Growing Kent and Medway
Workforce 2030 Skills Research Report

1. Introduction

This Research Report provides the underpinning evidence base for the *Workforce 2030 Strategy*, and is based on engagement with landbased and food sector employers primarily, with the involvement of Higher Education, Further Education and other stakeholders.

Engagement with the sector was primarily through depth interviews following a structured topic guide that was developed with Advisory Group input following the production of a project *Scoping Report*, which also formed the basis of Growing Kent and Medway's submission to the Local Skills Improvement Plan.

The analysis also draws on company focus groups run by the Steve Matthews Research and Consultancy for the *Kent and Medway Local Skills Improvement Plan* (March 2022) and the development of the *Greater North Kent Workforce Skills Evidence Base* (February 2022). The analysis also builds on the 2021 *Kent and Medway Workforce Skills Evidence Base*, sponsored by Kent and Medway Economic Partnership, which also specifically engaged the sector through a focus group.

The work has been supported by an Advisory Group of sector employers and other stakeholders who kindly gave their time to shape and review the research and accompanying *Workforce 2030 Strategy*. The research findings and the strategy will be shared more widely for sector consultation in May / June 2022.

Details of all organisations consulted appear in the Annex.

2. About Growing Kent and Medway Workforce 2030 Project

Growing Kent and Medway overall aims to build a food business cluster of national and global significance, a strong and growing ecosystem of companies who are leaders in areas like automation, artificial intelligence, product formulation and packaging, focused primarily on innovation in high value-added products, services and technologies. The cluster will also be a model of sustainability, diversity and inclusion.

Workforce 2030, therefore, is primarily about the skills of the future, the skills required for jobs that may not yet exist, the skills that will unlock innovation and sustainable growth. Workforce 2030 should be seen as addressing the **long-term, strategic future of food and landbased skills** in Kent and Medway in the context of building a world-leading sector cluster that takes the sub-regions many existing strengths to 'the next level'.

3. Background the Landbased and Food Sector in Kent and Medway

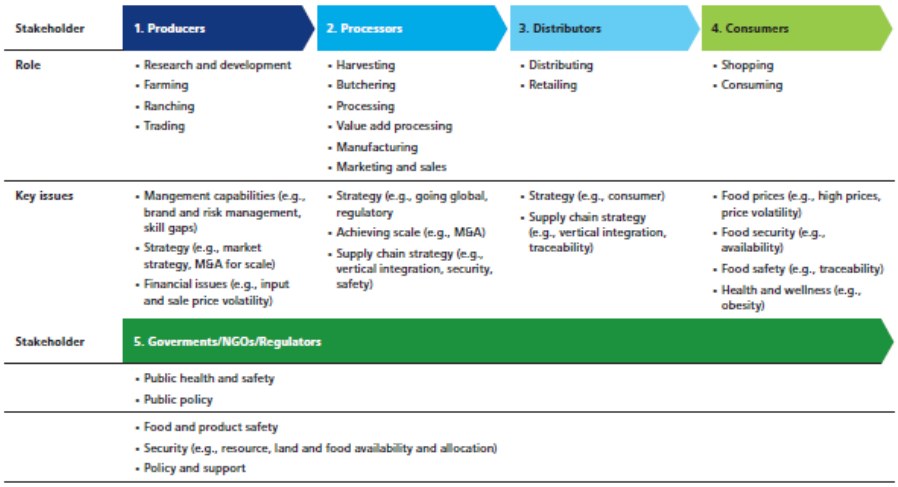
This section provides the background to the research, considering the scope of the sector, its estimated scale (in terms of businesses and employment) in Kent and Medway, and the strategic drivers that will shape future workforce and skills demand.

3.1 Scope of the Sector

Growing K&Ms stated focus[1] is, 'supporting growth in technology-driven horticulture, fresh produce packaging, food and drink processing and its supply chains'. However, 'food' is not only a market phenomenon, and also plays an important role in, for example, health, wellbeing, environment and sustainability, and many commercial company strategies[2] and major policy initiatives[3].

Workforce 2030 focuses on the food and drink value chain, 'from field to fork', as summarised in Figure 3.1 (below).

