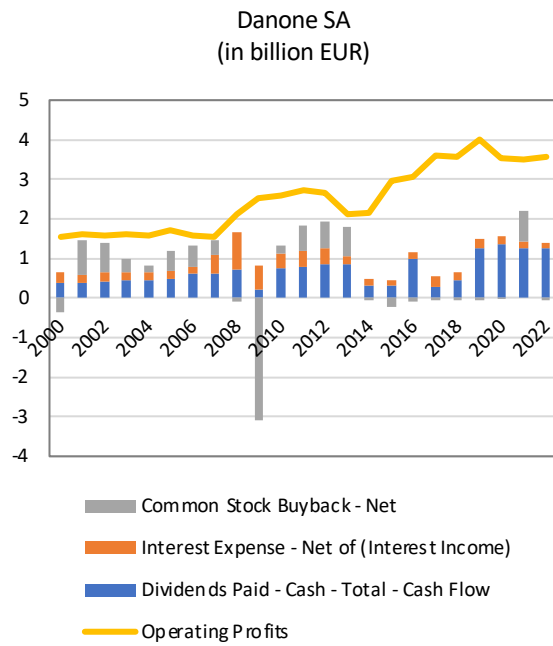
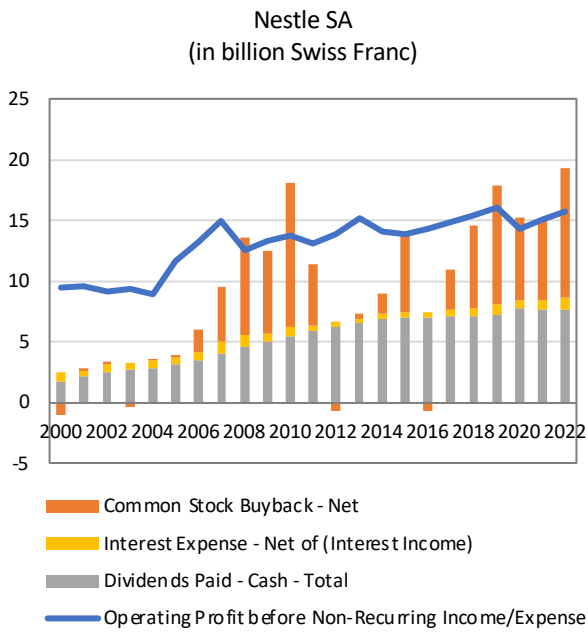
Figure 11. Dividend yield and operating profits



Source: Datastream (authors' calculation)

Share buybacks have not been utilised by the same degree by Danone, K+S Group and Suedzucker, and dividend payments have been the dominant mechanism of extraction for these corporations. Total payouts to financial markets stayed consistently below operating profits for Danone and Suedzucker. Total payouts to financial markets by Danone amounted to 2.19 and 1.39 billion Euro in 2021 and 2022 respectively; roughly 60% and 40% of its operating profits in the respective year. The higher payouts in 2021 are due to a one-off 760 million Euro disbursement via share buybacks; possibly as a delayed reward to shareholders for the record profits achieved in 2019. Suedzucker has not engaged in any share buybacks and extraction is exclusively via interest and dividend payments, with about 100 million Euro extracted via dividend payments in both 2021 and 2022. Total disbursements to shareholders and debt holders has been low over recent years for K+S Group, possibly due to the losses incurred during the Covid-19 crisis which might have resulted in a more conservative approach. However, K+S Group has recently announced its intention to use large parts of its 2022 and 2023 profits for a share buyback campaign with the aim to buy back 20% of its entire share capital.

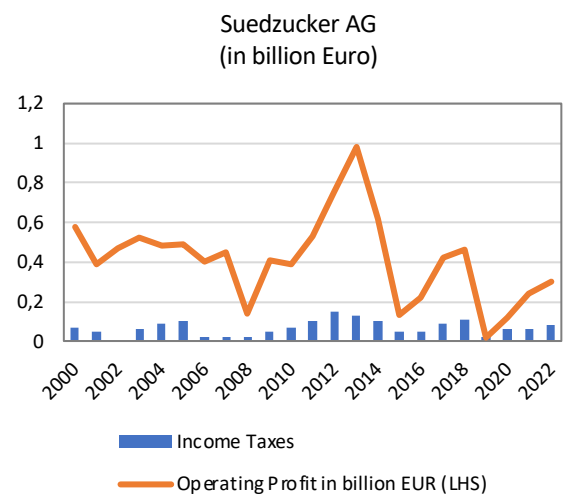
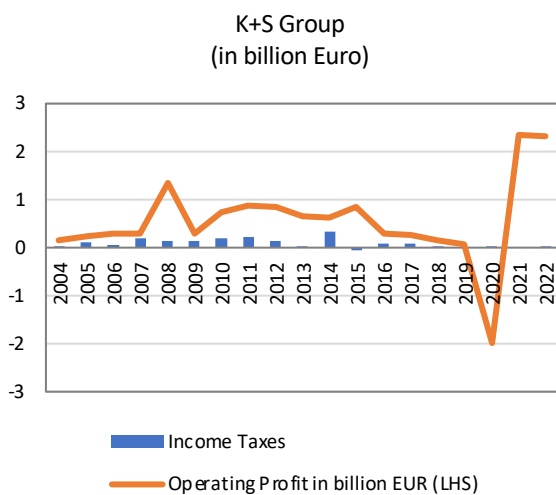
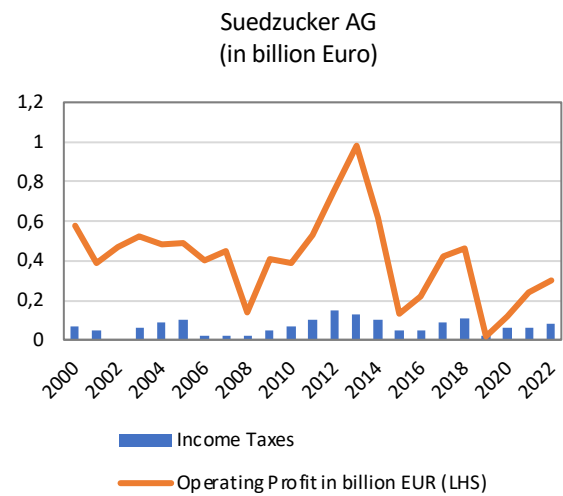
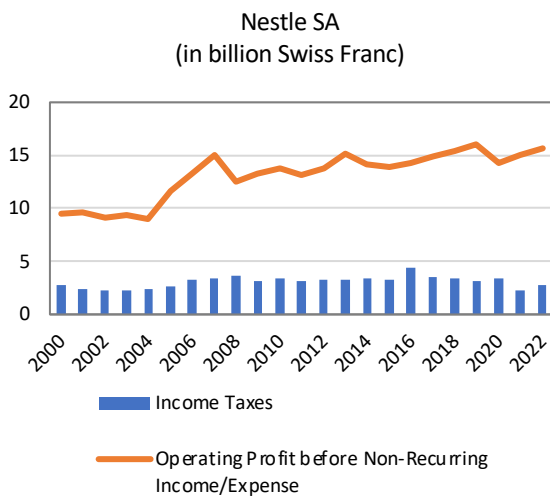
Figure 12. Operating profits and profit extraction



Source: Datastream (authors' calculation)

Notably, disbursement of profits to financial markets dwarfs income tax payments; See Figure 13. Income tax paid by Nestle in 2023 amounted to 2.73 billion Swiss Franc (2.86 billion Euro), just above 14% of the total payouts to financial market the same year. Income tax also varies remarkably little with operating profits (income) generated by the corporation, with the exception of Suedzucker, where some relationship can be established. For instance, K+S Group paid just 10 million Euro in income tax in 2021 and 2022 combined while recording a combined operating profit of 4.7 billion Euro.

Figure 13. Income tax and operating profits



Source: Datastream (authors' calculation)

For non-listed corporations, extraction follows different channels. While interest expenses are a factor for these companies, dividend payments to shareholders and disbursement via share buybacks is not part of their corporate strategy. Profits are extracted by the private owners of these corporations. As a non-listed company, Louis Dreyfus does not have any reporting requirements, and little is known about their operations and ownership structures are opaquer. Louis Dreyfus Company is owned by a holding company Louis Dreyfus Holding B.V., which is owned by another holding company Akira Holding Foundation, which is registered in Liechtenstein, a European tax haven. The controlling shareholder is Margarita Louis-Dreyfus, the heiress of the family business who secured sole ownership after buying out other family members in 2019 with a loan of over 1 billion USD (920 million Euro) from Credit Suisse Group AG, a Swiss-based global investment bank. Margarita Louis-Dreyfus is reported to have received a 457 million USD (418 million Euro) dividend payment paid to her holding company Akira Holding Foundation in 2022.⁴⁰ Profits are hence paid out to a few high wealth individuals instead of public shareholders. Very little of these profits are taxable and Louis Dreyfus has also been accused of tax avoidance through transfer pricing; a tactic that involves miss-invoicing of goods traded between subsidiaries to minimise taxable income.⁴¹ Dividend payouts to the owner are largely exempt from taxes due to these being channelled via the Liechtenstein-based holding company Akira Holding.

