The Welsh Food & Drink Skills Project

delivering skills for future growth




Report Appendix October 2011

LANTRA
Raising skills, backing business
Codi sgiliau, cefnogi busnes

Improve
CYNGOR SGILIAU BWYD A DIOD
FOOD & DRINK SKILLS COUNCIL
CYMRU
WALES

skillsmart retail® cymru

people 1st cymru

Appendix 1
SSCs food and drink footprint by SIC code

Lantra	
SIC 2007	**Description**
01.11/0	Growing of cereals (except rice), legumes crops and oil seeds
01.12/0	Growing of rice
01.13/0	Growing of vegetables and melons, roots and tubers
01.14/0	Growing of sugar cane
01.15/0	Growing of tobacco
01.16/0	Growing of fibre crops
01.19/0	Growing of other non-perennial crops
01.21/0	Growing of grapes
01.22/0	Growing of tropical and subtropical fruits
01.23/0	Growing of citrus fruits
01.24/0	Growing of pome fruits and stone fruits
01.25/0	Growing of other tree and bush fruit and nuts
01.26/0	Growing of oleaginous fruits
01.27/0	Growing of beverage crops
01.28/0	Growing of spices, aromatic, drug and pharmaceutical crops
01.29/0	Growing of other perennial crops
01.30/0	Plant propagation
01.41/0	Raising of dairy cattle
01.42/0	Raising of other cattle and buffaloes
01.43/0	Raising of horses and other equines
01.44/0	Raising of camels and camelids
01.45/0	Raising of sheep and goats
01.46/0	Raising of swine/pigs
01.47/0	Raising of poultry
01.49/0	Raising of other animals
01.50/0	Mixed farming
1.61	Support activities for crop production
01.62/9	Support activities for animal production (other than farm animal boarding and care) n.e.c. not elsewhere classified
01.63/0	Post-harvest crop activities
01.64/0	Seed processing for propagation
01.70/0	Hunting, trapping and related service activities
02.30/0	Gathering of wild growing non-wood products
03.12/0	Freshwater fishing
03.21/0	Marine aquaculture
03.22/0	Freshwater aquaculture
64.20/1	Activities of agricultural holding companies
Improve	
SIC 2007	**Description**
10.1	Processing and preserving of meat and production of meat products
10.2	Processing and preserving of fish, crustaceans and molluscs
10.3	Processing and preserving of fruit and vegetables
10.4	Manufacture of vegetable and animal oils and fats
10.5	Manufacture of dairy products
10.6	Manufacture of grain mill products, starches and starch products
10.7	Manufacture of bakery and farinaceous products
10.8	Manufacture of other food products[1] (Excluding confectionery 10.82)
10.82	Manufacture of cocoa, chocolate and sugar confectionery
10.9	Manufacture of prepared animal feeds
11	Manufacture of beverages
11.01	Distilling, Rectifying and blending of spirits
11.02	Manufacture of wine from grape
11.03	Manufacture of cider and other fruit wines
11.04	Manufacture of other non-distilled fermented beverages
11.05	Manufacture of beer
11.06	Manufacture of malt
11.07	Manufacture of soft drinks; production of mineral waters and other bottled waters
46.38	Wholesale of other food, including fish, crustaceans and molluscs