Figure 3.1: Food and Drink Value Chain



Source: https://www2.deloitte.com/content/dam/Deloitte/global/Documents/Consumer-Business/dttl_cb_Food%20Value%20Chain_Global%20POV.pdf

3.2 Scale of the Sector

The scale of the sector for the purposes of *Workforce 2030* in Kent and Medway can be summarised as follows:

a) Primary food producers: growers (horticulture, agriculture - traditional and novel) and viticulture: about 2,300 businesses and 17,500 employed[4].

b) Processors and manufacturers: primary processors and value added, food and drink manufacturers: about 350 businesses and 8,000 employed[5].

c) Distributors: storage, distribution and logistics (including these aspects of wholesalers and retailers). Numbers hard to estimate from the available data and sector definition issues.

d) Enabling technology providers. Numbers hard to estimate from the data available.

'Pre-harvest' and 'post-harvest' are also used to describe the food system and are roughly equivalent to a distinction between (a), on the one hand, and (b) and (c) on the other.

[1] https://www.growingkentandmedway.com/
[2] See, for example: https://www.premierfoods.co.uk/Responsibility/Sustainability.aspx
[3] See, for example: https://www.gov.uk/government/publications/national-food-strategy-for-england
[4] Refers to SIC Codes 01, 02, 03, ie: crop and animal production, hunting and related service activities; forestry and logging; fishing and aquaculture (http://kmep.org.uk/documents/Workforce_Skills_Evidence_Base.pdf).
[5] Estimate, assuming food and drink accounts for about 15% of all Kent and Medway manufacturing, total of which is 3,750 businesses and 49,000 employed (http://kmep.org.uk/documents/Workforce_Skills_Evidence_Base.pdf).

Workforce 2030 does not focus on food retail and hospitality (also referred to as food service industries) in general, just on the storage, distribution and logistics aspects of these activities. The Annex details which sub-sectors are included using Standard Industry Classification Codes.

The distinctiveness of Kent and Medway resides in high levels horticultural activity and viticulture, alongside a strong manufacturing and processing base, all of which includes companies which are highly innovative.

3.2 Strategic Drivers of Skills: PESTLE Analysis

Figure 3.2 below summarises an assessment undertaken by the project of the strategic drivers at work in the sector that will have a bearing on workforce and skills.

Figure 3.2 Food Sector Strategic Drivers: PESTLE Analysis

Political a) Brexit has radically reduce the supply of (especially, mainland European) labour and led to some leaving the labour market, which may drive more automation and the development of new labour pools. Could also drive the growth of indigenous supply across the value chain (cost and supply chain resilience). b) New UK subsidy regime[6] for landbased industries will play a key role in what activities take place on the land. If aligned to the National Food Strategy can be expected to reward activity in the 'three compartments' of more wildlife friendly growing, land set aside for nature, and more intensive / novel approaches. Subsidies will be a key driver of growers' behaviour (ie what is grown and how) and may cover protecting heritage, carbon sequestration in soil, reducing pesticide and antibiotic use, restoring habitats and flood management.	**Economic** a) Consumer preferences and tastes: growth of alternative proteins, plant based / vegan / vegetarian foods, 'natural' products, 'green' products, and greater focus on origin / traceability. Will affect products and recipes. b) Increased market requirement for traceability c) Tradition of low pay / high staff turnover in parts of the sector and more competition now for low-skilled staff (eg: New Amazon facilities) [7]. d) Macro-economic conditions (eg downturn or inflation) can increase the need for food affordability). e) Higher wage expectations (labour market pressure and Minimum Wage) will drive the need for higher worker productivity.
Social a) Signs of some shift towards more sustainable, environmentally friendly, plant-based foods. b) But people on low incomes especially need affordable food. c) Increased desire for employment flexibility and work-life balance. d) Increased desire for work and workplace culture that aligns with individual values. e) Ageing workforce. f) Growing importance of equality, diversity and inclusion. g) Food plays an important role in community health and wellbeing. Obesity, malnutrition and food poverty. Understanding food and diet better can help with these social issues.	**Technological** Technological changes are happening very quickly, meaning it may be hard to forecast changes accurately, particularly in the longer term. This may suggest a need for scanning of technology trends within GROWING K&M. a) Automation b) Drones and robotics c) AI, analytics and machine learning d) Digital and data analytics e) Traceability and blockchain f) Technologies to support Net Zero and sustainability g) Alternative proteins (including peas, yeast, insects and algae) h) 'Digitisation of plants'

[6] See, for example: https://www.gov.uk/government/publications/sustainable-farming-incentive-how-the-scheme-will-work-in-2022/sustainable-farming-incentive-how-the-scheme-will-work-in-2022

[7] There is likely to be a split between jobs which fit a more standard 'nine to five' working hours model and roles which are much more likely to involve shift work, seasonal work, part-time work and anti-social hours, even when new technology (such as robots) is used.