3.2.2 BENEFICIARIES OF EXTRACTION: EQUITY

As demonstrated in the previous sub-section, extraction of rents captured by corporations in the food chain take on three distinct forms: (i) dividend payments, (ii) share buy backs, and (iii) interest payments. The former two commonly exceed the latter, with shareholders of listed companies and owners of privately held companies being the main beneficiaries.

Figure 14 provides a percentage breakdown of the types of owners of non-restricted shares outstanding by Nestle, Danone, K+S Group and Suedzucker. This breakdown excludes restricted shares which are shares held by the company's officers and insiders and preferred shares which often have no voting right and hence do not reflect a

share in ownership per se.⁴² Investment advisors and hedge funds are the dominant investor group among shareholders in all four listed corporations, except for Suedzucker AG where the majority of its shares are held by its cooperative, the Süddeutsche Zuckerrüben-Verwertungs-Genossenschaft eG (SZVG). For Nestle, Danone, and K+S Group at least 80% of non-restricted shares are owned by investment advisors and hedge funds, with an overall share of 90% for Danone. This group is followed by sovereign wealth funds and pension funds. Often termed institutional investors, this investor group has become increasingly powerful across sectors, including the food sector. 5% of Danone's non-restricted shares are owned by this category; 12% for Nestle and 13% for K+S Group.

Investment advisors (asset and wealth managers) as well as hedge funds are hence the largest beneficiaries of shareholder payouts, both in terms of dividend payments and share buybacks. As a group they have extracted 2.6 billion, 680.8 million, 13.4 million, and 5.4 million Euro in dividends from Nestle, Danone, K+S Group and Suedzucker respectively in 2022; a combined 3.1 billion Euro from these four corporations alone.⁴³ This means that a large proportion of the profits generated during the recent food price crisis in 2021 and 2022 have been pocketed by these financial entities

⁴⁰ <https://www.ceotodaymagazine.com/2022/01/billionaire-margarita-louis-dreyfus-receives-457-million-from-trading-giant/>

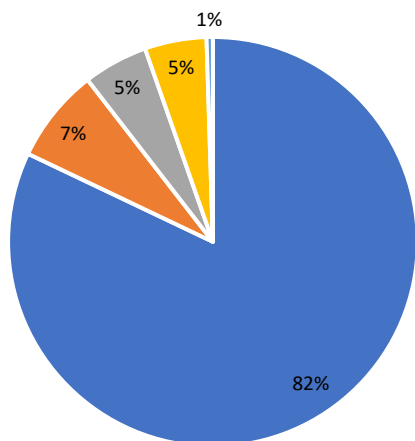
⁴¹ <https://www.theguardian.com/business/2011/jun/01/argentina-accuses-grain-traders-tax-evasion> and also Verónica Grondona and Martín Burgos (2022). Food. In: Global Wealth Chains. Edited by Leonard Seabrooke and Duncan Wigan, Oxford University Press. DOI: 10.1093/oso/9780198832379.003.0008.

⁴² Restricted shares in overall shares outstanding are 61% Nestle, 39% Danone, 58% K+S, and 23% Suedzucker.

⁴³ Derived by multiplying the ownership share (non-restricted and restricted) by dividend payments in 2022. Values for Nestle SA have been adjusted to Euro for comparison.

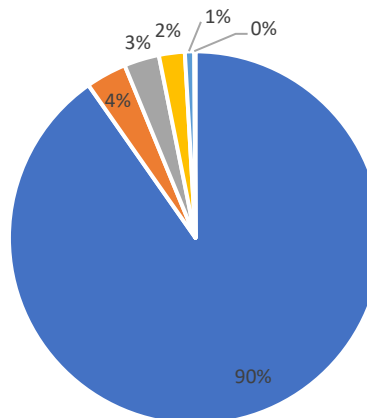
Figure 14. Ownership structure of publicly owned shares

(a) Nestle SA



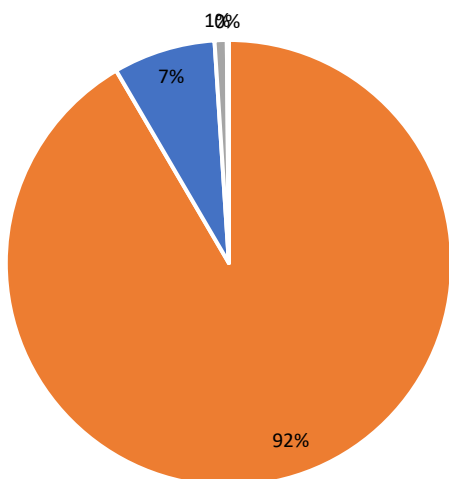
- Investment Advisor and/or Hedge Fund
- Sovereign Wealth Fund
- Pension Fund
- Bank and Trust
- Other

(b) Danone SA



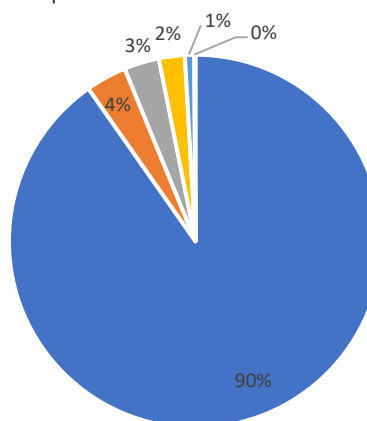
- Investment Advisor and/or Hedge Fund
- Corporation
- Sovereign Wealth Fund
- Pension Fund
- Bank and Trust
- Other

(c) Suedzucker AG



- Corporation
- Investment Advisor and/or Hedge Fund
- Sovereign Wealth Fund
- Other

(d) K+S Group



- Investment Advisor and/or Hedge Fund
- Corporation
- Sovereign Wealth Fund
- Pension Fund
- Bank and Trust
- Other

Source: Datastream (authors' calculations)

The most dominant shareholders in publicly listed food companies are the world's largest asset management firms, the great majority of which are registered in the US; see Table 1 for the top 5. Among them BlackRock and the Vanguard Group are by far the largest, with assets under management (AUM) twice as much as the third largest asset management firm Fidelity Investments. BlackRock is itself a publicly listed company, while Vanguard Group is privately owned - a unique ownership structure whereby the group itself is owned by its own funds.

Table 1. Top 5 Asset Management Firms and Total Assets Under Management (AUM)

Rank	Company	Country	Total AUM EURbn	Balance sheet
1	BlackRock	US	8,700	31/03/2022
2	Vanguard Group	US	7,364	31/03/2022
3	Fidelity Investments	US	3,894	31/03/2022
4	UBS Group	Switzerland	3,855	31/12/2021
5	State Street Global Advisors	US	3,655	31/03/2022

Source: ADV Ratings⁴⁴. Converted into Euro at March 2022 rates (authors' calculation)

Unsurprisingly, these top two asset management firms are also among the top two shareholders in three out of four corporations taken as a case study here, with the exception of Suedzucker due to its unique ownership structure via SZVG. Another prominent shareholder in the food sector is Norges Bank Investment Management (NBIM), a sovereign wealth fund managing Norway's oil and gas resources. NBIM is among the top five shareholders of non-restricted shares in three out of the four corporations studied here and in the top ten of all four. Table 2 summarises the top 5 shareholders, their total share in ownership, the total positions held, the total share in non-restricted shares and an approximation of the earnings in terms of dividend payments extracted by these shareholders. Earnings do not include (realised or unrealised) value gains made due to an increase in the share price. In 2022, BlackRock extracted an approximate 536.8 million Euro in dividend payments from Nestle alone, while Vanguard extracted 243.8 million Euro from Nestle.

⁴⁴ Data taken from <https://www.advratings.com/top-asset-management-firms>; see link for a more complete list.

Table 2. Top 5 shareholders in major food producers as of June 2023.