Skillsmart Retail	
SIC 2007	**Definition**
47.11	Retail sale in non-specialised stores with food, beverages or tobacco predominating
47.21	Retail sale of fruit and vegetables in specialised stores
47.22	Retail sale of meat and meat products in specialised stores
47.23	Retail sale of fish, crustaceans and molluscs in specialised stores
47.24	Retail sale of bread, cakes, flour confectionery and sugar confectionary in specialised stores
47.25	Retail sale of beverages in specialised stores
47.29	Other retail sale of food in specialised stores
47.81	Retail sale via stalls and markets of food, beverages and tobacco products
People 1st	
SIC 2007	**Definition**
55.1	Hotels and similar accommodation
55.2	Holiday and other short stay accommodation
56.1	Restaurants and mobile food service activities
56.21	Event catering activities
56.29	Other food service activities
56.3	Beverage serving activities
Skills for Logistics*	
SIC 2007	**Definition**
46.11	Agents involved in the sale of agricultural raw materials, live animals, textile raw materials and semi-finished goods
46.17	Agents involved in the sale of food, beverages and tobacco
46.21	Wholesale of grain, unmanufactured tobacco, seeds and animal feeds
46.23	Wholesale of live animals
46.31	Wholesale of fruit and vegetables
46.32	Wholesale of meat and meat products
46.33	Wholesale of dairy products, eggs and edible oils and fats
46.34	Wholesale of beverages
46.36	Wholesale of sugar and chocolate and sugar confectionery
46.37	Wholesale of coffee, tea, cocoa and spices
46.39	Non-specialised wholesale of food, beverages and tobacco

*The wholesale sector, which lies within the footprint of Skills for Logistics was not included in the scope of this project, therefore it is excluded from all primary research undertaken. Nevertheless, for the purpose of FDSC calculations using secondary data, the wholesale sector was included using the 2007 SIC codes listed.

Appendix 2
Sector skills assessments

Generic Transferable Skills

Analysis of the individual SSAs highlights that to some degree, each sector suffers from poor basic skills. In each SSA it is noted that a proportion of employees within the sector has an issue with basic literacy and numeracy, as well as with the general skills needed to fulfil their chosen role. For example, Improve notes a lack of basic skills, food knowledge and business awareness among their process, plant and machine operatives, and elementary roles. They also note that the issue of poor basic skills is not unique to their sector, quoting the Welsh Assembly Government's recent statistics which identified 450,000 adults with literacy levels below Level 1 and 980,000 with numeracy skills of the same standard. Within the retail sector, 20 % of welsh retailers highlighted they have significant skills gaps, with the most commonly occurring being around basic skills; one in five employees have problems with basic numeracy and literacy. Another essential skill need is for improved communication skills, particularly in the hospitality and retail sectors. Skillsmart Retail notes that 37.1 % of employers believe that communication skills among their workforce need improving. In the hospitality sector, People 1st note that employers continue to report difficulties with recruiting staff who have the necessary customer service and team working skills. In the food processing and manufacturing sector, one in five employees are migrant workers and quite often, language skills among this group are poor. In its SSA, Lantra notes the need for employers to develop the generic skills of their workforce, particularly among low skilled employees.

Leadership and Management Skills

The SSAs reveal a substantial requirement for management, leadership and specialist skills throughout the supply chain. For example, in the retail sector, 43 % of employers believe that their current workforce needs to improve their management skills. Similarly, in the hospitality sector it is noted that management skills continue to be a major skill shortage facing employees. They also note that routes into management in the sector are not well established and so training and development of existing staff to overcome such shortfalls is imperative. There is, however, little detail in the SSAs about what exactly is meant by Leadership and Management and the skills that make up this category.

Technical Skills

The need for improvements in ICT skills is common to all FDSC sectors. Within primary production and the food manufacturing industry, the use of ICT is seen as important for data analysis, record keeping and in marketing. This is also the case within the retail and hospitality sectors where ICT skills are said to not only enhance marketing capabilities, but to also aid accounting and business management.

Further analysis of the SSAs revealed consensus among the SSCs across the supply chain that better customer handling skills are needed. As is already well known, customer service is vital to the day to day running of businesses within the retail and the hospitality sectors in particular, but the modern supply chain also sees producers and manufacturers dealing directly with consumers more frequently than ever before. This reinforces the need for improved customer handling skills across the entire supply chain from producer to consumer.

The SSAs note that skills shortages exist within the FDSC with regard to individual sector's reported inability to attract an appropriately skilled workforce. For example, within the manufacturing sector, skilled roles such as butchery are reportedly hard to fill due to a limited number of people applying or studying for such roles in the current climate. In the hospitality industry, employers face difficulties in recruiting skilled chefs. This results in significant recruitment issues as a result of a lack of specialist or highly skilled employees within the current market.

