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Food systems transformation: Corporations and concentration in the Norwegian food system

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Abbreviations

NFS – Norwegian food system

GFS – Global food system

TNC – Transnational corporation

GDP – Gross domestic product

PBL – Private-brand labels

1 Introduction

1.1 Introduction, problem formulation and research question

All over the globe, concerns about the state of our global food system are rising. Not only are climate change, biodiversity loss and other forms of environmental degradation threatening the very balance of the biophysical state upon which human food production depends - at the same time food production itself is a big driver of the very same environmental degradation (Willet et al., 2019). Also, the past years' globally experienced crises: the Covid-pandemic and the Russian war on Ukraine, have stirred further concerns about how the global food system in its economically integrated, trade-driven form is fragile in the face of crisis (Clapp, 2023). Food insecurity and hunger levels have again increased due to price spikes as a result of global food system crises (Clapp, 2023), and malnutrition levels, including undernutrition, obesity, overweight and micro-nutrient deficiency are also increasing (Global Nutrition Report, 2022).

Additionally in Norway, a new national concern has emerged as the food price index have increased faster than usual in the past year (Kalle, 2022) and low-income households are expected to experience certain degrees of food insecurity. A related discussion, sparked by the pandemic and the war on European ground, revolves around Norway's food import-dependency. A growing number of stakeholders argue that the self-sufficiency level needs to increase, both for national security and for reasons of creating space for low-income countries to strengthen their domestic food sector without the pressure that wealthier nations put on the global food economy. Parallel, farmers in Norway are well below the national average according to salary statistics and are often dependent upon government financial support to stay in production.

These contemporary concerns reconcile over a common imperative: transformation of the food system is called upon, both on global and national level. Furthermore, the need for global transformation, particularly salient in food systems, creates an equalization inter-

nationally where there previously have been a division of developed and developing nations. As it appears, all nations are now in need of ‘development’ – or more specifically: transformation. However, whether transformation should follow the same trajectory as the past century towards further industrialization, or create new pathways, is under debate. Some proposes that continued economic growth and industrialization under banners like ‘sustainable intensification’ and ‘green growth’ can induce sufficient changes within the existing societal structures. Transformation narratives in food systems are however mainly focused to find new pathways because they argue the current food system have failed in a variety of ways (Béné et al., 2019).

Amidst these debates and calls for transformation, food corporations have grown for the past century to become the most powerful stakeholder category within food systems, where they occupy the bulk of the space between production and consumption (Clapp, 2021a). This sparks concern related to unhealthy market power such as limiting competition, controlling prices and by locking in consumers and producers in their choices.

The growing presence and concentration of corporations also raises questions around their role in times where change is sought. On the one hand some argue corporations and the private sector in general can enable fast change, benefitting from economies of scale and the efficiency of market allocations. Others propose that corporations and processes towards concentration impedes and even blocks change because the firms’ own economic interests are prioritized over, and at the expense of both producers and consumers.

With the background provided above, I will try to reveal and untangle the nature of corporations and the concentration of them in the NFS to see how they can act enabling or limiting for transformation. The research question guiding my thesis therefore is: what is the role of food corporations and corporate concentration in Norway under the imperative of transformation of food systems?

1.2 Structure of the thesis

In the first part of the thesis, I define key concepts that are used throughout the thesis. Thereafter I present the conceptual framework based upon on Béné et al., where a theoretical division is established between four narratives on how and where food systems are failing, and consequently what needs to be transformed (2019). This division is used mainly as a tool to structure my discussion and to bring forth how the food corporations and current

concentration may be perceived to have different roles and different implications depending on what is emphasized as ‘failing’ within the food system.

Following this conceptual introduction, I establish key characteristics of the NFS, particularly highlighting the presence of corporations in the value chain, and concentration within it and in other aspects of the NFS. The following part comprise a discussion on the presented presence of food corporations and their concentration by using the framework of the above four food system failures. The last part of the discussion investigates the food corporations’ relationship with the Norwegian consumer and how it is shaped through the retail sector and what this implies for consumer-led transformation, and finally discusses implications of corporate concentration across national borders.

2 Conceptual framework

2.1 Key concepts

2.1.1 Food value chain and food systems

Generally, a value chain refers to all steps from production to consumption which comprise a value adding activity (commonly measured as the contribution to a nation’s GDP). According to Kaplinksy & Morris (2001, p.4):

“The value chain describes the full range of activities which are required to bring a product or service from conception, through the different phases of production (involving a combination of physical transformation and the input of various producer services), delivery to final consumers, and final disposal after use.”

In the food value chain this translates into all steps from planting, farming and fishing - including the production of inputs needed for these activities, over to processing, packaging, distribution, all the way to the sale, and finally the disposal of the food.

Food systems is a broader concept which include the food value chain, but also includes the more complex interactions of food embedded in larger social and environmental contexts. According to HLPE: “food system gathers all the elements (environment, people, inputs, processes, infrastructures, institutions, etc.) and activities that relate to the production, processing, distribution, preparation and consumption of food, and the outputs of these activities, including socio-economic and environmental outcomes.” (2014, p.12). This means,

when addressing issues regarding food systems, one reaches into other spheres of human lives in addition to the physical production and its economic aspects. The cultural norms, traditions and institutions which governs the interactions humans have with food all play a part in the food the system.

Additionally, a food system can refer to these activities on various scales - from local to global level. These levels are often blurred and overlapping and therefore delimitations is mainly for facilitating theoretical common-space for understanding, planning and implementation of food systems change. The thesis aims to focus on transformation of the NFS, but the distinction with the GFS is vague. This is especially due to that: 1) the Norwegian (and many other nations') food value chain has become deeply integrated into the global food value chain over the past decades and, 2) calls for transformation towards more sustainable food systems often are aimed towards the international community and assume a certain degree of global cooperation (e.g., UN's Sustainable Development Goals including goal 2: Zero hunger).

