Food System Strategic Assessment: Trends and issues impacted by commercial drivers

It is acknowledged that commercial drivers are also intimately linked to national and international economies. Here only issues considered by experts consulted for this study as currently relevant to overall commercial goals in the food sector are presented.

4.1 Driver: commercial goals, increasing productivity and profits, status March 2023

Commercial drivers: decreasing overall investment with changes in underlying investment patterns favouring less risky investments over the next three years.

Commercial driver assessments often contain a strong technology component indicating that increased technology implementation will increase productivity and profits, such as increasing digitalisation, better traceability along supply chains, adoption of online platforms and further improvements in tracking consumer behaviour. While these technology trends are part of longer term persisting global trends, many experts consulted for this study indicated that given current economic pressures, the focus of investments in the short-term future to increase commercial gain and competitiveness is currently shifting toward mitigating current economic pressures.

“Economic pressure on businesses may impact on investment in future technology, infrastructure and product development meaning we are less able to meet future demands.” Expert, Government

According to experts consulted for this study, three main factors are thought to currently affect investments in food production, processing, distribution and retail. These are:

- high input costs along the food supply chain (from energy to fertilisers and transport etc.)
- greater volatility and uncertainties in supply chains leading to more resources being devoted to ensuring responsiveness to rapid change
- the uncertainties of leaving the EU with regards to trade flows with the EU and anticipated regulatory divergence between the UK and the EU

Large food manufacturers consulted for this study also reported that operations are at present undergoing often substantial internal restructuring, in particular to address supply chain issues for large numbers of foods and ingredients that need additional investment to increase supply chain resilience.

While large companies may have the resources to cope with these changes and remain profitable, SMEs will use most of their capital in the near future for addressing cost-related issues to remain viable. Experts consulted for this study estimate that around 50% of businesses have cut or paused investment projects to focus resources on alleviating current pressures instead. It is also understood that this affects, for example, investments in re-formulation projects to increase health or sustainability benefits of products and developing and launching new products. In particular investments in technology to improve sustainability may be affected, with the food manufacturing sector expected to contract in 2023 (MakeUK The Manufacturers’ Organisation, 2022; Storey, 2022).

Similar issues are driven by the need to supply more affordable products in response to lower consumer spending power, as well as reducing operating costs. This is leading not just producers, but also big brands and retailers to shift resources and investment strategies. This has led already to noticeably reduced consumer choice in UK supermarkets with thousands of product lines already taken off the market (Matthews, 2022). Large industry players are generally preparing for a slowdown in consumption, focusing on the best-selling products in their inventories, reducing variety, with a perspective to not invest at present in any risky products, which includes new healthier or more sustainable food items (DiNapoli & Naidu, 2023).

Although a cheaper pound is perceived to help with exports, it is additional uncertainties around trade flows and supply chains that make it more difficult to realise potential gains, in particular by SMEs due to lack of capital and increasing administrative costs when trading with the EU. These factors point toward a further concentration of the food industry along the supply chain, as was also suggested by experts consulted for this study. Large players with sufficient capital to cope with current pressures will further dominate the market while smaller and medium sized businesses that are crucial for more locally produced food might contract in the short-term future.

Some relevant examples for the UK in this regard are a wave of closures of small abattoirs across the country that make selling of meat locally by smaller livestock farmers more difficult and often economically unviable, and the continuously reducing growing area of small and medium glasshouse vegetable growers for which high capital investments are required to achieve efficiencies of scale above 5 ha. Despite some increase of investor interest in UK high-tech glasshouse production of vegetables and fruits over the past five years, current input costs (mainly energy) and labour shortages made even large growers cut back on planting or close operations (Horti Daily, 2022; Lawless, 2022; Partridge, 2023).

4.2 Decreasing investment in innovation and technology implementation

High input costs, inflation, labour shortages and supply chain volatility are currently re-focusing resources across the food sector and impacting investment decisions. Many businesses currently postpone investment into technology updates and innovation. Food industry experts consulted for this study also pointed out the necessity to focus on more established technologies in automation, data capture and process optimisation rather than innovation around less tested novel technology. These immediate issues also need to be considered when estimating timelines of the longer-term technology trends that are discussed in section 5, as they are likely to impact the evolution and implementation rates of individual technologies. Importantly, an anticipated temporary decline in technology innovation investments needs to be considered.

Key insights

One exacerbating factor is that the food and drinks manufacturing sector is generally considered slow in taking up digitalisation trends, even under more favourable economic conditions (McNamara, 2022). Often quoted reasons for this, even before the current crisis, included tight margins, lack of skills, lack of capital and resulting risk averseness around innovation. Despite the fact that the food industry is the biggest manufacturing sector in the UK with around 10,000 businesses, of which 97% are SMEs, experts consulted in this study perceive that there is a lack of government mechanisms and investment to support technology innovation and implementation in the sector (UK Government, 2023c). This leads to a concern that there could be entrenchment of a two-tier evolution of technology innovation with large often multi-national players leading the way and SMEs lagging behind (Ridler, 2022b; Storey, 2022).

For example, recently the UK Food & Drink Federation (FDF) has indicated a need for more basic innovation supporting overall growth and enabling efficiency and sustainability gains in the future,

in particular for SMEs. This is envisaged as supporting the implementation of existing technologies such as digitalisation, automation, and more sustainable processes, rather than novel less tested technologies. While the government's 'Made Smarter Review' (reporting on outputs of the UK's national 'Made Smarter', Industry 4.0 initiative) has identified a potential £55.8bn value to UK food manufacturing through the adoption of known digital technology over the next decade, the associated SME support scheme, launched in 2018 to implement digital technologies, has by end of 2022 reached just over 200 businesses, reporting success in increasing their revenue and exports while reducing energy bills, carbon emissions and waste (Made Smarter, 2022).

A number of food manufacturing experts consulted for this study also stated that investments in longer term innovation around sustainability and novel ingredients with health benefits are being postponed in the short-term future as more pressing issues need to be addressed first.

Policy debate around innovation targets, sustainability goals, and increasing the proportion of healthy foods through technology need to factor in a period of constrained investment capacity that may slow down achieving these goals. In addition, food industry experts consulted for this study voiced concerns that investments in novel, more user friendly and cheaper food safety, hygiene, and quality assurance technologies or into upgrading of such technologies will be postponed at present. Nevertheless, currently there are no indications that reduced investments in innovative technologies create novel risks as much as forgoing opportunities that some innovations might deliver, particularly in the area of sustainability.

Overall investments in technologies to increase competitiveness in the short to medium term are expected to decline, in particular by SMEs, while large players will continue to lead innovation and implementation in that area, although at a slower pace.