Drivers of skills demand

Inevitably, because of the interdependencies between sectors, there are a number of drivers of skills demand which impact upon the entire supply chain. These macro drivers can generally be categorised as economic, political/regulatory, environmental, social and technical. Table 16 lists the drivers of skills demand taken from each SSA, which are discussed further below.

Table 16 **Drivers of skills demand by SSC taken from each SSA**

SSC	Driver of Skills Demand
Primary Production	• Economic • Labour Supply • Climate Change/low carbon economy • Food safety and security • Animal health and welfare • Energy and fuel security • Health and safety • Technological development
Manufacturing	• Globalisation (esp. global retailing) • Trade regulations • Comparative cost of overseas production (inc. migrant workers) • The UK grocery market (prominence of multiple retailers) • Regulation and Compliance • Consumer Demand • Technology and Innovation • Environmental change
Retail	• Economic • Government policy and regulations • Globalisation of retail • Consumer trends and behaviour • Changing demographics • Technological automation • Online Retailing
Hospitality	• Labour Productivity • Consumer Expectations • Economic • Technological • Demographic • Environmental • Governmental

Economic

The recession has negatively impacted many areas of the FDSC, although there have been some which have flourished. Evidence suggests that food and drink consumption which is considered non-essential or luxury has been curtailed, whereas the purchase of lower cost goods as replacements for similar but more expensive items has increased. Similarly, evidence suggests that many consumers have replaced eating out with cooking at home. Understandably, the effects of the recession on skills demand is sector specific but commonalities do exist across the supply chain. Where the size of the market has been reduced as a result of the recession, improved customer handling skills are demanded to ensure market share can be retained, or even gained as competitors leave the marketplace. The recession might be seen as a catalyst for many businesses within the food and drink supply chain to diversify their activities and thus stimulate demand for a range of skills, depending on the nature of diversification. For example, diversification of primary producers into business activities further along the supply chain may lead to an increase in the demand for leadership and management skills, sales or ICT skills; as say, farmers choose to process, manufacture and sell their own produce.

Globalisation has been noted in most of the SSAs as a driver of skills demand and in particular global retailing; especially for the food processing and manufacturing, and retail sectors. The impact of globalisation on domestic skills demand can be significant. Improve notes that the increasing globalisation of world markets has resulted in multinational companies competing with each other as opposed to their domestic competitors. This has the potential to significantly impact upon domestic skills demand as multinationals seek to locate production in lower cost, overseas locations. The relocation of multinationals - which tend to be large employers, outside Wales can have a significant short term effect on the demand for certain skills. Although DEFRA states that the long term decline in food and drink manufacturing and processing employment is reflected by steady growth in labour productivity and limited growth in consumer expenditure[1]. Skillsmart Retail notes that globalisation presents the complex challenge of managing an organisation on a worldwide scale. Business models typically include multiple stores, channels and geographies and having the skills necessary to manage such models is paramount.

Political / Regulatory

The SSA for the food and drink manufacturing and processing industry notes that the regulation of food is a key element of the government's agenda. It states that the focus has been about the quality and safety of food and that obesity and healthy eating are 'hot topics'. Regulation and Government policies to address these issues impact the entire FDSC. For example, Lantra notes that the Market and Regulatory Pressures Campaign offers an approach that enables farmers to continue to produce more with less impact on the environment. Improve lists a number of regulation areas which impact on the processing and manufacturing sector, such as the food hygiene legislation and packaging regulations, as well as the working time directive and climate change levies - which also impact all other sectors in the food chain. Skillsmart Retail highlights a recent lull in the number of new policies, referencing the change in Government as the main reason - although they note the imposition of retail planning policies as having the greatest impact on the sector. People 1st notes a number of government strategies, such as the food tourism strategy, which impact on the skills needs of the sector. For example, the strategy aims to improve perceptions of Wales as a destination where high quality and distinctive food is widely available, highlighting that many SMEs across Wales will need to understand the importance of preparing and cooking locally sourced food and drink as well as marketing it.