2.1.2 Corporate concentration

Corporate concentration refers to the process where commercial firms in a specific market tend to grow bigger and bigger, while the actual numbers of viable firms are reduced. This happens through so-called merges and acquisitions (Clapp, 2021b) where competing firms are bought and integrated into another, often bigger and economically stronger firm. These processes, which leads to deepened concentration, are often divided into vertical and horizontal integration.

Horizontal integration in value chains refers to the process where companies buy other companies which operate at the same level in the value chain: e.g., a food retail company that buys a smaller competitor. Vertical integration refers to when a firm that initially operates at one level in the value chain expand their operations into other steps: e.g., a retail company that initially only sells groceries create their own brand and establish direct connection to suppliers and producers.

The processes behind corporate concentration are differently understood depending on ideological vantage point. Marxist political economists would claim that the process of concentration is inherent to capitalism because of profit-maximizing firms' dependence on capital accumulation (Robbins et al., 2014). The search for capital accumulation causes large-scale cyclical crises within the system that has large socioecological negative effects

(Robbins et al., 2014). On small scale, the crises can manifest as the survival and success of some businesses within a particular market, at the expense of other actors who will not survive the competition. Resultingly, strong actors will overtime grow relatively stronger and bigger. Power and capital will followingly, also in the food value chain, become concentrated into fewer hands (ETC Group, 2022). The process, where weaker actors within a market overtime disappears, is according to certain schools of economists perceived as a necessity for innovation and is sometimes referred to as (Schumpeter's) 'creative destruction' (CORE Team, 2017). From this perspective, the threat of running out of business drives motivation to become "better" - or to create new markets which incentivizes innovation.

Concerns about corporate concentration in the GFS are within academia often targeted towards the huge TNCs involved in agribusiness, especially the seed- and chemical input (fertilizers, pesticides) conglomerates (see e.g., Clapp, 2021b; IPES-Food, 2023; ETC Group, 2022). The TNCs' activities are supported by a narrative that highlights the need for increasing yields (and food production in general) to be able to feed the current and future population. Even though global food production on aggregate is sufficient to feed current population (Béné et al., 2019), the idea that food production needs to increase has remained circulating and lately resurged due to uncertainty about future yields due to climate change (Ingram, 2011).

2.2 Conceptual framework

2.2.1 Transformation

First, there is a need to establish what transformation means in the context of food systems. Different understandings of what needs to be transformed, by whom, for whom and how, will lead to different conclusions and therefor different actions (Scoones et al., 2020). Like 'sustainability', 'transformation' is a highly malleable concept (Feola, 2014 as cited in Scoones et al., 2020) and can therefore easily be coopted and used in an unintentionally (or purposely) confusing manner.

However, most people agree that the current global food system is generating uneven and unsatisfactory outcomes - and are by many seen as failing. Although consistent with the above-mentioned malleability, *how* the food system fails and *where* to transform it is emphasized and perceived differently between stakeholders – which can be seen in public debates and in media, but also in the academic literature and in research reports.

2.2.2 Narratives about food system failures

The understanding of corporations' role in food system transformation will depend on the above-mentioned variations of perception. To categorize these variations, I will here present four main narratives on where food systems fail. These narratives were identified by Béné et al., 2019 as a discourse analysis on literature related to food systems transformation.

The first narrative revolves around increasing food production and closing the yield-gap. This narrative aligns with a long-lived concern on how food production may not suffice for a growing global population and can be traced back and connected to Malthusian and neo-Malthusian ideas. The authors explain however that the current manifestation of this narrative focuses on the growing population on the one hand (expecting a global population at 10-11 billion people later in the 21st century), but also emphasize that food demand globally is changing and will be further changed as more people experience increasing living standards, simultaneously as effects from climate change are expected to negatively impact global output levels (Béné et al., 2019).

The second narrative agree that there is a food imbalance globally, but rather in quality than quantity. Since the food production levels currently are sufficient based on calories, the problem is rather framed as a global nutrient-gap. The focus has previously been reserved for the nutritional status in especially the global South but has recently included another aspect – one about the increasing levels of obesity, overweight and noncommunicable diseases caused by poor diets worldwide (Béné et al., 2019).

The third narrative highlights the adverse effect the global food system has on the environment. From this perspective the priority for transformation must be to create new (or old) ways of producing food that does not destroy the balance of our ecosystems, which currently occurs for example through freshwater depletion, agrochemical runoff, biodiversity loss and soil degradation.

The fourth and final narrative emphasize that the paradoxical aspect of the global food system is that it produces enough food to feed everyone, but that it fails in doing so because of a distributional problem. The lack of access to food can be both physical and economic (Ingram, 2011). From this perspective the inequality and the inequity within the food system are seen as a failure and understood as inherent to the way the current global food system is organized (Béné et al., 2019).

These four narratives of what needs to be transformed can be found in the Norwegian debate as well. However, the debate in Norway often revolves around what can be done and what needs to change elsewhere, as many of the food system failures have stronger impacts on a global level than on the national level. This thesis however assumes a connection between the state of the GFS, the failure(s) of it and the state of the NFS – especially through global food trade - to highlight that transformation on a global level also need to be initiated in the global North, and not only in the global South.

3 The Norwegian food system

3.1 Introductory characteristics

3.1.1 Food security, trade and self-sufficiency

As most high-income countries, Norway has benefitted from a long period of stable and increasing flows of food from trade. The food security level has remained high for the past decades. As of 2020, the World Bank estimate that about 4.3 % of the population experience moderate or severe food insecurity, while the number is around 1 % if only looking at severe food insecurity (n.d.a).

The Norwegian food system is characterized by a rising trade surplus in the value of food products. That is, the value of export is larger than the value of import. The export is mainly in the form of sea- and coast-based food products as the fishery- and aquaculture sector have grown rapidly for the past ten years due to beneficial conditions in the global market. Import on the other side mainly comprises agricultural products. The total export in food is valued at 117 billion NOK, the import at around 73 billion NOK and with the difference resulting in a surplus of 44 billion NOK (numbers from 2019) (Pettersen & Kårstad, 2021).