Legal	Environmental
a) Regulatory simplification is expected post-Brexit, aligned to farming policy. b) Legal compliance regime in respect of food safety, food hygiene and nutrition unlikely to change (?) c) New corporate Sustainability Disclosure Regime to include carbon accounting, probably for larger companies.	1. Challenges of sustainability, decarbonisation (Net Zero) and decline of the natural world (soil degradation, biodiversity loss, etc). 2. Waste reduction, input reduction, energy efficiency and circular economy approaches. 3. Growth of more wildlife friendly growing, land set aside for nature and more intensive / novel approaches ('three compartments' of National Food Strategy).

The key features that stand out from this analysis are:

- Political: impact of labour shortages post-Brexit and the new UK Environmental land management subsidy regime will drive what is grown and how land is used for growing, wildlife and other social goods.
- Economic: key market drivers of affordability, new / emerging consumer preferences (eg plant-based), tight labour market and the need to increase worker productivity.
- Social: wider importance of food to health and wellbeing, changing workforce expectations and demographic change.
- Technological: wide range of new technologies coming to the fore, especially in terms of automation, digitalisation, decarbonisation, sustainability, drones and robotics, AI and machine learning and alternative proteins.
- Legal: regulatory simplification post-Brexit and new Corporate Sustainability Disclosure regime.
- Environmental: growth in importance of sustainability and Net Zero, waste and input reduction, greater efficiency.

Geopolitical developments in 2022 also suggest that the issue of food security could increase in importance in coming years, further underlining the importance of the UK landbased and food sector, and the skills it requires.

4. Findings from the Employer Research: Industry Context and Key Issues to be Addressed

This section summarises the key research findings from the employer research, setting out the industry context that the strategy needs to take account of and singling out some key workforce and skills issues that the strategy should address.

4.1 Industry Context

Consolidating Sector and a Dual Economy

The interviews confirmed that the sector is increasingly dominated by larger, more sophisticated companies. Among primary food producers this seems often to be the result of smaller operators being taken over by larger companies seeking to achieve greater market share and efficiencies through increased scale of operation. Co-operative business models (like Berry Gardens) achieve a similar effect. This also seems to be happening among processors and manufacturers, with Kent and Medway being home to a number of large and growing companies.

The implications for the skills strategy are that:

a) ***There is a reducing, but increasingly sophisticated pool of employers with large workforces to support, companies who are more likely to take a more strategic approach to staff recruitment and retention and have in-house training and development capabilities.***

b) ***These companies are also highly innovative and quick to adopt new technology and business processes, and engage with key sector agendas like sustainability, climate change, the nature crisis, and equality, diversity and inclusion (EDI).***

c) ***These companies have greater 'pulling power' to potential new recruits and can offer attractive career pathways, in opposition to the well-documented 'image problem' that the sector is believed to have. Taken together, such companies could also form part of a story of innovative, growing, exciting businesses, which are socially and environmentally engaged and providing an important product to the community.***

d) ***These companies are the ones that education partners must partner with to address the sector's workforce and skills challenges, setting the standard that smaller companies will hopefully follow, and so become more resilient in the process.***

Cost and Quality

Company behaviour, and hence workforce and skills requirements, will be driven by both cost and quality considerations. While there will probably be a growing market for premium products, the food market is highly cost-competitive and there are concerns that, post-Brexit in a market dominated by large retailers, and possibly more open to foreign competition, cost pressures will continue to bear down on sector companies.

At the same time, quality requirements will continue to become more complex and challenging, both in terms of the product itself and the associated standards that apply in the sector. Social and environmental requirements will become more exacting and new ones will emerge (carbon footprint calculation and mitigation being one possibility, for example), retailers and consumers more demanding, and Government policy will continue to raise challenges.

The implications of this for the skills strategy are that companies will need workforce and skills to support both cost reduction and quality improvement in order to remain competitive. Automation and new technology will need to go hand in hand with compliance with ever-more and more sophisticated customer and government requirements.