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[1] The Department for Environment, Food and Rural Affairs (DEFRA), 2007. 'UK Food and Drink Manufacturing: An Economic Analysis'. Available online [http://www.defra.gov.uk/evidence/economics/foodfarm/reports/documents/FDM%20paperFINAL%2007.pdf]. Accessed [22.02.11].

Environmental

The impact of environmental issues on the food and drink supply chain is interlinked to the other drivers discussed in this section. Improve notes that food production and consumption in the UK and world-wide are significant and growing contributors to climate change and this has implications throughout the supply chain. At the production end of the supply chain, Lantra notes that the UK Low Carbon Industrial Strategy of 2009 outlines a strategic view of Britain's low carbon strengths and opportunities, detailing actions as a basis for implementation. They indicate that scarce water supplies, crop development, crop selection and location are key issues that the strategy aims to address. It is also noted that the agriculture sector has the potential to not only reduce the environmental impact of its activities but also to produce non-fossil fuels and sustainable alternatives and thus make a significant contribution to greenhouse gas reduction. As a result, environmental issues such as this can lead to a demand for a range of skills, from low carbon farming techniques to developing appropriate climate adaptation strategies. At the opposite end of the supply chain, People 1st indicates that sustainability is a key driver for tourism and the Visit Wales framework on sustainable tourism identifies a number of key challenges, including promoting local prosperity and minimising tourism's environmental impact through buying locally sourced and seasonal products, being energy and waste aware and being proud of the local environment. The skills necessary to achieve this will be essential. In terms of food production, Improve notes that climate change, coupled with the burgeoning global population will place more and more demand on the food supply and indicates that food security must be a primary objective for all governments.

Social

There are numerous social trends which are currently driving skills demand in FDSC and which will continue to drive demand in years to come. The four SSAs under review highlight these drivers to include:

- changing consumer demand
- changing consumer trends and behaviour, and
- changing demographics of the UK and global population.

In particular, the food and drink manufacturing and processing industry is largely driven by consumer preferences. The dominance of fast moving consumer goods (FMCG) in the industry through supermarkets is seen as almost entirely demand-led. As a result of consumers demanding ever more choice and quality at a lower cost, the industry is fiercely competitive and as such, pressure is placed on every value point in the supply chain to reduce costs and increase output. In many cases suppliers are forced to feel the profit 'pinch' as supermarkets exploit their purchasing powers to meet these increasing consumer demands and to compete in the competitive market place.

Another important social trend which drives skills demand in the supply chain is the increased awareness among consumers of health and nutrition. With one quarter of UK adults classified as obese in 2008, pressure is placed on manufacturers to ensure nutritional improvements are made and nutritional information is provided on products.

Another social phenomenon which has significantly impacted the food and drink supply chain is the emergence and growth of online retailing from the early 1990s. Skillsmart Retail quotes Datamonitor, who predict that by 2012, £1 in every £7 will be spent online and nearly two-thirds of shoppers will research online prior to buying in store. The growth of online retailing has been rapid and equally, so has the demand for skills necessary for retailers to embrace it.

Lantra also notes a number of social trends affecting their sector, such as awareness of food safety in light of recent outbreaks such as Bird Flu, Salmonella and Bluetongue, as well as the issue of bio-security. They also note recent research by the Smith Institute which highlights long term challenges facing the sector brought about by changing dietary patterns, amongst other factors.

Finally, the changing demographics of the UK and even the world will have a significant impact on the FDSC. The ONS predicts that by 2031 there will be more people drawing the state pension than there will be people under the age of 16 and the average age will have risen to 42.6 years. This will have significant impact upon those stages of the FDSC that comprise younger employees. As the type of available employees changes, so will the demand for skills. The global population is predicted to pass seven billion by the end of 2011 and with the rapid economic growth of the BRIC (Brazil, Russia, India and China) countries, food and drink supply will need to continue to increase and hence put pressure on dwindling resources. As new markets open up around the world, the domestic FDSC faces new challenges to ensure it can compete and contribute with food and drink supply on a global scale.