Although the huge export sums and numbers from trade may be confusing and suggest otherwise, Norway is largely dependent on food imports for domestic consumption. The self-sufficiency levels are between 40 and 50 % when measured by calories instead of in monetary terms (Pettersen & Kårstad, 2021), and 5-8 percentage points lower when adjusted for the use of imported fodder in fish-, poultry- and livestock production (Svennerud, 2021). The high output levels in these three food categories are highly dependent on imports of especially soy as fodder – a practice which has been widely criticized due to its connection

with land use change and deforestation in mainly South America (see e.g. Bakken Riise, 2021).

However, adjusted for fodder import or not, the Norwegian self-sufficiency level is one of the lowest in the world. The low self-sufficiency coupled with the fact that the Norwegian emergency stocks of grain were shut down in 2003 (Magnus et al., 2022) and with the current volatility of the global food economy, has sparked growing public concerns about the domestic food security. These concerns appear to be shared by the current government.

3.1.2 The Norwegian food system and the government

The ruling parties, the Labor party (Arbeiderpartiet) and the Centre party, formerly Farmers' party (Senterpartiet/Bondepartiet) have via the Hurdal platform (current government plan) formulated certain goals for the NFS. Some examples are that they want to secure 50 % self-sufficiency in food production (with correction for fodder import), reduce the income gap between the agricultural sector and other sectors and re-establish the emergency stock of grains (Regjeringen, 2021, p.19). The plan appears focused on supporting the domestic agricultural sector in many ways, and this reflects the farmers' - and workers' rights background of the two ruling parties.

One of the most important aspects of the NFS to understand its current state, is the so-called *importvernet* (*the import protection*, my translation). The import protection refers to a bundle of import controlling policies to protect the domestic agricultural sector *from import* (N.B. not protection *of import*). Between the European nations that are covered by the Agreement of the European Economic Area (EEA) (including Norway), trade barriers are generally removed - except for in the agricultural sector. Therefore, similar policies as the Norwegian *importvernet* exists in most European countries (Norges Bondelag, n.d.c), because domestic food production is important i.a. as emergency preparation, for maintenance of infrastructure and employment.

There is a general support across the political spectra in Norway about the agricultural import protection (Jordheim, 2023a). The arguments for it are that the domestic farmers would not survive liberalized competition from other nations due to 1) the comparatively high price-level (i.e. most other countries would be able to sell substitutable products to Norway for a much lower price than what domestic producers could offer), and 2) rough climatic conditions, small amount of arable land and a more general development of the

Norwegian political framework and societal structure (Bjørlo & Løvberget, 2021) means that expansion of land to increase production is very limited. Currently only 3 % of Norwegian land is used for agricultural purposes (Bjørlo & Løvberget, 2021).

There are however recurring suggestions, especially initiated by the more market-liberalist center-right parties Høyre and Venstre, followed by debates – to liberalize certain products from the protection (see e.g., Jordheim, 2023b). There is also an impending risk that the Norwegian trade will be forced to further liberalize if the World Trade Organization's Doha Round (after more than a decade of deliberations) are closed, since Norway's trade is connected to EU and organized through the Agreement on the European Economic Area (EEA).

3.2 Corporations and concentration in the Norwegian food system

3.2.1 Food industry employment and farm level concentration

The employment and organizational structure in the food sector has changed over time in Norway. Currently about 52,000 people are employed in the food industry (Pettersen & Kårstad, 2021), including both domestic processing and the primary level (fisheries, aquaculture and farming). The numbers of farms have drastically fallen for many years – from 155 000 in 1969 to 38 600 in 2020, while the total and active use of land for agriculture have remained around just below 10 million acres over these years (Bjørlo & Løvberget, 2021), meaning that the average size of farms have increased by a factor of four. This form of farm concentration is common in high-income countries where industrial farming methods are standardized. The process of concentration is incentivized by that, as labor-intensive practices are exchanged for capital-intensive technologies, production becomes more cost-effective with scale. Compared to the situation elsewhere Norway still comprises relatively small-sized farms, however, most of them are organized through, and resultingly protected *and* governed by the producer cooperatives (Richards et al., 2013).

Generally, the Norwegian farmers are practicing industrial ('conventional') agriculture. These practices are characterized by e.g., heavy input-use in the form of fertilizers, irrigation and pesticides, and factory farming in dairy- and meat production. The Norwegian producer cooperatives and their operations are however often claimed to be generally 'cleaner' compared to other nations food production - especially, the superiority of the domestic animal welfare levels and the limited use of antibiotics is highlighted (see e.g. NBS, n.d.a). Moreover, monocultures and specialization has become a general characteristic

of agro-industrial production. In the mid-1900s, most Norwegian farms used multiple animal- and plant breeds in their production, while today most farms focus on very few, or a single animal- or plant breed (Bjørlo & Løvberget, 2021). This form of concentration in breeds used for industrial farming is noticed globally (Clapp, 2023).

Additionally, income levels within agriculture are relatively low compared to the Norwegian average. In 2022, the average salary in all sectors was 53,150 NOK per month - while including both plant- and animal agricultural producers, they receive on average between 32,720 to 37,450 NOK per month (SSB, 2023). This most likely further supports the process of concentration towards fewer, but bigger farms, since fewer people are attracted towards this sector.

3.2.2 Producer cooperatives, wholesale and distribution

Concentration is found further at the producer level. For example, the farmer-owned domestic producer cooperatives Tine (dairy), Nortura (meat), Felleskjøpet (grains) now control the bulk of their respective markets as producers and processors.

Producer cooperatives like these, have in preceding decades strengthened the position and bargaining power of the Norwegian farmer in the face of strong actors at the end of the food value chain (Richards et al., 2013). In many other countries the producer side have been tightly controlled by the regulatory power of the retailers which has excluded smallholders from accessing markets by setting high private standards of e.g., quality, size and shape of the products (Richards et al., 2013). This has not been the case to a large extent in Norway due to the mentioned farmers' cooperatives.