	Shareholder	Ownership (in %)	Position (in million)	Non-restri. (in %)	2022 Earn. (in million)
Nestle SA					
1	BlackRock	6.76%	180.43	17.41%	536.8
2	Vanguard Group	3.07%	81.97	7.91%	243.8
3	NBIM	2.89%	77.20	7.45%	229.5
4	UBS Group	1.89%	50.46	4.87%	150.1
5	Credit Suisse	1.65%	43.94	4.24%	120.6
Danone SA					
1	BlackRock	7.61%	51.55	12.42%	94.4
2	Artisan Partners Limited Partnership	7.02%	47.56	11.46%	87.0
3	Capital Research Global Investors	5.18%	35.10	8.46%	64.2
4	Amundi Asset Management	4.14%	28.08	6.77%	51.3
5	MFS Investment Management	4.05%	27.46	6.62%	50.2
Suedzucker AG					
1	SZVG	60.70%	123.94	78.34%	60.7
2	Zucker Invest GmbH	10.25%	20.93	13.23%	10.3
3	Dimensional Fund Advisors	1.19%	2.43	1.54%	1.2
4	Vanguard Group	1.10%	2.24	1.41%	1.1
5	NBIM	0.68%	1.40	0.88%	0.7
K+S Group					
1	BlackRock	5.08%	9.71	12.02%	2.0
2	DWS	4.06%	7.78	9.63%	1.6
3	NBIM	4.00%	7.65	9.46%	1.6
4	Goldman Sachs	3.65%	6.99	8.64%	1.5
5	Rossmann Beteiligungs GmbH	3.08%	5.90	7.30%	1.2

Source: Eikon (authors' calculation). Note: Ownership is the percentage share in overall shares outstanding. Position is the number of shares held. Non-restri. is the percentage share in non-restricted shares. 2022 Earn. is the approximate earnings in dividend payments in million Euros (we are taking the June 2023 ownership to approximate earnings, assuming that share ownership has not changed since 2022).

Further, BlackRock's shareholdings in Nestle are about 0.25% of its overall assets under management. Given that both Vanguard and BlackRock are omnipresent in food (and other) corporations globally, the overall extraction of these two asset management firms from the food sector is substantial. BlackRock itself paid out 4.5 billion Euro to its shareholders in 2022 including dividends and share repurchases and recorded an operating income of about 6.8 and 6.2 billion Euro in 2021 and 2022 respectively.⁴⁵ These asset management firms are key beneficiaries of the food price crisis.

2.2.3 BENEFICIARIES OF EXTRACTION: DEBT

Another group of beneficiaries alongside shareholders are debt holders who earn interest on the credit they provide. These payouts do not vary with profits and extraction through interest payments is therefore less volatile than dividend payouts or disbursement via share buybacks. However, the sums extracted are substantial. In 2022, interest payments by Nestle amounted to just over 1 billion Euro, while Danone paid out 150 million Euro the same year. Substantial interest payments are partly related to the fact that corporations tend to finance their investments, including mergers and acquisitions, by debt rather than cash reserves (which are disbursed to shareholders) or equity. Balance sheets therefore tend to be highly leveraged, with substantial exposure to downside risk. Key beneficiaries in this category are commercial and investment banks that provide credit lines, extend corporate loans or underwrite bonds issued. Investment banks benefit from this relationship in three different ways: (i) they earn interest rates on the debt they hold, (ii) they earn fees for their services, and (iii) they receive dividends if they also hold shares of corporations.

Unfortunately, it is not possible to obtain information about the owners of the debt if the debt is issued via bonds. Instead, Table 3 disaggregates total debt into bonds and loans for Nestle, Danone, Suedzucker and K+S Group. Except for the K+S Group, these corporations predominantly rely on the sale of bonds to acquire funding rather than loans. The issuing of bonds is facilitated by banks, which act as book runners on these bonds and earn fees for their service. Despite the prominence of bonds, loans remain an important part of overall financing. These loans are commonly facilitated by commercial and investment banks or a syndicate of banks, depending on the size of the loan. Interestingly, Nestle uses its various subsidiaries and international holding structure to offer bonds in various locations/exchanges to access cheap

credit in different currencies. The great majority of bonds are issued in the US via Nestle Holdings Inc. (67.35% for USD denominated bonds)⁴⁶ and in Luxembourg via Nestle Finance International Ltd. (26.24% mainly for EUR denominated bonds).⁴⁷ Listing in Luxembourg comes with the added advantage of tax exemptions for dividend income and capital gains.

⁴⁵ <https://www.blackrock.com/corporate/newsroom/press-releases/article/corporate-one/press-releases/blackrock-reports-fourth-quarter-2022>

⁴⁶ Bookrunners for Nestle Holding Inc. include among others: Barclays Capital Group, Bank of America Merrill Lynch, Citigroup Global Markets Inc, HSBC Securities (USA) Inc, JP Morgan & Co Inc, SG Americas Securities LLC, Standard Chartered Bank, TD Securities (USA) LLC, UBS Securities Inc, Wells Fargo Securities LLC, Credit Suisse, Deutsche Bank, HSBC Bank PLC, RBC Capital Markets.

⁴⁷ Bookrunners for Nestle Finance International Ltd. Include among others: BNP Paribas SA, HSBC Bank PLC, JP Morgan & Co Inc, Santander Corporate & Investment Banking, Societe Generale SA, Citigroup Global Markets Inc, Goldman Sachs International, RBC Europe Ltd, Credit Suisse, Deutsche Bank, Santander Corporate & Investment Banking.

Table 3. Current debt structure

	Bonds	No.	Loans	No.	% Bonds	% Loans
Nestle*	49,747,724,481	185	10,755,584,940	3	82.22%	17.78%
Danone	15,487,817,113	54	2,000,000,000	1	88.56%	11.44%
Suedzucker	1,900,000,000	4	600,000,000	1	76.00%	24.00%
K+S	600,000,000	1	1,360,000,000	2	30.61%	69.39%

Notes: *Swiss Franc; EUR otherwise. Bonds includes to be issued bonds. Data as of June 2023.

Source: Datastream (authors' calculations).

Loans are often thought for the financing of specific large projects or mergers. European banks are well represented in the pool of financial corporations facilitating large-scale commodity-based projects. All banks listed below heavily invest in mining and energy sectors (mainly in form of corporate loans but also project and exploration financing), and to a lesser extend in food (due to the lower capital intensity). Some of these projects have been criticised for their promotion of deforestation, soil degradation, pollution, labour exploitation, and other violations of environmental and labour standards. Table 4 provides a list of current financing and forms of finance provided by four major European banks to large food commodity trading houses. While these banks facilitate large scale and often controversial projects by multinational food corporations, they benefit from the rent capture of these corporations through the earning of fees for their services, interest on the credit extended, and dividend payments if they are also acting as shareholders.

Table 4. European banks' relationship with food commodity trading houses (in million USD)

	<i>Bunge</i>	<i>Cargill</i>	<i>Olam</i>	<i>Trafigura</i>
<i>BNP Paribas</i>	\$487.00mil corporate loan, revolving credit facility, equity share owner, bond issue underwriter	\$1,560.00mil corporate loan, bond issue underwriter	\$1,037.00mil corporate loan, revolving credit facility	
<i>Commerzbank</i>	\$326.20mil revolving credit facility, equity share owner, bond issue underwriter, corporate loan	\$360.00mil revolving credit facility		\$2,660.00mil co-financed revolving credit facility
<i>Credit Suisse</i>	\$100.00mil bond issue underwriter, equity share owner, bond owner, corporate loan	\$913.00mil bond owner, revolving credit facility, corporate loan	\$692.00mil corporate loan, bond issue underwriter, revolving credit facility	\$8,589.78mil co-financed revolving credit facility, corporate syndicate loan, bond issue underwriter
<i>Deutsche Bank</i>	\$407.00mil corporate loan, revolving credit facility, equity share owner, bond issue underwriter, bond owner	\$1,726.70mil corporate loan, revolving credit facility, bond owner, bond issue underwriter	\$52.8mil revolving credit facility	\$2,824.78mil co-financed revolving credit facility, bond issue underwriter

Note: Values provided do not reflect total exposure (co-financing).