Technical

The rate of change of technology and innovation has implications for all sectors within FDSC, although for some, the effect is far greater than others. For food and drink manufacturing and processing, technology and innovation is a significant driver of new skills. Improve lists a number of innovations which have affected the industry, such as radio frequency identification (RFID), production utilising genetics and genotypes, novel ways of combining or packaging ingredients (chilled ready meals, smoothies etc.), high pressure processing, microwaves, and electronic shopping. However, despite the numerous technological advances, Improve refers to a recent study which suggests the take-up of automation in the industry is slow, partly because of the availability and flexibility of labour. Lantra highlights a related issue regarding the extent of knowledge transfer and in particular the dissemination of new techniques in areas such as food production, biodiversity, marine management, animal health and welfare and environmentally sensitive land management. To address this, they note that the UK Government Food Strategy indicates there will be a doubling of food research spending over the coming 20 years and therefore knowledge transfer is paramount. The main drivers of technology in the retail industry are summarised by Skillsmart Retail as being the need to do new and better things, such as the development of products that are compelling, and by applying efficiency and process improvements. Whilst not heavily dependent on new technologies, the hospitality industry will be affected by new technology primarily through its reliance on the internet for its trade. Demands for skills that meet the needs of this sector are centred on improved access to and use of the internet for the entire sector.

Future workforce demand and supply

Each SSA identifies a variety of routes which possess the potential to improve and maintain the current workforce of its sector. In general, many of the SSAs highlight the need for an increase in highly skilled employees. It is suggested that this could be achieved thorough targeted recruitment techniques, links with further education establishments and increased and improved training provided on job entry.

Primary Production - Firstly, considering the land based and environmental industries sector, Lantra identified that the workforce within Wales is becoming increasingly 'skills and knowledge based' and that there is a limited number of young employees entering the sector. Notably, those who do enter the sector are recorded as not having the necessary skills to fulfil the roles expected of them. To counter this, Lantra highlighted that bite-sized unit based training as well as knowledge transfer activities would greatly improve the future of the industry.

However, they also highlighted that to resolve the problem in recruitment a significant increase in awareness raising and promotion of the industry has to be made within higher education to bring in young employees who already have the necessary skills.

Manufacturing and processing - In terms of the food and drink manufacturing and processing industry, Improve predicts there will be an increase in highly skilled employees; including managers, senior officials and professionals between 2007- 2017. Conversely, they expect low, concentrated job losses in the intermediate and low-skilled trades as well as within operative roles. It is noted however, that Wales' FDMP employers' awareness of their future skills needs is greatly limited, with half of businesses anticipating no change to their skills needs. Even where employers do recognise that change is likely, they are unclear as to how this translates into skills requirements.

Retail - The retail sector within Wales has adapted considerably as a result of changing economic conditions in recent years. The sector highlights that there is a substantial lack of highly skilled employees within the industry, with a significant proportion of the general workforce lacking basic numeracy and literacy as well as general communication skills. Skillsmart Retail has highlighted that staff within the industry need to adapt and obtain the necessary retail skills to meet changing consumer behaviour. The skills necessary to maintain pace with technological advancements within the sector have also been identified as a future need. In particular, this includes online retailing and data analysis.

Hospitality and tourism - The hospitality and tourism sector faces a significant problem with high staff turnover of low skilled employees. The sector workforce is largely aged between 16 and 24 years and the industry is often viewed as a stepping stone for those in full time education or searching for a career job. People 1st outlines that the future of the industry workforce is reliant on raising awareness of the benefits of working in the sector and highlighting the fact that it is not only a job but is also a pathway to a prospective career. This, along with the relevant training, will help improve the number of highly skilled and technically skilled employees within the industry.