These cooperatives are however now operating as any commercial firm, in many cases making big profits as their respective market shares are very big – up to about 70 % in the case of Tine (Pettersen & Kårstad, 2021). The operational structure of producer cooperatives as commercial actors can imply that their market strategies are favoring short-term economic interests over long-term sustainability (social and environmental). This is the concern raised at the global level where agribusinesses that are controlling large markets shares are capable of also controlling what seeds and breeds that are used, how they are grown and bred, the facilitates under which these activities take place etc. (Clapp, 2021b).

At the wholesale level the concentration of corporations is also high. The above producer cooperatives are also wholesalers and distributors since they work as a connecting hub for thousands of farmers in their respective areas. Bama is another example of a

wholesaler (and distributor) controlling around 60 % of the fruit- and vegetable market in Norway (Pettersen & Kårstad, 2021).

3.2.3 The supermarket structure, food habit concentration and the retail sector

Beyond the primary and industry level, grocery stores (retail) employ about 80,000 people - while including wholesale the numbers stretch above 100,000 and growing (Pettersen & Kårstad, 2021). This means that the bulk of the food system employees are now located at the end of the Norwegian food value chain, reflecting the supermarket-based structure of the NFS.

The supermarket structure has become the norm worldwide since a few decades back and is a particularly consolidated practice in the high-income nations. The supermarkets have established a strong connection with the consumers through a practice of food acquisition that is characterized by e.g., high food safety, longer shelf life through innovations in packaging and processing, cheaper foodstuffs and stable availability for those who can afford it. Furthermore, the supermarket structure has been a big driver of how the variation of food types consumed on country and individual level have increased for the past decades simultaneously as diets on a global level has converged dramatically – a form of food culture globalization. Especially note-worthy is the deepening concentration of crop varieties grown, traded and eaten globally - wheat, maize, rice and soy now make up two thirds of human caloric intake (Clapp, 2023). The increased production focus of these crops has come at the expense of regional varieties worldwide. Norway is not an exception of that process, although domestic production is concentrated around wheat, barley, oat and rye.

Norwegian Directorate of Health (Helsedirektoratet) which is responsible for promoting and monitoring public health in Norway releases an annual report on the development of the Norwegians' diets and food habits. There are both positive and negative patterns observed in the food habits of Norwegians. In general, the diets have become more varied and contain more fruit, vegetables and meat compared to 50 years back – but still the salt- and sugar-intake are generally higher than recommended (Helsedirektoratet, 2022).

According to the Norwegian Institute of Public Health (Folkehelseinstituttet) the prevalence of overweight and obesity has increased in Norway for the past 50-60 years (Meyer & Berg, 2017), in line with a trend observed in all high-income nations. This trend globally has emerged in correlation with the supermarkets growing presence. The reason for this appears to be that diets have changed over time to be generally more fat-, sugar-, salt-

(and meat-dense). That is, diets have become more calorie-dense, at the expense of nutrition per caloric unit-of-intake. This form of foodstuffs is often highly- or ultra-processed and has been processed in industrial facilities owned by huge TNCs that have expanded their sales all over the world in recent decades (Clapp, 2021a).

The biggest and most famous of these global processing- and foodstuffs conglomerates are popularly referred to as the Big 10, and comprise umbrella brands such as Nestlé, Kellogg's, Mondelez, Coca-Cola and Unilever. The presence of these brands is easily visible in all the big Norwegian grocery stores, and they have become well-known and well-bought among the Norwegian population. Orkla is Norway's own food industry giant, which operates as an umbrella supplier of food brands of mainly ultra- or highly-processed food products. Orkla Norway (i.e. its domestic activities isolated) had a gross profit of 3.9 billion NOK in 2019 – second biggest after Tine (Pettersen & Kårstad, 2021). The relationship with these food processing TNCs and the Norwegian consumer has been created and shaped via the actors within the retail sector, the last level in the value chain.

The Norwegian retail sector is, unsurprisingly, also highly concentrated. If looking at how big of the market which are controlled by the top three firms, it is the most concentrated level in the Norwegian food value chain. Three umbrella firms (Norgesgruppen, Rema and Coop) control 96,6 % of this market (Nielsen IQ, 2022). As such, the market concentration is far beyond with implies unhealthy for competition. However, economist how found that markets can also be heavily concentrated without the actors being able to control prices.

3.2.4 Vertical integration

As have been implied in the presentation so far, the vertical integration has become increasingly common in the NFS. Mentioned above, the producer cooperatives have been able to stand relatively strong against pressure from wholesale- and retail corporations compared to other nations. However, in recent years, the integration between the wholesale- and retail level has also deepened. An example is that NorgesGruppen and Rema are the two biggest owners of the vegetable wholesaler Bama (Pettersen & Kårstad, 2021). Furthermore, a lot of the distributional activity have shifted over to the retail-side in recent years (Pettersen & Kårstad, 2021). The vertical integration by the retailers is also seen in the form of Private-Brand Labels (hereafter PBL – in Norwegian *egne merkevarer/EMV*). In total all forms of concentration have again increased the tension between the farmers and the actors at the end of the value chain.

The general public and the Norwegian Competition Authority (Konkurransetilsynet) have given suspicious attention towards the retail sector (2022). This is possibly because the leaders of the retail corporations are consistently present at lists over Norway's richest people (Bakken Riise, 2021), and that the Norwegian consumers have been met with unprecedented price-rises in-store in recent years (Kalle, 2022). According to the Norwegian retailers, the rise in end-price depends on world market price-rises, and the corporations at supplier level - and not their own profit margins (Wig, 2023). The Norwegian Consumer Council (Forbrukerrådet) has also voiced their concern that barriers of entry in the retail sector is creating an unhealthy market where the burden is borne by the consumers in the form of limited product diversity and synthetically high prices (2018).