Source: BankTrack (authors' compilation)

Trafigura is major trader for minerals, metals and energy while the other three commodity trading houses – Bunge, Cargill and Olam – focus on agricultural commodities (especially food) and other food-related commodities which are less capital intensive. Trafigura has been included in the table as it seeks expansion into food commodities, and is an important trader of commodities required to produce fertiliser. It has recently sought funding from major European banks with an 800 million USD (roughly 735 million Euro) loan guaranteed by Germany's export credit agency (ECA).⁴⁸ All of the four banks also act as financing facilitators (equity shareowner, bond issue underwriter, corporate loan provider) for several meat production and processing companies – JBS Brazil, Marfig, Minerva Foods and BrasilAgro – accused of deforestation and other environmental abuses.⁴⁹

An important entanglement between corporations in the food chain and banks is the financing of mergers and acquisitions. Corporate growth is increasingly achieved through mergers and acquisitions, which are mostly debt-financed and facilitated by major banks. All four corporations taken as case studies here hold major or majority shares in other corporations and subsidiaries, which are leveraged for strategic mergers and acquisitions. For instance, recent acquisitions by Suedzucker are mainly executed via Agrana, an Austrian food company which is 50% owned by Suedzucker via the investment holding company Z&S Zucker und Stärke Holding AG, which is owned to equal shares by Suedzucker and the Austrian Zucker-Beteiligungsgesellschaft m.b.H. and via shares held by Suedzucker directly.⁵⁰ Suedzucker also owns CropEnergies, a company focusing on bio ethanol, directly and via its cooperative SZVG. CropEnergies has acquired various stakes in biotech start-ups in 2022 while Agrana acquired the Argentinian fruit preparations producer Main Process SA in 2016 and a stake in the Algerian fruit preparations producer Elafruits SPA in 2018.⁵¹

Nestle SA owns a major share in L'Oreal SA, a France-based cosmetics company and Seres Therapeutics Inc., a microbiome therapeutics company. It is also the majority shareholder for its five subsidiaries, utilising its subsidiaries to access funding through disbursement of equity. Other subsidiaries remain non-listed and are hence not included in Table 5. Danone SA holds major shares in Lifeway Foods, Inc., a producer and marketer of kefir in the United States, and Wilk Technologies Ltd., an Israel-based biotechnology company. Danone re-

cently sold its majority share in Yashili International Holdings Ltd., an investment holding company principally engaged in the manufacture and sale of dairy and nourishment products, to China Mengniu International Co. and Chinese manufacturer of dairy products.

48 <https://www.gtreview.com/news/global/trafigura-attracts-new-lenders-to-bumper-financing-agrees-german-strategic-commodities-deal/>

49 <https://www.banktrack.org/banks>

50 https://www.suedzuckergroup.com/sites/default/files/2019-12/2014-05-19_RS-London-en.pdf

51 <https://www.suedzuckergroup.com/en/company/history>

Table 5. Ownership of listed subsidiaries and shareholdings (as of June 2023)

	Total ownership	Place among shareholders
Nestle SA		
Nestle India	34.28%	1
Nestle Malaysia	72.61%	1
Nestle Nigeria	66.18%	1
Nestle Pakistan	61.60%	1
Nestle Lanka	91.95%	1
L'Oreal SA	20.08%	2
Seres Therapeutics	5.94%	5
Danone SA		
Lifeway Foods	23.57%	1
Wilk Technologies	11.32%	2
Suedzucker		
Agrana	2.74%	2

Source: Eikon Ownership Reports (authors' compilation)

Nestle alone has executed 25 mergers and acquisitions between January 2022 and June 2023; 13 as the acquirer and 12 as the target, either directly or indirectly via a subsidiary. Danone SA reported 15 deals over the same period, including and attempted takeover by Groupe Lactalis SA, a privately owned French multinational and direct competitor as the largest dairy products group globally. Mergers and acquisitions are largely debt finance, e.g. a steep increase in debt by Danone in 2016 is linked to the acquisition of White Waves food for \$12.5 billion, which was completed in 2017. Direct acquisitions by Nestle SA included a majority stake in YFood Labs GmbH, a Munich-based manufacturer of perishable prepared foods for an estimated EUR 215 million, Seattle's Best Coffee, a Seattle-based full-service restaurant operator, from Starbucks Corp. for an undisclosed amount, and a majority stake in Ankerkraut GmbH, a Jesteburg-based full-service restaurant operator, from EMZ Partners SAS for an undisclosed amount. Further acquisitions have been made via its subsidiary Nestle Health Science SA, Nestle India Ltd, Nestle Purina Petcare Co, and Nestle Products Sdn Bhd (Malaysia).

These mergers and acquisitions have been supported and facilitated by well-known investment banks including among others: KAF Investment Bank Bhd (Malaysia), Banco BTG Pactual SA (Brazilian and one of the largest investment banks

in Latin America), BofA Securities (American and formerly Bank of America Merrill Lynch), Centerview Partners (American), Goldman Sachs & Co (American), Deloitte (British), PwC (British), Macquarie Group (British), KPMG (Dutch), Fineurop Soditic (Italian), Mediobanca (Italian), and Translink Corporate Finance (Swiss). The total merger and acquisition fees paid to investment banks by Nestle between January 2022 and June 2023 were estimated to amount to 24 million Euro. Another 70.5 million Euro were paid in fees for the issuing of bonds, amounting to a total of 94.5 million Euro earned by banks facilitating these activities just in fees; see Table 6.

Table 6. Deal summary between January 2022 and June 2023 (in USD millions)

	Imputed Fees			Proceeds Amount
	M&A	Bonds	Loans	Equity
Nestle SA	26.07	76.72		17,426.78
Danone	12.79	5.64		1,473.19
K+S	3.72		1.07	
Suedzucker	0.78	2.19		392.87

Source: Eikon Company Deals Reports

Mergers and acquisitions are a primary growth strategy of corporations in the food chain, either through acquisitions of and mergers with direct competitors, which furthers market concentration, or through acquisitions of smaller innovative companies. Major investment banks facilitating these mergers and acquisitions are extracting large sums for their services. These fees are not included in the calculation of disbursements to financial markets in Figure 12. Together with asset managers, investment banks are therefore the other main recipients of the profits extracted from food corporations.

4.

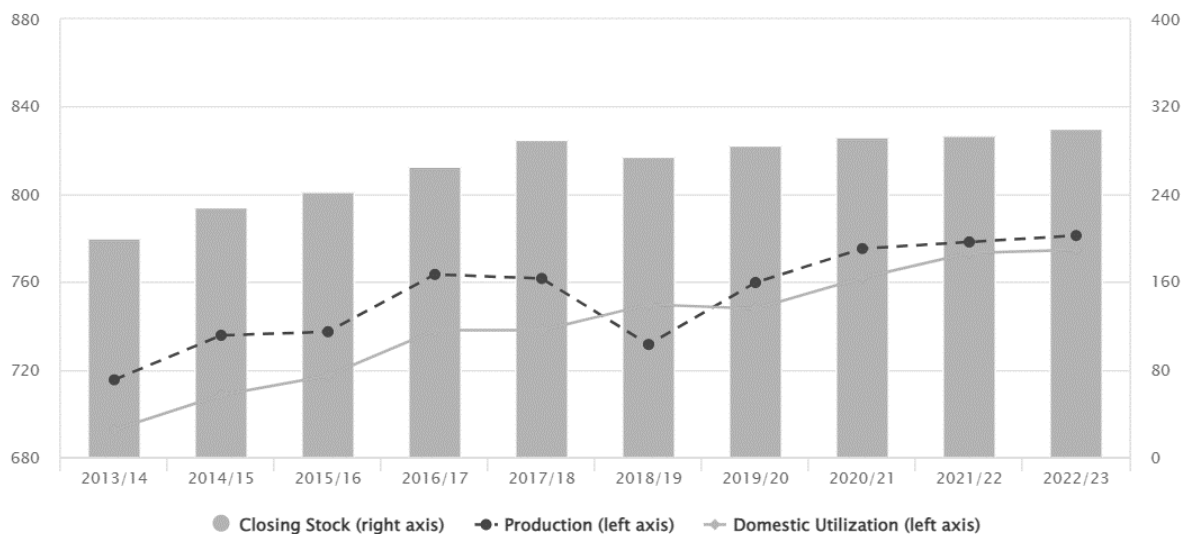
FINANCIALISED FOOD SYSTEMS: SPECULATION, CRISIS, AND PROFITS

This third part focuses on the markets where the prices of food commodities are being set and the actors within them. Commodity derivative markets act as a yardstick for prices set in contracts between the buyers and sellers of physical food commodities. The actors operating these markets and the mechanism of price setting in these markets are hence essential to understand past and current food crises. We first look at price developments in commodity derivative markets and compare price trends to physical demand and supply conditions to demonstrate that the current food crisis, as has been the case for past crises, is a price and not a supply crisis. We will then focus on the traders that are active in the Paris wheat market and provide a 'back on the envelope' calculation of potential profits generated by speculative 'financial' and 'non-financial' traders due to their activities in these markets and unpick who these traders are.