4.2 Key Issues to be Addressed

4.2.1 The Recruitment and Retention Challenge

Especially given changes to labour availability and wages post-Brexit, the challenge to recruit and retain staff in the landbased and food sector has never been greater. This is also seen by employers as a long-term challenge. Automation is not expected to eliminate the need for low-skilled labour; just to reduce it somewhat. The scale of labour shortages, the 'tightness' of the Kent and Medway labour market, and the fact that much food sector work is seasonal means that some kind of migrant labour scheme will always be required.

So *Workforce 2030* cannot solve the labour shortage issue, but it can help with making the sector more attractive to people in the local labour market and help people to build successful careers in in food. The

sector tends not to be seen as the most desirable work or career choice, but the profile of many Kent and Medway employers can help to overcome this perception.

> ***The implications of this issue for the skills strategy are that more needs to be done to build the profile of the sector, making work and careers more visible and better understood, and education and skills pathways into and within the sector more visible to help people make a start and the get on in work. Experiential approaches to building understanding of sector opportunities – visits, placements, workshops, 'field to fork days' and meeting employers – are probably the most effective way of engaging people, but digital probably also creates further opportunities. The work needs to engage people early, pre-16-19.***

4.2.2. Level 2 and Level 3 Sector-specific Offer Not Fit for Purpose

While there is horticulture provision in Kent and Medway, it tends not to be focused on food growing. Similarly, there is no specific provision for viticulture locally, despite the rapid growth of this sub-sector. In food processing, beyond more generic engineering programmes, there is nothing for companies whose requirement is increasingly for production *technicians*, rather than production operatives. More generally, given the rapid growth of automation, robotics, digital technology and data in the food sector, people in a wide range of roles need much stronger technology 'user' skills, even if they are not technical specialists themselves.

The main opportunities to improve the 16-19 and apprenticeship offer at Levels 2 and 3 seem to be:

- A low-level foundational programme for people interested in joining the food sector at lower levels, wanting some basic knowledge and skills and to find which part of the sector is best for them. Ideally this would industry placements and / or work experience to the extent that this is possible (16-18-year-olds in a producer or processor workplace raises health and safety issues).
- Horticulture / food production apprenticeships focused on a food growing environment, with a significant element of technician skills included.
- New viticulture programmes – college-based or apprenticeships.
- The new T Levels, when available, including agriculture, land management and production; digital (various); design and development for engineering and manufacturing; engineering, manufacturing, processing and control; maintenance, installation and repair for engineering and manufacturing; and catering.
- Data collection and analysis, and digital skills applied to a food environment.
- The Level 3 Food and Drink Maintenance apprenticeship standard, which is not available in Kent and Medway, but for which there is likely to be sufficient scale of demand, given the number of food processors.
- The Food and Drink Compliance Passport (FDCP), a suite of short modules at Level 2 being developed by the Food and Drink National Skills Academy[8].
- Embedding more food science in Level 2 and 3 STEM programmes and exploring the potential to offer food science and GCSE and A Level in Kent and Medway.
- Promoting the new MDS Flexible Apprenticeship scheme in Kent and Medway.

[8] Covers Food Safety, Health and Safety, Allergens and HASOP (Health Assessments Standard Operation Procedure). Aims to make people ready for the food sector and give a taster of work in the sector. It is likely to become recognised and required for jobs. Will be online and also involve practical training.

- Personal development and lifelong learning for low-qualified staff, providing a 'second chance' in education, including in subjects like IT / Digital Skills, English (including ESOL) and Maths and achieving a Level 2 or 3 qualification. Personal development opportunities offer through work could help companies with staff recruitment and retention.

Programmes should include 'soft' / transferable skills in the offer to cover skills such as team working, and communication, as well as relevant attitudes, behaviours and general work readiness.

The implications of this issue for the skills strategy is that new and improved provision is needed for the sector, whether brought in from outside or developed within Kent and Medway. In respect of the latter, the main risk for providers is whether the scale of actual demand will justify the investment required to create the new provision. In line with the approach advocated in the Kent and Medway Local Skills Improvement Plan, this probably requires a 'co-development' or 'solutions panel' approach with employers working with Further Education to define the curriculum, support its development and delivery and commit to using the new service, offering industry placements (including those involving a number of companies) or, for example, guaranteeing job interviews to anyone who completes a given programme.