The above introduction to the Norwegian food system has shown how concentration occurs at virtually all levels within it – from farm level to the retail sector, over to the food habits of the Norwegian consumers relative to the global consumers. Within the food value chain, the corporations are the most common stakeholder form, and the concentration of these corporations have deepened over the years. The driving forces of corporate concentration lies inherent in the goal of profit-maximation which commercial actors are aiming for, since increasing the control of market shares and scaling up often leads to higher profits. That means, the more unregulated a market or an industry is, the more concentrated it will most likely become over time.

So, what are the implications of the corporations' large presence and concentration for the transformation of the NFS embedded in the GFS? This will now be discussed by emphasizing different perspectives on transformation, and by using cases both from Norway and globally.

4 Discussion

4.1 Corporations role in transformation of food systems

4.1.1 Yield

The yield-focus on food systems transformation is here discussed by first looking at implications for food availability globally – where corporations can be perceived as having a leading role for the future. Thereafter, in the context of Norway – the yield-increase narrative supports the continuance of industrial production methods domestically, while supporting

steady or increased levels of trade. This results in deepened concentration and integration into the GFS.

The concern on global level is that the output of the GFS needs to increase for the decades ahead. This concern is often united with the climate change concerns, as climate change likely will exert growing negative impacts on yield levels globally. These matters are often communicated and perceived as urgent. The urgency translates to calls for fast and efficient transformation, and here corporations are seen as key actors. The argument is that corporations and markets are the most efficient actors and channels for allocations, at least in contrast to the public sector. Market-liberalism and the shift from the public to the private sphere has occurred across most sectors in high-income nations (Raworth, 2017) – even in the previously social-democratic Scandinavian countries.

In food systems, bigger corporations are also from this point-of-view seen as cost-efficient and innovation-driving. By the gains from economies of scale – i.a. by monoculture-farming and capital-intensive production, big food corporations in agriculture can produce more for the cost of less – allegedly leading to more food available globally for a cheaper end-price. The concentration of firms is by the yield-increase-focus often also claimed positive, because bigger firms can accumulate more funds for R&D (research and development) (Clapp, 2021b). The argument follows that bigger spendings on R&D increases the chances of innovational breakthroughs, and further development of high-yielding, climate-flexible/resistant crops and farming methods. As corporations are already to a large degree present within the current food system, new innovations can in theory easily be scaled-up.

The achievements for the past centuries regarding the increased outputs of the food systems are further supporting the continued role for corporations in this aspect. That is, although global population has grown by billions during the 20th century, the output levels has managed to keep up.

In Norway, similar productivist views are supporting continued industrial production methods, and continued factory farming in dairy, meat and egg. The yield-gap narrative additionally supports further trade-liberalization. This follows from that according to hegemonic economic theory; all countries have a comparative advantage in food production. As such, the yields levels globally can rise if all countries specialize in their respective comparative advantage and thereafter trade. Since Norway has very harsh climatic conditions, their comparative advantage is not necessarily in agriculture.

Based in this perspective, economists may suggest that the Norwegian agricultural sector is overprotected by the import protection policies (see e.g., Melchior et al., 2020). The agricultural sector should followingly downscale while upscaling the fisheries and aquacultural sector, and the surplus from export can be used to import agricultural commodities from elsewhere (Melchior et al., 2020). This would lead to so-called ‘welfare-maximization’. This purely neoclassical economics view is however not considering any other aspects, such as the fragility of the current globally integrated food economy, the economic interests vested within it and the imbalances of economic power that occurs both within nations and between nations.

Additionally, what the yield-narrative leaves out are the extreme negative consequences following the consolidation of the current industrial-, corporate and neoliberal (trade-proponing) food regime (Holt-Giménez & Shattuck, 2011), and potential failures of yields in the *long-term* due to e.g., ecosystem collapse or changing ecosystem composition. Consequently, the problem with the yield-gap perspective is not necessarily that it is false or that food availability is not important. The problem is rather that this perspective has to actively ignore all other aspects of food system failures (i.e. diets, environment and inequality as will be discussed further down) in order to be promoted unquestioned – and this strategy is used by many food corporations in order for them to stay relevant.

4.1.2 Nutrition

The nutrition-gap perspective on food system failure can be divided into two. The first one refers to how the nutritional levels globally have been unequally distributed. This is however rather an outcome tightly connected to the inequality of food access and distribution globally, which will instead be discussed in section 4.1.4. The other perspective is that unhealthy food has become an increasingly prevalent part of the diets consumed in low-income and high-income nations alike.

This dietary shift that has happened in Norway and elsewhere, have been largely driven by the food corporations at different levels of the value chain, incentivized by the changing demands emerging with the rural-to-urban demographic transition found globally and the lifestyle patterns associated with this transition (Hawkes et al., 2017). Some examples are: 1) ultra-processed foodstuffs have longer shelf-life which is preferable when people are buying most food in supermarkets, 2) the fast-food industry and ready-to-eat products which reduces the time spent on planning, preparing and cooking food – something that couples up

well with a generally more work-based and time-limiting lifestyle, as is common in e.g. Norway.

Furthermore, has the big TNCs in food processing managed to push prices on unhealthy food products down globally (Clapp, 2021a). These skewed prices have resulted in that high-income households can afford healthy food, while low-income households cannot. This is a contemporary issue found in both the NFS and the GFS. In Norway, a study found that low-income households must use about 40 % of their disposable income (excluding expenses for housing) to acquire a healthy diet, as opposed to 11 % for high-income households (Uldahl & Bere, 2023). The implication of this finding is that diseases associated with unhealthy diets may occur more frequently among low-income households and therefore reinforces social inequalities.

Additionally, one way in which food corporations still drives the shift in diets is through the creation of new food preferences and resultingly, new market niches which is a common profit-increasing strategy. In high-income countries this occurs in the conjunction between the food processing industry and the retail sector. New food products that occur within this conjunction is often not healthy.