In terms of future skill needs common across the food and drink supply chain, it is expected that there will be a significant need for more highly skilled workers, in particular within managerial and specialist roles. The need for the necessary skills to maintain pace with technological advancements in the industry is also critical to all four sectors. With regards to recruitment, the common trend seems to be a need for increased and continued training of existing employees and of new recruits. Notably, the need for younger employees is predominately within upstream sectors rather than downstream in the food and drink supply chain. Within agriculture in particular, there are concerns over the ageing workforce and therefore recruitment of young employees is crucial. In the food retail and hospitality sectors there is an emphasis on a need to not only attract young people into the industry but critically to retain them within the FDSC by outlining that there are career opportunities.

As mentioned previously, serving customers is another commonality between these two sectors and is a skill that will constantly be in demand in order to keep up with ever changing customer expectations. With increasing diversification of primary producers and the evolution away from a linear supply chain, both the land based and environmental industries sector and the manufacturing sector will demand customer handling skills in the coming years.

Generally speaking, the food supply chain is looking towards establishing a younger, more highly skilled workforce across all sectors, which is not only focused on professional and managerial positions, but broadly on a range of food and drink specific technical skills. This information is presented in Table 3 for summary purposes.

Appendix 3
Research methodology

Quantitative Survey

A telephone survey of businesses of any size that trade in Wales and within the footprints of the four SSCs, which collectively define the scope of this research was undertaken. The survey was based on a pre-agreed survey which can be found in Appendix 7. Standard Industrial Classification (SIC) codes were used to define the research scope, a full list of which can be found in Appendix 1.

The sample frame used for this research was provided by Market Location. Three business database suppliers, Experian, UK Changes and Market Location were analysed to assess the number of available contacts for the defined research scope and the chosen supplier was found to have the widest coverage. In order to boost sample numbers for businesses, Lantra provided additional contact details for businesses in production horticulture, game and wildlife management, and fishing and aquaculture; and Improve provided additional contacts for the manufacturing sector.

Sampling

The intended sample size for the research was 1,850 businesses with specific numbers targeted in each of the four sectors. The target numbers were based on estimations of the total number of businesses within each sector. The targeted and achieved sample sizes are show in Table 17.

Table 17 **Target and achieved survey interviews**

Sector	Target number of interviews	Achieved interviews
Primary Production	650	700
Manufacturing	275	169
Retail	350	379
Hospitality	575	627
FDSC	**1,850**	**1,875**

There was a shortfall of interviews among businesses whose primary activity was in the manufacturing sector. To maintain the overall interview target, additional interviews with businesses from the other three sectors were undertaken. The shortfall of achieved interviews in the manufacturing sector was due to two main factors. Firstly, there was a small sample size (c.530) of suitable contacts. The achieved number of 169 interviews represents a success rate of approximately one in three, which is a good level of response for this type of research. Secondly, several of the businesses that were classified as manufacturing on the sample database did not describe manufacturing as their primary activity (rather it was their secondary activity) and thus do not count toward the manufacturing target. Nevertheless, it is worth noting that when considering both primary and / or secondary activity, a total of 253 businesses were involved in manufacturing.

To ensure that a representative sample of businesses were interviewed within each sector, quotas were set on business size and sub sector. Information from the sample frame provided by Market Location was used as the basis to set these quotas and slight adjustments were made where necessary to reflect existing knowledge of the sector or to meet sample requirements. These adjustments were as follows:

- Primary production - targets of 25 interviews for fishing / aquaculture and game & wildlife management businesses were set, as well as a target of 50 interviews for Production Horticulture businesses.
- Hospitality - an increase in the number of interviews within the sub sector 'event catering' from 1.5 % of the total sample to 3 % was carried out. A reduction in the number of take away shops and mobile food stands to 19 % (from 32 %), and an increase in the target number of licensed restaurants and cafes to 28 % (from 15 %) was undertaken. Finally, an increase in the number of businesses with more than 50 employees from 1.5 % of the overall sample to 3 % was undertaken.