4.2.3 More Engineering

The growth of automation and robotics, and the increasing importance of data science, means that engineering and technical skills will grow in importance by 2030, and in two ways:

- Entry-level staff will need to be more digitally and technically literate, able to work with technology adaptively as users, becoming more technicians than operatives.
- Mechanical engineering, electrical engineering, software engineering and data science will become more important at intermediate levels, especially Level 3 apprentices, but also with requirements to progression at Levels 4, 5, Degree and post-graduate, whether through apprenticeships, higher technical education (HNC/HND) or taught Higher Education programmes. The larger and more sophisticated the company, the greater the need.

High-end engineering skills will also be important to enabling technology providers, but these are not especially concentrated in Kent and Medway.

This issue suggests that sector employers need access to a full suite of mechanical and electrical engineering options, but with some focus also on the food sector technology environment (eg: robotics and automated systems, but also activities like irrigation, controlled environments, refrigeration, packing and processing) and a significant data / digital focus (including sensors, measurement and Internet of Things). Progression pathways to higher- and degree-level learning also need to be available from the FE and HE sector[9].

The wider context, according to Locate in Kent, is that demand for engineers is likely to grow significantly across many sectors in the coming decade. Major inward investment projects like the new Brompton facility in Ashford, for example will also significantly increase demand.

[9] North Kent College / Hadlow College is the Kent Further Education lead for Kent and Medway and can meet many of the sector's engineering requirements, but specialist provision is also being developed by EKC Group under the Strategic Development Fund and MidKent College is offering pathways to degree apprenticeships in Manufacturing Engineering with CCCU, for example.

4.2.4 Sector-specific Leadership and Management Skills

The various drivers of company behaviour are also increasing the need for leadership and management skills focused on a growing or food production environment. Generic leadership and management programmes do not address the complexity and peculiarities of the sector, which tends, for example, to have a diverse and multi-lingual workforce and is subject to quite specific quality regimes, standards and regulation. Because companies tend to 'promote from within', the requirement is for people already in work, who will progress through lower-level supervisory roles and then into middle and more senior management potentially. Short, 'bite-sized' units could be more attractive to many companies than full qualifications.

> ***The implications of this issue for the skills strategy are that the scope for a food sector leadership and management programme, tailored to the needs of supervisory and junior management roles in growing, packing and processing, should be explored.***

4.2.5 Learning to Support Innovation

The future of the food sector in Kent and Medway is innovation. 'Standing still' is not an option. Some forms of innovation are, as yet, unknown, and will emerge over the coming years. So an important learning need is horizon scanning and understanding emerging trends in technology, processes and approaches. However, there is already a clear sense of the main areas of innovation that are already happening or will come to the fore over the coming decade. These are:

- Automation and robotics: in all aspects of growing, packing and processing. Kent and Medway companies are already active in this field, but the technology will continue to evolve[10]. Learning will be expert-to-company and company-to-company (peer-to-peer), especially in respect of how technology can be applied in a range of contexts and to meet a number of requirements.
- Data collection and analysis, application of data in a range of contexts in growing, packing and processing. Linked to process automation, artificial intelligence and machine learning.
- Sustainability and climate change: reduced resource use, reduced waste, recycling, carbon accounting, carbon reduction and sequestration, adaptation to changes to growing conditions and dealing with new pests and diseases.
- Nature crisis and biodiversity: production techniques and land use approaches which lead to nature gain and greater biodiversity alongside the most intensive production methods (including the 'Three Compartments[11]' model set out in the National Food Strategy).
- Compliance, regulation and standards, including subjects like product uniformity, traceability and quality management.
- Technical and scientific aspects of food, including food science, food hygiene, food reformulation, product development and packaging.

Promoting and enabling learning to support innovation matters, because, although Kent and Medway has many well-run and innovative companies, there is not yet, in the view of major companies, a strong and vibrant ag-tech innovation ecosystem. It is not yet the 'silicon valley' of the landbased and food sector. Promoting more learning around innovation will help to address this.

[10] Kent companies are already involved, for example, in enabling technology companies and field trials for robotic soft fruit picking, widely seen as one of the most difficult areas in which to use robots.
[11] The National Food Strategy proposes a Rural Land Use Framework with let assigned to low-yield growing, high-yield intensive growing, and semi-natural land.