In Norway, one recent example of a new market niche is found in energy drinks. Among the Norwegian youth the intake has more than three-doubled since 2015 – among young women 23 % - and among young men 38 % now report that they drink energy drinks (Brantsæter et al., 2023). Energy drinks are a good example of ‘empty calories’ – that is, calories with very small nutritional value – although they give the consumers a brief sensation of an energy-kick. Energy drink companies have been successful in their marketing, and consequently established a new preference among especially young consumers in Norway. The retail sector is also benefitting from such market creations as these products do not substitute other products, but merely adds to the total sale. Other product groups like this are e.g., sodas and candy. The retail sector is consequently very unlikely to initiate phasing out these product groups, because of their added sale.

There are however potential for corporations to enable healthier diets by price-steering consumer choices. This form of change needs to be imposed politically, by taxing unhealthy food products so that the end prices rise, while subsidizing healthy ones so that the end prices are reduced.

Thus, the likeliness of food corporations to initiate or lead transformation to healthier foods are small. This is especially since corporations at various levels of the food system has together created the market space in which unhealthy food has grown immensely over the

past decades and are profiting from it at the same time as they can claim that the sales reflect the consumers' preference. The food processing corporations globally are further responsible for pushing prices down on food that have little to no nutritional value.

4.1.3 Environment

The environmental perspective of transformation emphasizes how the current GFS is unsustainable and degrading its own ecological foundation. The notion that the globalized industrial food production is one of the biggest drivers of environmental degradation have long been acknowledged. This has in some high-income countries manifested as an increased demand for organically produced food. The sales of ecological food globally and in Norway have increased immensely more or less out of nowhere for the past 30 years (Solemdal & Friis, 2014). In Norway, the sales are however still low compared to the other Scandinavian countries. Sweden and Denmark have both have had strong political aims towards increasing both the production and consumption of ecological food, i.a. by serving organic food in the public sector which has boosted the demand and thus the domestic production (Solemdal & Friis Pedersen, 2014). In Norway, this aim has not been equally explicit. The government has changed the goal of having 15 % ecological food production and consumption in 2020 (Solemdal & Friis Pedersen, 2014) to a less concrete goal of having a domestic ecological food production which 'matches the demand' (Landbruks- og Matdepartementet, 2018). This shift moves the responsibility over to the Norwegian consumer.

The Norwegian consumers are however sensitive to prices. Since organic food is more costly to produce per level of output, eco-food is often pricier compared to conventionally produced substitutes. In times of economic crises or general food price spikes, the sales of eco products can be expected to fall (Solemdal & Friis Pedersen, 2014). This creates an unstable demand and producers are thus less incentivized to shift their production over to ecological practices.

Food retail in Norway has helped increase the sales of organic products in the past decades. More specifically, the use of ecological labelling has helped the consumers to more easily choose eco-products. In Norway, the biggest eco-brands are Änglamark, Kolonihagen and GOECO – one for each of the three big food retailers (Norges Bondelag, n.d.b). That is, these eco brands are owned and sold as the retailers' PBLs.

However, PBLs pose a big challenge for the expansion of Norwegian farmers' ecological production, as well as Norwegian food production more generally (Norges

Bondelag, n.d.b). This is because by establishing PBLs, the retailers are hijacking markets shares in ecological production by vertical integration. The retailers' products can be sold at a lower price due to economies of scale and because the products, and especially because the raw materials are sourced from abroad where costs of production are lower relative to Norway (due to purchasing power differences). Furthermore, since retailers can prioritize the sales and shelf space of their own products over independently, domestically produced ecological products, the consumers face a narrow supply of ecological products which are not very often locally produced. Although increasing sales of eco-products, this trajectory may result in increased physical distance between producer and consumer and therefore longer transport - and a squeezing out of domestic ecological production initiatives.

Similarly as the retailers in Norway, big food TNCs may be using the increased environmental awareness among consumers globally to maintain support for their continued presence, or to increase sales. Big food companies such as Syngenta and General Mills have coopted the expression 'regenerative farming' and promotes this as their new production strategy. In the case of General Mills, they are supporting their associated farmers to deploy and try out soil protecting production methods that can lead to that farms become carbon-sequestering (Wozniacka, 2019). However, the initiative is at a trial stage and are also voluntary for the farmers, in addition to that the effects that these methods might have in terms of carbon sequestration are not yet fully known (Wozniacka, 2019).

Although regenerative farming can be found in different variations (Bakken Riise, 2021), the term more generally refers to a system which is self-sustaining and can restore itself. The food companies above are deeply embedded in the corporate food regime and the associated locally detached agro-industrial production methods which has been devastating for biodiversity (IPES-Food, 2023). Since biodiversity is seen as the key feature for ecosystem restoration and regeneration – food corporations engaged in industrial, monoculture farming is thus not regenerative. Potentially, these corporations are promoting themselves as environmentally aware to remain supported or unquestioned by consumers worldwide.

Lastly, there are some potentials for corporations, especially the producer cooperatives in Norway, to enable easier shifts when government-led improvements within the NFS are imposed. As an example, new labelling schemes on how to recycle food packaging can more easily be deployed when the actors are organized as bigger entities. Similarly, the Norwegian retailers (amongst other) recently committed to reduce the food waste in their part of the value chain (see Matvett, n.d.). The initiative resulted in a 14 %

reduction of food waste across the Norwegian food sector, with the retailers contributing with 21 % in their sub-sector between 2015 and 2020 (Matvett, n.d.). As such, there are potential for food corporations to enable certain changes for the better. This is probably easier in smaller countries and because of that the corporations in the above examples are all domestically based.

However, these forms of changes are not initiated by the corporations themselves but are led and imposed by the government, or driven by civil society organizations etc. Also, the examples of labelling schemes, eco-branding and food waste reduction are rather incremental changes within current structure (with a certain degree of positive impact, compared to not deploying them) – but are not targeting the root causes of food systems’ negative environmental impact: the production methods and the corporations which facilitate them.

4.1.4 Inequality

The distributional and social inequalities found to some degree in the NFS, and to a large degree in the GFS is possibly the biggest paradox – and the strongest argument for why food system transformation is unlikely to occur with the current influence, power and concentration of corporations.