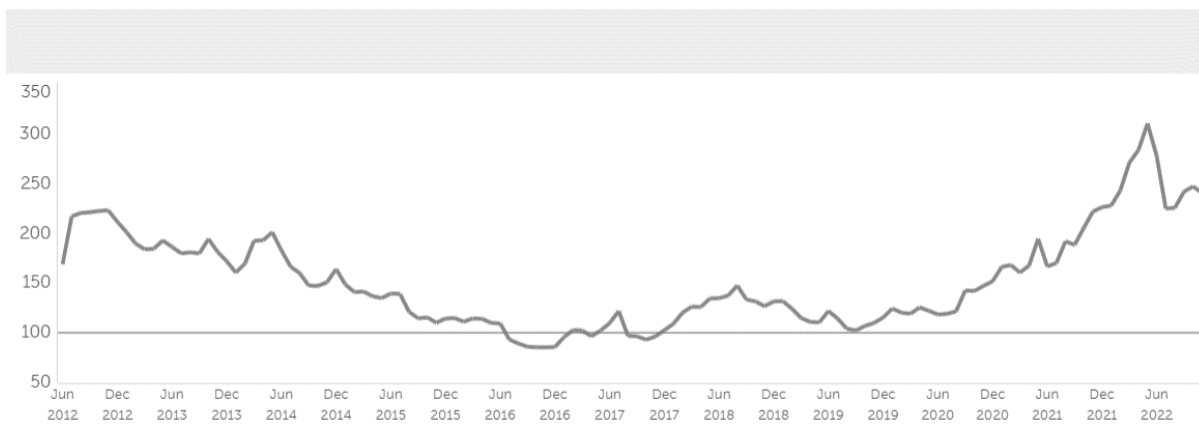
4.1 THE ROLE OF SPECULATION VERSUS FUNDAMENTALS

It is important to note that the current and past food crises are food price crises not food supply crises. The only year in which utilisation exceeded wheat production, meaning there was a depletion of storage positions, was 2018/19; a year in which global wheat prices declined; see Figure 15. The prominent argument of supply shortages driving the prices of wheat and other staple food crops is therefore largely unfounded. There is no shortage of food globally. This does not mean that there are no shortages locally, either due to supply disruptions or unaffordability of food.

Figure 15. Global wheat supply and demand (top, in Million tonnes) and prices (bottom, in USD).



Description: Wheat, No.1 Hard Red Winter, ordinary protein, Kansas City, US\$ per metric ton



Source: FOP/AMIS⁵² and IMF⁵³

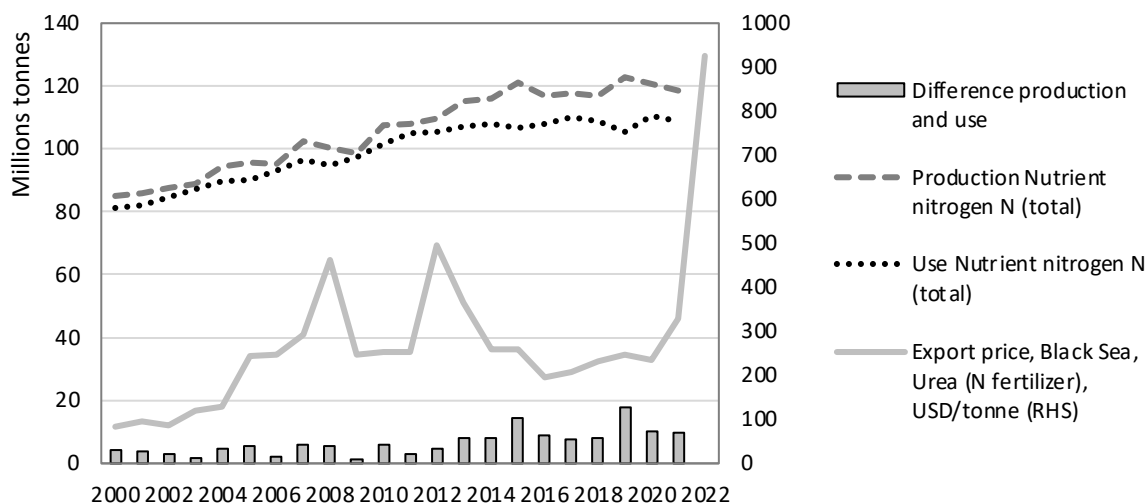
52 <https://app.amis-outlook.org/#/market-database/supply-and-demand-overview>

53 <https://data.imf.org/?sk=471DDDF8-D8A7-499A-81BA-5B332C01F8B9&slid=1547558078595>

While shortages are not to blame, rising input costs explain part of the price rise. As did energy and grain prices, fertilizer prices rose in response to the war in Ukraine, reflecting the impact of economic sanctions and disruptions in Black Sea trading routes. Russia accounts for about 16% of global urea exports and 12% of DAP and MAP exports, while Russia and Belarus together make up two-fifths of global MOP exports. Adding to supply concerns, China has suspended exports of fertilizers until at least June 2022 to ensure domestic availability.⁵⁴ Further, fertiliser consumption has increased in Brazil and the United States as these countries have allocated record acreage to soybean, which is a fertiliser-intensive crop. Fertiliser consumption in China has also gone up due to increased feed use as the country is rebuilding its hog herd population following the African swine fever outbreak.⁵⁵

However, whether the steep price increase in fertilisers is driven by actual supply shortages is questionable; see Figure 16. Although data for 2022 is not yet available, global production has exceeded use quantities consistently over the past decade, including 2021, which means that global fertiliser stock should be plenty. As fertiliser prices are driven by prices for natural gas, which is traded in commodity derivative markets, speculative sentiments will have contributed to the price rise in 2023, as was the case for grains.

Figure 16. World production, use and price of N fertiliser.



Source: FAO Stats (authors' calculations).

54 <https://blogs.worldbank.org/opendata/fertilizer-prices-expected-remain-higher-longer>

55 <https://blogs.worldbank.org/opendata/fertilizer-prices-expected-remain-higher-longer>

Natural gas accounts for 90 percent of the variable production cost of ammonia, a key component of fertilizer production. The contribution of speculation by energy traders to high gas and oil prices is well established.⁵⁶ It is important to note that the actors that are speculating in oil and gas markets substantially overlap with the actors speculating in food markets. These are not two separate phenomena but a single phenomenon, referred to as 'financialisation of commodity markets' in the literature. Speculation is likely to have been a major driver of both the prices of grains and the prices of fertilisers over the recent price spike.⁵⁷

4.2 WHO ARE THE SPECULATORS?

The 'financialisation of commodity markets' – a term coined by the 2009 UNCTAD trade and development report⁵⁸ – refers to the growing inflow of non-traditional investors into commodity derivative markets and the impact these have on prices in these markets.

Commodity derivative markets serve the purpose of risk management as well as price discovery. Due to the large number of participants and the ease of trading, they are widely seen as being efficient in the sense that they adequately reflect physical demand and supply conditions. Derivative markets, where they exist for a food commodity, are therefore taken as a reference price on which physical transactions are based. This means, that any speculative price effects impact the price received by farmers and faced by consumers. However, the efficiency claim only holds true if all, or at least most market participants, trade on the basis of information about physical demand and supply conditions – so called market fundamentals.

Commodity futures, a derivative class, are standardised contract over the future sale and purchase of a set quantity of a commodity. These standardised contracts are traded at the international commodity exchanges. They are routinely used by first-tier suppliers and processors to manage their price risk exposure as well as to speculate on their superior market information (due to their intimate knowledge of the commodity market, their deep networks, and the high market concentration with few big players). Farmers rarely use derivatives for risk management, but some branders and retailers do. Farmers are also offered insurance instruments by first-tier suppliers, which then hedge on the farmers' behalf at the exchanges.

Since the early 2000s, commodity derivative markets, including food commodities, have been de-regulated, enabling non-traditional investors to enter these markets.⁵⁹ Commodities have risen to prominence among financial investors as a hedge against inflation and are now traded like any other asset class by a broad spectrum of financial traders, including investment banks, hedge funds, pension funds, sovereign wealth funds and increasingly retail investors. With a surge in app-based trading platforms available to a broad public, retail investors have become a notable force in food markets. This trend has been amplified during the Covid-19 crisis, with many people out of work and stuck at home searching for new avenues to generate income. Pension funds and the likes, so called institutional investors, have been active in commodity derivative markets since the early 2000s.

Institutional investors tend to be passive investors who invest in food derivative markets to replicate a broad-based index for portfolio diversification purposes. They also invest in a large portfolio of companies to replicate indices (usually equity-based). These investors do not take a view on the market and are therefore regraded as passive; they do not react to market fundamentals. Pension funds and many sovereign wealth funds fall into this category. Hedge funds, investment banks and retail investors tend to be more active investors who take a view on the market. They use both information about demand and supply conditions, so called market fundamentals, as well as statistical pattern analysis to gauge the market.