This issue implies that the good work already going on in companies and universities could be enhanced and extended further to reach more companies and build the sector's knowledge, placing it at the cutting edge of the latest developments. The need is for taught, expert-led, short courses, workshops and masterclasses, plus peer-to-peer learning through practice sharing and 'learning visits'.

4.2.6 Communication and Engagement

There is a gap in how companies are engaged in education and skills opportunities, especially for smaller companies, and also a gap in how individuals, especially children and young people, learn about the many good jobs and careers on offer and the learning pathways towards them. In part, the problem is that part of the offer does not meet the sector's needs (see, for example, 4.4 above), so improving that should engage more companies and individuals. However, making the skills offer more coherent and communicating it better to companies and individuals would make sense. Companies would have one place to go to explore their external learning and development options. Individuals could explore careers and skills opportunities. Everyone would benefit from opportunities to learn about the latest and upcoming innovations.

This issue implies a need for a mechanism which helps companies and individuals make sense of and access the various sector career and learning opportunities, and access the learning they need. As originally envisaged in the* Workforce 2030 *project brief, the concept of a new 'skills hub' should be explored further in order to address this need.

5. Next Steps: Skills Strategy and 'Skills Hub'

Based on the key issues identified in section 4 of this report, a Growing Kent and Medway Skills Strategy has been developed has been shared with the sector for companies' feedback through a series of workshops taking place in summer 2022. The consultation includes a model for the proposed 'skills hub'. The strategy will go live from autumn 2022, when it is expected development of the skills hub will also begin.

Steve Matthews
Skills Researcher and Consultant and Growing Kent and Medway Skills Champion
05/07/2022 (updated after comments by the project Advisory Group on 8th May 2022)

Annex: Research Participants and Sector SIC Codes

Research Participants

Growing Kent and Medway wishes to thank the following companies (in alphabetical order) who kindly agreed to be interviewed as part of the research. Members of the project Advisory Group are marked with an asterisk.

A C Hulme: Tom Hulme*

Adrian Scripps: James Simpson and Tiarda Thomas

Avalon Fresh: Nigel Jenner

Bardsley England: Paul Smith and Rob Nithsdale

Berry Gardens: Samantha Desforges

Clockhouse Farm: Robert Pascall and James Dearing

Cook Kitchen: Rosie Brown and Richard Pike*

GrowUp: Sabine Fenato*

Hops AgTech: Jimmie Davies

Hugh Lowe Farms: Marion Regan

J D Cooling Group: Richard Corby

Kent and Medway Fresh Food Production / Horticulture Task Force: Carol Ford*

Premier Foods: Julie Harris*

PrepWorld: Morag Bailey*

Reginald Ames: Stewart Johnson*

Thanet Earth: Rob James, Emma Bullock and Sarah Quattroluni

Veetee Foods Ltd: Rajiv Varma*

Meetings were also held with staff at the University of Greenwich, University of Kent and Canterbury Christ Church University, North Kent College / Hadlow College, all of whom are also represented on the Advisory Group.

Landbased and Food Sector SIC Codes

Food growing (where data available)	
01 : Crop and animal production (non-farm based)	All in scope
01 : Crop and animal production (farm based)	
03 : Fishing & Aquaculture	
Food manufacturing & processing	
10 : Manufacture of food products	
11 : Manufacture of beverages	
Food wholesale	
4617 : Agents involved in the sale of food, beverages and tobacco	
4621 : Wholesale of grain, unmanufactured tobacco, seeds and animal feeds	
4631 : Wholesale of fruit and vegetables	
4634 : Wholesale of beverages	
4636 : Wholesale of sugar and chocolate and sugar confectionery	
4637 : Wholesale of coffee, tea, cocoa and spices	
4638 : Wholesale of other food, including fish, crustaceans and molluscs	
4639 : Non-specialised wholesale of food, beverages and tobacco	
Food retail	
4711 : Retail sale in non-specialised stores with food, beverages or tobacco	In scope, but only for storage, distribution and logistics aspects of operations.
4721 : Retail sale of fruit and vegetables in specialised stores	
4723 : Retail sale of fish, crustaceans and molluscs in specialised stores	
4724 : Retail sale of bread, cakes, flour confectionery and sugar confectionery in	
4725 : Retail sale of beverages in specialised stores	
4726 : Retail sale of tobacco products in specialised stores	
4729 : Other retail sale of food in specialised stores	