Food access has generally not been a problem in Norway in many years, as the food security levels implies (see World Bank, n.d.a). The reason for this may be that: 1) Norway is one of the richest countries in the world and enjoys a strong purchasing power internationally and therefore have experienced a stable food supply from trade; 2) Norway has a relatively low Gini coefficient (as a proxy for equality levels). There has however been an increase in people struggling with everyday expenditures, because of the past few years’ food- and electricity price spikes (see media coverage, e.g., Teigen, 2022). As of now this appears to have influenced the relative living standards among some low- and low-to-middle-income households (Teigen, 2022), but the long-term effects are yet unknown.

However, at the global level the food insecurity levels are high. Although the GFS produces enough food, still more than one billion people are suffering from hunger (Béné et al., 2019). Furthermore, global food price crises which appears to become the norm rather than the exception, are followed by soaring levels of hunger and food insecurity. One driver of these food price spikes is explained by the political economy perspective. Here food prices are seen as a reflection of the purchasing power of the strongest actor within an interaction rather than a reflection of food’s use value (de Schutter, 2019). That is, because as food has become increasingly commodified and even financialized (Clapp, 2021a), food is no longer

conceptualized as a basic need for survival but rather something that willingness to pay can reflect – as if food was a ‘want’ rather than a ‘need’. The commodification of food has occurred along with how corporations has taken over the control of food production.

The uneven social outcomes of the current food system are in Norway mainly experienced by the farmers. They are faced with increasingly narrow space for action – pressured from both corporations which control what is sold, how it is packed, processed and distributed, how and what is produced – and by the consumers who are generally price-focused (which will be discussed later in the thesis) and therefore reluctant to pay more for domestically produced food which would support the Norwegian farmers’ and improve their situation – and enable increased self-sufficiency.

On global level, following the growing discontent with food corporations and trade, especially among small-scale farmers and marginalized groups, a growing grassroots movement that demands food sovereignty and regained control over local food production has emerged globally. In Norway this view is represented by the Norwegian Farmers and Smallholders Union. Not only are they proposing increased self-sufficiency and larger support for small-scale farming because of the squeezed conditions among Norwegian farmers. Also, they see that, in line with the political economy perspective, that increasing self-sufficiency in high-income countries are important in solidarity with farmers in low-income countries (NBS, n.d.b) – because of that unequal economic power in trade are a driver of the inequalities found at the global level. Thus, the corporate food regime creates unequal outcomes globally. Corporations and concentration within the GFS reinforce and create lock-ins of the structures (Clapp, 2021a), and hinders transformation towards more equal food systems.

The above discussion found that food corporations and corporate concentration within food systems can appear as both enabling and limiting for food system transformation. However, the enabling role of corporations is mainly reserved for transformation when defined as *only* the need to increase output in the short-term. This narrative is ignoring all other aspects in where food systems appear to be failing – that is, in the aspects of environmental impacts, unhealthy diets and social inequalities. Therefore, if the need to transform refers to a bigger, more holistic change in the state of the GFS (including to a large extent the same characteristics which are also found in the NFS), the corporations, markets and their tendency to become concentrated is very unlikely to initiate such transformation. However, there are some potentials for corporations to enable incremental changes – that is,

within the current form of food systems. However, such incremental changes are most likely not sufficient to counter the multidimensional food system failures, especially not in regard to inequalities found globally.

4.2 The retail sector, consumer-led change and negative effect of price-focus

Finally, with the above discussion in mind, I will address how the corporations in the retail sector is shaping the consumers' relationship with both food and food prices in Norway and what this implies for the suggestion of consumer-led transformation. The reason for this deepened and final focus is that since most of the food acquisition in Norway takes place through food retailers, this is followingly the category of food corporations which influences the Norwegians mostly, and most directly.

Consumers are sometimes suggested to lead the transformation of food system by signaling to producers their changing preferences by 'where they place their money'. The idea of consumer-led change is the implied and preferred solution by proponents of market- and trade liberalism in the food system. From this point-of-view changing norms among consumers can over time lead to transformation. This idea is however based upon assumptions about consumers – from rationality in consumption decisions, to the willingness to pay higher prices of food than current levels.

First, the assumptions behind rational consumer behavior are rarely realized. Research show that consumers rather make decision based upon rule-of-thumb (Raworth, 2017). Not only are our consumption decisions rarely very thought through, but decisions on food are also governed by psychological, cultural and institutional influences which distorts this assumed 'rationality'. Some examples are that people can find it hard to stop eating candy or snacks or chooses to throw away perfectly good food. Additionally, rational behavior relies upon access to full information, not to mention capability to sift information (and actively engage after processing the information) – an impossible task in the current form of the NFS as embedded in the GFS.

Furthermore, what issue consumers focus upon will navigate what is prioritized to change from a political perspective. In Norway (and likely elsewhere), the price of food appears superior to other issues of the NFS. This price-focus is probably a result of the dynamics between the actors of the retail sector, the media covering of the issue and the expectations of continuously falling real prices of food. These expectations origin from how the supermarket structure, the industrial food complex, trade and stable real wage increases has managed to lower food prices steadily in high-income nations. Especially note-worthy is

that the Norwegian consumer are spending on average around 11 % of their total expenditures on food and alcohol-free beverages¹ – a number which has decreased for many years (Erstad Vegard, 2018). This effect – where growing income levels and growing GDP per capita in a specific nation leads to higher absolute expenditure on food and more varied diets, but a lower share of the total expenditure spend on food – is referred to as Engel's law (Ritchie, 2023). The effect comes from increased purchasing power and changes in norms, lifestyle and consumption patterns.

The complicating effect of this price-focus is multilayered. First, the true cost of food is not reflected in the current food prices (Hendricks et al., 2021). That is, the current food system is creating social and ecological externalities which no one pays for and is therefore not reflected in the price the consumers pay. This means that prices would have to rise for food to be produced in a socially and environmentally sustainable way. Most consumers in high-income nations are likely not actively aware of these externalities because of the distance between consumption and production in the current GFS.