The heterogeneity in trader types and investment strategies applied is a direct violation of the assumptions underpinning the efficient market hypothesis, which claim that information about all market fundamentals is fully and immediately reflected in the derivative price.⁶⁰ This claim is invalid as soon as a substantial share of traders do not consult any market fundamentals to invest in commodities (e.g., institutional investors). Even if active traders take market fundamentals into consideration, the analysis of market fundamentals can be shallow and especially in times of high uncertainty, as in periods of general crisis (e.g., pandemic, war), rising prices can turn into a self-fulfilling prophecy for a prolonged period, without any backing from market fundamentals.

56 <https://www.theguardian.com/environment/2022/apr/28/gas-prices-why-are-they-so-high-traders>

57 <https://www.lighthousereports.com/investigation/the-hunger-profiteers/>

58 UNCTAD (2009). Trade and Development Report. https://unctad.org/system/files/official-document/tdr2009_en.pdf

59 See section 3 of the EESC opinion NAT/873 "Food price crisis in the aftermath of the Ukraine war" for a detailed account of the role of speculation in food prices. <https://memportal.eesc.europa.eu/Handlers/ViewDoc.ashx?pdf=true&doc=EESC-2022-03878-00-00-AC-TRA-EN.docx>

60 See Sophie van Huellen. (2017). How financial investment distorts food prices: evidence from U.S. grain markets. *Agricultural Economics*, 49(2), 171-181. <https://doi.org/10.1111/agec.12406> and Sophie van Huellen. (2019). Price discovery in commodity futures and cash markets with heterogeneous agents. *Journal of International Money and Finance*, 95, 1-13. <https://doi.org/10.1016/j.jimonfin.2019.03.003>

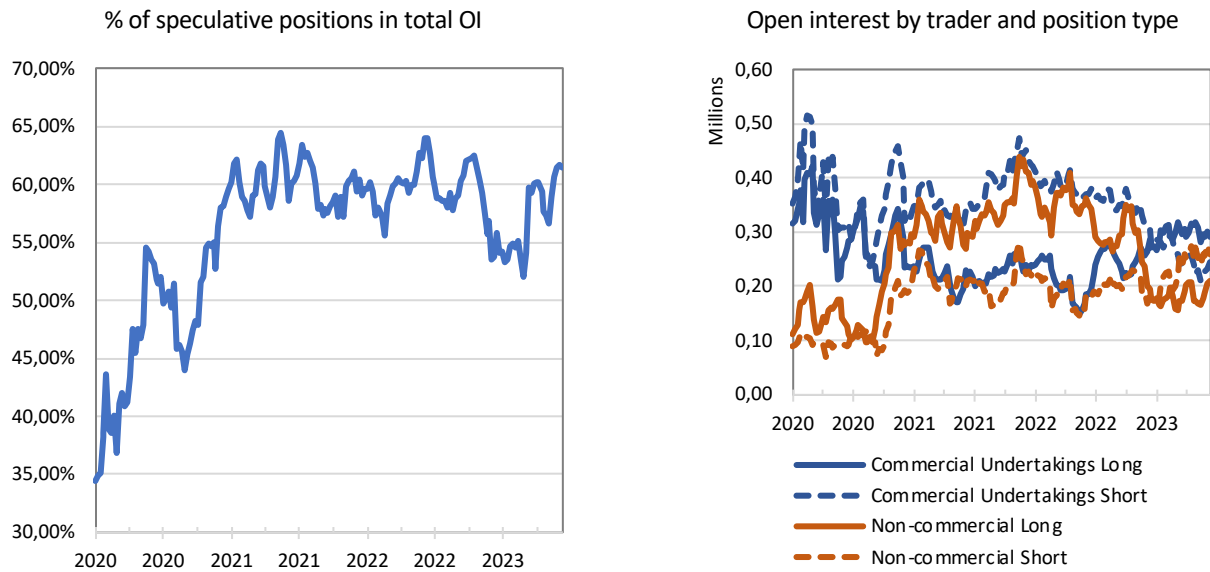
Speculators can therefore have a prolonged price impact. This price impact is immediately reflected in prices for physical foodstuff as the trade in physical commodities tends to be referenced against the derivative price. While speculators who position themselves on the “right side” of the market tend to win large amounts of money from their bets, it is first-tier suppliers who are the biggest beneficiaries of the speculative price surge as they are gaining on both their speculative positions and on their storage positions.

We will take Paris (Milling Wheat No. 2) as the basis for our analysis. Idle capital during the Covid-19 pandemic and uncertainty about future wheat supply due to the outbreak of the war in Ukraine has triggered an inflow of highly speculative capital. The Paris wheat market is included in two large commodity indices: the Rogers International Commodity Index® (RICI) and S&P World Commodity Index™. Paris wheat serves as a global benchmark for the pricing of European milling wheat from Spain to the Black Sea. The milling wheat contract is also used as a proxy for barley, ethanol and other cereals.⁶¹

The share of purely speculative positions (no hedging of commercial activities whether these are related to trading of physical commodities or trading of financial instruments and resulting exposure to price swings) in the Paris wheat market have increase from 30% to more than 60% since the beginning of 2020; see Figure 17 (left). These positions have been predominantly long, meaning speculators have been betting on rising prices adding further buying pressure to already increasing prices; see Figure 17 (right). In January 2021, speculative positions amounted to 36 million Euro. In January 2022, this had increased to 58 million Euros and further increased to just above 1 billion Euro in March 2022. However, it is worth noting that since derivative trading is highly leveraged, these sums were never committed in full. Traders deposit only a fraction of the value of the contract they are investing in in a so-called margin account. The deposit is held as a security and money is deducted or added depending on the changes in the value of the contract and the position that the trader took (selling or buying).

⁶¹ <https://www.euronext.com/en/for-investors/commodities/milling-wheat>

Figure 17. Speculative Positions in the Paris Wheat Market

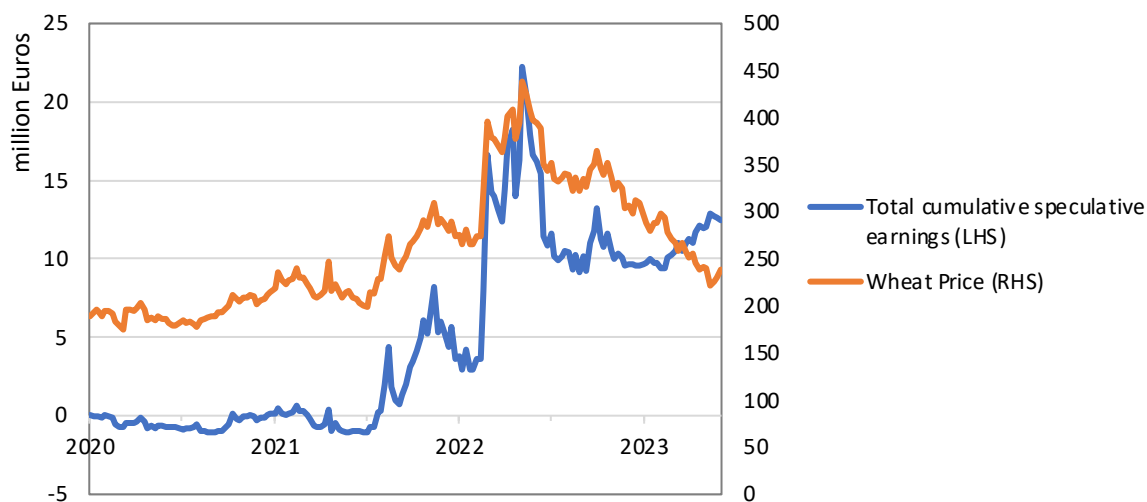


Note: Open interest is the number of contracts traded at any point in time.

Source: EURONEX Derivatives Weekly Position Reporting (various reports, authors' calculations).

Although it is difficult to identify the exact earnings made by speculative traders, we can produce a rough estimate based on the open interest data provided by the exchange. Available position data is published in weekly frequency. If we assume that open interest in one week has not changed ownership (was held from one week to the next), discarding any positions in excess of the previous week, we can calculate the hypothetical capital gains of each of these positions. Figure 18 plots the cumulative speculative earnings since the beginning of 2020 for speculative positions only. Cumulative earnings between January 2020 and May 2022 (the price peak) amounted to 22 million Euros. With the collapse of wheat prices afterwards, cumulative speculative earnings declined to just below 10 million Euros in January 2023 before climbing to 12.5 million Euros again as speculators adjusted their positions and started betting on falling prices.