That is, Norway is, as most high-income nations, comprised of a mainly urban population. In 2021 around 83 % of Norwegians lived in urban areas according to the World Bank (n.d.b). Since most of the food acquisition in urban areas occurs at grocery stores, this has probably created a mental disconnection from the complex processes behind food production. Clapp refers to this disconnect as a growing physical and mental distance between production and consumption – in where the middle-space have been occupied by corporations (2021a). As such, the corporations govern what and how we consume, but also potentially drives a lack of appreciation for the production of food– and the farmers that uphold it.

Another complicating factor of the Norwegian consumers' price-focus is that it supports the suggestion of opening the Norwegian market for foreign corporations. This is also supported by the Norwegian Competition Authority who suggest further investigation to deregulate the import protection policies to potentially open the Norwegian market for foreign food retail actors (Konkurransetilsynet, 2022), as opposed to suggesting policies and actions that could establish new and diverse connections between the Norwegian consumers and the Norwegian farmers. Thus, opening the Norwegian market to foreign actors would then occur directly through the retail sector, but it would indirectly also translate into an

¹ This number is from 2017. Since this was before both the Covid-19 pandemic and recent food price spikes, this number has likely increased to some degree when this thesis is written (2023).

increased presence of foreign corporations and TNCs at all levels of the value chain. The result would most likely be lowered food prices for the Norwegian consumers and more product diversity available (in the sense of where they are sourced, not necessarily how they are produced). Simultaneously, this would lead to a deepened concentration of food corporations globally and across national borders.

4.3 The problem with corporate concentration across national borders

The deepened integration of food corporations across national borders is problematic for various reasons and generally impedes the potential for transformation to occur. The reasons span from reduced resilience and increased vulnerability due to strong interdependencies and mainstreaming of pathways, over to how complex supply chains are hard to, or even making it impossible to monitor, govern and to hold actors accountable.

As mentioned previously, since corporations are incentivized to expand and increase market shares, they will most likely do so unless regulated by a ruling body. Therefore, when corporations expand across national borders the capacity of governments to intervene are reduced – since their authority are only legitimate within their respective country. Explicit goals for food system transformation, such as increased self-sufficiency in Norway, are therefore hindered as politicians, consumers and policy-suggesting authorities are supporting increased across-border integration.

Because of the growing corporate control in food systems at the same time as transformation is needed, calls for accountability of the actors within it is crucial (IPES-Food, 2023). In contrast, the longer and more complex food supply chains are, the harder it is to hold actors within them accountable, both to identify who is responsible to change where - but also on commitments to increase social and environmental sustainability. The latter was one of the findings of the OXFAM's Behind the Brands-initiative from 2013-2016. The campaign asked a few of the biggest food corporations in the world to commit to certain sustainability goals – as they did. The recent checkback-report found that on global levels the companies were all committed to strive towards the companies' increased performance (OXFAM, 2021). Although some progresses were identified among all the TNCs, low transparency and complexity of supply chains appeared impeding to the progress (OXFAM, 2021). In line with this finding, another problem with across border integration of food corporations and deepening supply chains is that it becomes harder to hold actors accountable.

Lastly, at global level there is a growing understanding among researchers, civil society organizations and farmers worldwide both on food systems transformation and transformation towards more sustainable production-consumption systems more generally, that there is a need to diversify both in terms of knowledge and in pathways ahead (e.g., Scoones et al., 2020). This also implies that food systems need to de-integrate and become more independent, so that they can develop and transform within local, regional or at least national contexts that are more sensitive to both the environmental and social outcomes – and where the distance between the producers and the consumers are reduced.

5 Conclusion

This thesis set out to investigate the role of corporations in the Norwegian food system under the assumption that food systems, at national and global level, need to transform. The presentation of the Norwegian food system found that corporations are the major form of stakeholder and actor at all levels in the value chain, also at farm level where large producer cooperatives control the supply flows and operates commercially. Furthermore, the deepening concentration among these actors also became clear. The concentration has increased in other aspects of the food system as well: from the number of active farmers, to what they produce, and what the Norwegian consumers eat compared to globally.

The above concentrated state of the Norwegian food system was thereafter discussed through different perspectives on what needs to be transformed. The main findings from the discussion were that corporations and corporate concentration can be seen as a potential enabler of transformation if supporting that increasing output is the only form of transformation with relevance for the future. This narrative supports both widespread occupation of corporations in the food system as well as deepening concentration – because of economies of scale in production and distribution, opportunities to collect large R&D-funds for i.a. the development of high-yielding, climate-resistant seeds.

However, the thesis explained how this narrative is not reconcilable with any of the three other narratives of what needs to be transformed. The corporate-driven food system – at least in its concentrated and trade-driven form, is from the perspectives of environmental degradation, social inequalities and unhealthy diets, seen as a major driving force of their respective emphasis of food system failure.

It appears as if corporations within the Norwegian food system have to some degree and can potentially further enable incremental changes within the current structure such as reducing food waste, deploying labelling schemes that supports consumer choices, and increased promotion and sales of ecological products. However, the use of private-brand labels in the promotion of ecological products are increasing the vertical integration and consequently the across-border concentration of food corporations, and at the same time shrinking the flexibility and development space for the Norwegian farmers. Furthermore, at a global level, the corporate- and trade-driven food regime appears to exacerbate inequalities.

Finally, the thesis discussed how the retail sector in Norway controls and shapes the relationship the Norwegian consumers have with food. Resultingly, the price-focus which has emerged among the food consumers in Norway appears to trump all other concerns about food systems. This consequently promotes a further integration of the Norwegian food system into the global, because of that foreign retail actors likely could offer cheaper prices of food in Norway – although with food produced outside of Norway. Longer, more complex supply chains across national borders are contradictory to a variety of key features for increasing the potential for transformation. In line with the finding of the thesis, increased corporate control and concentration in the Norwegian food system as well as in the global food system makes transformation less likely.

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