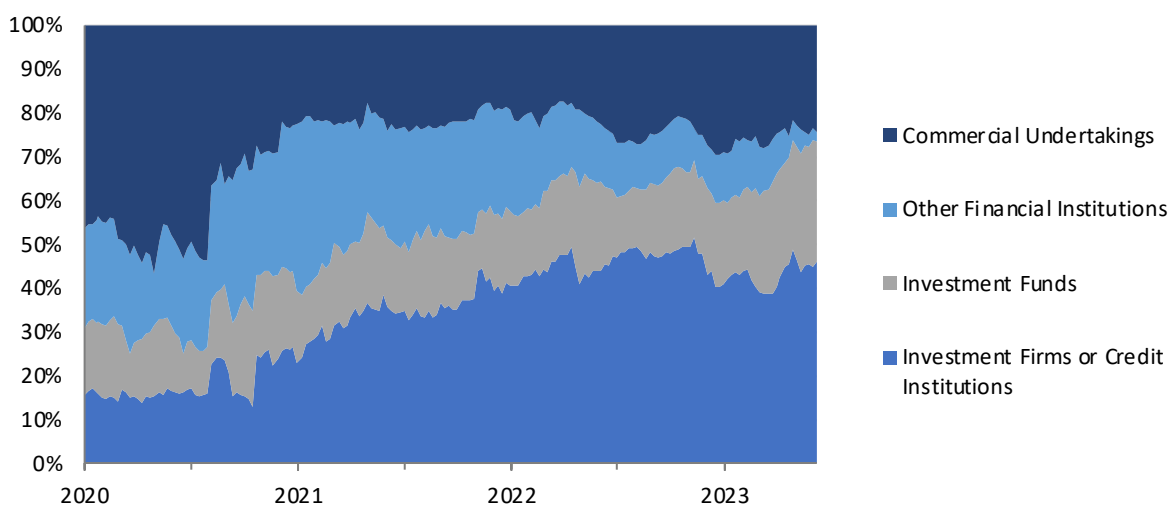
Figure 18. Cumulative speculative earnings January 2020 to June 2023 on speculative positions and the derivative prices on the Paris wheat market.



Source: Datastream and EURONEX Derivatives Weekly Position Reporting (authors' calculations)

The main holders of these speculative positions and therefore the main beneficiaries of the price rise were asset managers, hedge funds and investment banks. Figure 19 details the composition of speculative positions in the Paris Wheat market, using the categories as defined in MiFID II Commodity Positions Reporting. Commercial undertakings includes commodity traders, processors, food producers, and branders. Other financial institutions includes institutional investors such as pension funds and insurance companies. Investment funds are hedge funds and mutual funds, while investment firms and credit institutions are those that offer investment services to others and trade on their own behalf. This category includes investment and commercial banks as well as asset managers and investment advisors.

Figure 19. Composition of Speculative traders in Paris Wheat.



Source: EURONEX Derivatives Weekly Position Reporting (authors' calculations)

From mid-2020, the presence of institutional investors as well as investment banks and asset managers grew substantially. Over the duration of the steep price rise and up to the peak in March 2022, investment banks and asset managers had become a dominant presence in the Paris wheat market, reaping the majority of the benefits associated with the gains plotted in Figure 18. The early price rise was supported by an inflow of institutional investors, which withdrew positions at the time of the price collapse. These are passive long-only traders and would have started to lose money at the time of falling prices. More active traders such as hedge funds and mutual funds stepped in which started betting on falling prices, making substantial gains with this strategy in early 2023 and contributing to an increase in cumulative earnings by speculators.

The same financial entities that extract the large profits generated by corporations in the food chain at the time of crisis through dividend payments, share buy-backs (capital gains), and interest and financial service fee payments, have also benefitted from first betting on rising and then falling prices on food derivative markets, such as the Paris wheat market. In doing so, they are not passive beneficiaries but active drivers of price bubbles and their collapse.

5.

TOWARDS A JUST FOOD TRANSITION

Taking four European food corporations as case studies, the previous analysis has shown that segments of our food system are highly concentrated and highly financialised which enables corporations that are located at these segments to create and extract large rents. Episodes of crisis and uncertainty lend themselves to rent creation and extraction more than periods of calm, giving the impression of a dysfunctional food system only in times of crisis. However, the mechanisms of rent creation and extraction operate throughout crisis and non-crisis periods.

Large profit opportunities have arisen for dominant corporations due to a price boom for grains and natural gas/fertiliser, which was driven to a large extent by speculation in commodity derivative markets in a time of uncertainty. In the Paris wheat market alone, which serves as a benchmark for European milling wheat from Spain to the Black Sea, purely speculative positions increased from 30% to more than 60% since the beginning of 2020. These positions have been predominantly long, meaning speculators have been betting on rising prices adding further buying pressure to already increasing prices.

The widely announced boom in reference prices for grain and fertiliser have led to large corporations increasing their sales prices by the same percentage increases by which their costs have risen due to higher reference prices. Revenues have hence increased in lockstep with costs, resulting in an equally large increase – in percentage terms – in profits for these corporations. This strategy has been made possible by high market concentration and a tacit agreement between corporations operating at the same segment to adopt the same strategy.

In addition to matching the percentage increase in costs, some corporations have also engaged in speculation, betting on rising prices either at commodity derivative markets or by outright holding unhedged inventory positions. Strategic hedging

is a risky strategy and while there is evidence that it has generated extra profits for most corporations in our sample (Nestle SA, Danone SA and Suedzucker AG), it has also generated losses for some (K+S Group).

For listed corporations, these profits are extracted into financial markets via dividend payments and share buybacks. For listed as well as non-listed corporations, some of these profits are also extracted through interest payments, and fees for financial services. Major shareholders benefitting from dividend payouts are large asset managers and hedge funds, and increasingly also institutional investors such as sovereign wealth funds, insurance companies and pension fund. Corporate and investment banks further benefit not only as shareholders but also as provider of financial services including the facilitation and financing of mergers and acquisitions and the underwriting and bookkeeping of corporate bonds.

The financial chain segments that are intertwined with the food chain are equally concentrated, leading to a situation of horizontal ownership and disincentives for competition between corporations located at the same segment or within the same food chain. The three largest asset management firms (all with headquarter in the US) – BlackRock, Vanguard Group, and Fidelity Investments – are present among the top 10 shareholders of almost all listed food-based corporations. Increasingly, sovereign wealth funds fill a similar position, with the Norwegian Norges Bank Investment Management being among the top 10 shareholders of the four corporations taken as case studies in this report.

The food system on which we rely is geared towards the generation and extraction of rents to be channelled into financial market. Food corporations are increasingly acting as both financial and non-financial corporations with speculation (financial or physical) being part of their corporate strategy. At the same time, food prices in times

of uncertainty are driven by financial speculation, which benefits the same financial actors extracting rents from food corporations. Speculative bubbles and the price volatility in turn provides some corporations with an opportunity to generate more rents by justifying sale price increases with rising costs, leading to what has been called “sellers’ inflation”. As a result, consumers across Europe are increasingly struggling to afford good quality and nutritious food and workers (including agricultural workers and employees of food corporations) see their purchasing power squeezed through sustained high levels of inflation.

The last months have witnessed a surge in research aimed at revealing who has been profiting from the rapid increase in gas and energy prices that have been negatively affecting millions of people across the EU. Policy responses have followed too. Proposals for windfall taxes on the extra profits of companies operating in the crude oil, gas and energy sector have been tabled in several Member States, like Italy⁶² and the Netherlands, with the Spanish Parliament going even further and imposing a windfall taxation on both financial actors and energy firms that generated extra profits vis-a-vis previous fiscal years,⁶³ and the French House of Representatives voting in favour of a windfall tax on all extra profits across economic and financial sectors.⁶⁴

At the EU level, the political agreement reached in September around the ‘solidarity levy’ for the fossil fuel sector represented the precursor of the national interventions, and demonstrated the existence of a cross-EU understanding of the need for a *una tantum* measure against extra profits of businesses active in the crude petroleum, natural gas, coal, and refinery sectors with the aim to provide financial support to households and companies and to mitigate the effects of high retail electricity prices.⁶⁵ More recently, the EU-wide agreement on the imposition of a “gas price cap” by targeting the Title Transfer Facility (TTF) signifies - although with its limits and high price references - that Member States have recognised the need to go beyond the rhetoric of ‘market fundamentals’ and to use public prerogatives to address speculative operations and the way in which access to energy as an essential service is subordinated to financial interests and operations. Yet, solutions are still characterized by an emergency approach rather than by a structural engagement with the root

causes of impoverishment and dependence on fossil fuels. The urgency behind addressing the intensification of urban and rural poverty should not divert attention from the long-term goal of a fair and resilient economy (including a food system) that is avoid volatility, fragility and inequality rather than looking for ex-post solutions.

Surprisingly, the discourse that someone is profiting from the crisis while most people are losing is not yet as developed with regards to food as it is in the energy sector. Very few actors have proposed a windfall taxation on extra profit, and there is no clear identification of where these interventions should take place. In June, for example, Oxfam launched a campaign for a global windfall tax on pharma, food and energy corporations, so that these funds could be used to purchase and distribute food to the most in need around the world.⁶⁶ More recently, calls for a windfall tax have also been raised by three researchers of the TMG Sustainability think tank,⁶⁷ who identify in the imposition of an emergency levy on key global food actors a first step towards a redefinition of the premises and purposes of the global food system, and by the former UN Special Rapporteur on the Right to Food, Olivier De Schutter.⁶⁸

The recent opinion by the European Economic and Social Committee (EESC) goes along the same lines of the TMG researchers and is a welcome exception in the institutional framework.⁶⁹ Because of the role of the Committee, the opinion operates at a ‘meta’ level that introduces the main points and issues, and certainly would require further elaboration in terms of both data gathering and policy recommendations. However, the opinion makes it clear that a just future for the EU food system is not only a matter of emergency measures against contingent profiteering, but rather passes through a systemic rethinking that starts from the short-term profits of whoever benefitted from the last months of turmoil, but then addresses the regulatory, economic and cultural causes that lie at the roots of the problem of unequal distribution of value and unsustainable practices.

The EESC’s opinion provides a valuable starting point to reflect on the fact that food poverty must not be read as contingent nor in isolation from ‘food wealth’. For the EESC, high prices are a matter of finance, concentration, corporate conduct

62 <https://www.reuters.com/business/energy/italy-applies-50-windfall-tax-energy-companies-extra-income-draft-shows-2022-11-28/>

63 <https://www.euractiv.com/section/energy-environment/news/spain-announces-windfall-tax-on-energy-finance-firms-to-ease-inflation-pinch/>

64 <https://www.rfi.fr/en/france/20221014-french-mps-approve-special-windfall-tax-on-super-profits>

65 <https://www.consilium.europa.eu/en/press/press-releases/2022/09/30/council-agrees-on-emergency-measures-to-reduce-energy-prices/>

66 <https://www.theguardian.com/world/2022/jun/27/windfall-tax-on-covid-profits-could-ease-catastrophic-food-crisis-says-oxfam>

67 <https://www.devex.com/news/opinion-our-food-system-needs-crisis-proofing-start-with-windfall-tax-103911>

68 <https://www.theguardian.com/environment/2022/aug/23/record-profits-grain-firms-food-crisis-calls-windfall-tax>

69 <https://www.eesc.europa.eu/en/our-work/opinions-information-reports/opinions/food-price-crisis-role-speculation-and-concrete-proposals-action-aftermath-ukraine-war>

and the transformation of the food system away from a provider of food and nutrition into a provider of financial return. Therefore, if the European Union is interested in tackling the low, it should thus have as a priority that of *“Addressing the financialisation of the food sector as massive money-making off the backs of people, eg by introducing windfall taxation on excess profits before dividends of corporations and a food speculation tax to curb high frequency trading and breaking oligopolies at all levels of the chain and financial interests.”*

In order to find policy solutions that give continuity to the opinion of the EESC and the analyses that have been provided by academic and non-academic actors in the last decades, it is therefore of primary importance to start by identifying the actors and sectors that have been profiting at the time of high food inflation and to complement this analysis with a reflection on those actors and sectors (often the same) who profit from the structural fragility of the EU food system and from a concentrated structure that facilitates the extraction of rent over consumers and workers (and often nature). The moment that the focus is shifted towards who profits from the existing fragilities, creating fairer food systems stops being exclusively a matter of support to food purchase and distribution of surplus. Rather, it becomes a question of redressing existing inequalities and redistributing the way in which value is allocated, including when it comes to producers and workers.

With this broader focus in mind, it becomes easier to identify regulatory and legislative points of intervention (either leverages or obstacles to the just food transition) and conceive a long-term strategy that is not only focussed on the immediacy of the problem (e.g. ex-post redistribution of extra profits or provision of emergency food aid and food vouchers) but lays the foundations for a socially and environmentally just transition of the EU food system. At the same time, it appears inevitable to require EU regulators to go beyond the current approach to Sustainable Food System, as exemplified by the scope of the Framework Law on Sustainable Food Systems (FSFS). The legislative intervention, which implements the content of the EU Green Deal and the EU Farm to Fork Strategy, will most likely contain no concrete measure to address the structural problems of the EU food system, with the risk of intensifying existing injustices. This does not mean that social and environmental standards, stringent sustainability requirements for public procurement of food and the introduction of clear requirements in terms of labelling cannot achieve a change in the practices of the food system, but they can clearly coexist with an increase in the gap between workers and shareholders, a concentrated food system, the horizontal own-

ership of asset managers and investment funds, speculation on food commodities, etc. For a long-term just transition, the following points should be taken into consideration:

- A) Breaking up existing oligopolies and reform EU competition law in order to reduce the possibilities of successful mergers and acquisitions in the context of food systems, including by recognizing regional market concentration and the abuse of power in the absence of dominant position;
- B) Address horizontal ownership across the food system by means of conducting a thorough investigation of financial actors' ownership in competing and vertically integrated firms across the EU food system;⁷⁰
- C) Facilitate horizontal cooperation for Small Enterprises along the value chain in order to better define the allocation of risk, costs and revenues. Assure that the application of the Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements promoted the redistribution of market shares rather than further concentration.
- D) Address Asset Management's ownership of land across European Union by means of fiscal measures or ownership restrictions like already done by the government of Saskatchewan in Canada with regards to purchases by Pension Funds.⁷¹
- E) Review the current provisions of the Unfair Trading Practices Directive in order to consider as a 'black' trading practice that of not providing farmers with a living income and workers with a living wage, along with selling below cost of production;
- F) Ban investments of public funds in food commodities, food indexes and food corporations;
- G) Adopt a EU-wide fiscal plan to increase taxation over capital gain in the food sector;
- H) Increase the scrutiny vis-à-vis European

70 <https://www.cambridge.org/core/books/abs/global-food-value-chains-and-competition-law/financialization-of-land-and-agriculture/38645C2C563743D46797DDE3090A1B33>

71 <https://www.reuters.com/article/us-saskatchewan-farmland-cppib-idUSKBN0N429320150413>

commercial actors providing loans and debt capital to food corporations involved in socially and environmentally unsustainable practices. Potentially with specific guidelines in the CSDDD.

- I) Transform EU public procurement in a tool to support food chains with high standards of workers, low income gap between workers and managers, and high environmental standards;
- J) Scale up and improve EU-wide food programs (i.e. Children Guarantee, School Program, EFAD) in order to introduce high social and environmental standards of production, and to guarantee the highest nutritional quality of the food provided;
- K) Make sure that the future CAP is structured around principles of progressivity and social justice along with environmental sustainability;
- L) Harmonize EU food law and policy by means of adopting the right to food and nutrition as the common minimum denominator. The right to food and nutrition is intended as the right of all people to sustainable eating (i.e. adequate, healthy, nutritional, accessible and constant) and sustainable producing (i.e. respect of human rights of all people involved in the production, transformation, transportation and disposal of food, but also sustainable, environmental practices), in the context of public policies that support households and individual income and address inequality within society.
- M) Recognize that EU and Member States Human Rights' obligations do not end at the border, but also concern the practices of EU private actors operating abroad and the extraterritorial impact of public and private measures adopted within the EU.
- N) Streamlining socio-environmental sustainability by financially supporting the transition, establishing progressive forms of support that recognize the uneven burden of the transition, and considering the possibility that polluters are required to pay (along the lines of the ongoing conversation on the Industrial Emission Directive and the expansion of the scope vis-à-vis the food system);
- O) Enacting a mechanism for the Just Transition of the food system that finances the phasing out of environmentally unsustainable production and the conversion into organic and agroecological production (along the lines of the Just Transition Mechanism for fossil fuel industry);
- P) Rethinking the distribution of the European Agricultural Guarantee FUND (EAGF) in order to be progressive, redistributive and oriented towards the transition towards regenerative practices. This means to lower the threshold to access the funds, to make sure that resources are more evenly distributed across categories and countries, and that greening measures are leading to a transition away from unsustainable practices rather than just prolonging them by means of 'offsetting' and 'setting aside for compensation';
- Q) Support access to land of agro-ecological farmers, including by discontinuing projects that are increasing the pressure over land and their financial value (e.g. carbon farming projects);
- R) Working on the intra-EU logistic for food, and in particular on local and regional logistic for short supply chains;
- S) Increasing the percentage of research and innovation funds going to agroecology, regenerative agricultural practices and the support to short (geographically and in terms of intermediaries) supply chains;
- T) Facilitating the participation of small organizations and civil society organizations in EU funded research and innovation projects by addressing issues concerning sub-contracting, disbursement and reporting.

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