The target and final achieved interviews by business size and by sub sector are shown in Table 18 and Table 19 respectively.

Table 18 **Business size sample breakdown**

	Primary Production		**Manufacturing**		**Retail**		**Hospitality**	
	Target	**Achieved**	**Target**	**Achieved**	**Target**	**Achieved**	**Target**	**Achieved**
Number of employee's	%	%	%	%	%	%	%	%
1 to 10	98	99	73	74	81	66	83	76
11 to 50	1	1	16	16	14	29	14	21
51+	1	*	11	9	5	5	3	4

Table 19 **Sub sector sample breakdown**

		Relevant Sector	
		Target	Achieved
	Sub Sector	**%**	**%**
Primary Production	Raising of Livestock	84	89
	Growing of crops, fruit or vegetables	8	6
	Game & Wildlife Management	4	1
	Fishing or Aquaculture	4	2
	Other	-	2
Retail	Retail sale in non-specialised stores with food, beverages or tobacco predominating	51	55
	Retail sale of fruit and vegetables in specialised stores	4	3
	Retail sale of meat and meat products in specialised stores	15	11
	Retail sale of fish, crustaceans and molluscs in specialised stores	1	1
	Retail sale of bread, cakes, flour confectionery and sugar confectionary in specialised stores	16	9
	Retail sale of beverages in specialised stores	5	6
	Other retail sale of food in specialised stores	7	15
Hospitality	Hotels and other accommodation	19	20
	Restaurants and Cafes	28	33
	Take away food shops and mobile food stands	19	13
	Event catering activities	3	4
	Beverage serving activities	31	30
Manufacturing	Processing / manufacturing of food	77	84
	Processing / manufacturing of animal food	14	8
	Processing / manufacturing of beverages	9	8

Notes

1. No quotas were actually set during fieldwork for the manufacturing sector as the intention was to generate as many interviews as possible from the c.530 contact details provided. The 'target' figures above are nominal and reflect the profile of business on our sample frame.
2. Whilst only 2 % (or 13 businesses) had fishing / aquaculture as their primary activity, 4 % (25 businesses) were involved in fishing / aquaculture as a primary or secondary activity.
3. Whilst only 1 % (or 4 businesses) had game and wildlife management as their primary activity, 4 % (22 businesses) were involved in game and wildlife management as a primary or secondary activity.

Weighting

To reflect the fact that the number of employees in the organisations within each sector varies, weighting was applied to the data to ensure that the total data set was representative of all those employed across the four sectors. The basis of this weighting was the information published in the Cluster Report (Miller Research, 2011) which detailed employee numbers in each of the four sectors in the areas covered by this research. These numbers are set out in Table 20 and Table 21 shows the final weighted (and un-weighted) sample profile by sector. This information can be used to estimate the gross number of businesses a particular response applies to.

Table 20 **Survey weighting by employee numbers**

Sector	**Estimated absolute number of employees**	**Weighting percentage**
Primary Production	57,300	25
Manufacturing	23,400	10
Retail	61,200	26
Hospitality	91,100	39
FDSC	**233,000**	**100**

Table 21 **Final un-weighted and weighted sample profile**

Sector	Un-weighted sample size (number of interviews)	Weighting percentage	Weighted sample size (number of interviews)	Weighting percentage
Primary Production	700	37	461	25
Manufacturing	169	9	188	10
Retail	379	20	492	26
Hospitality	627	33	733	39
FDSC	**1,875**	**100**	**1,875**	**100**

Fieldwork

Fieldwork was conducted between 28th March 2011 and 11th May 2011 by Beaufort Research's trained team of interviewers. Interviews were administered by CATI (Computer Assisted Telephone Interviewing) and were undertaken with the person in each organisation who was responsible for recruitment of staff. The questionnaire used for this research can be found in Appendix 4.

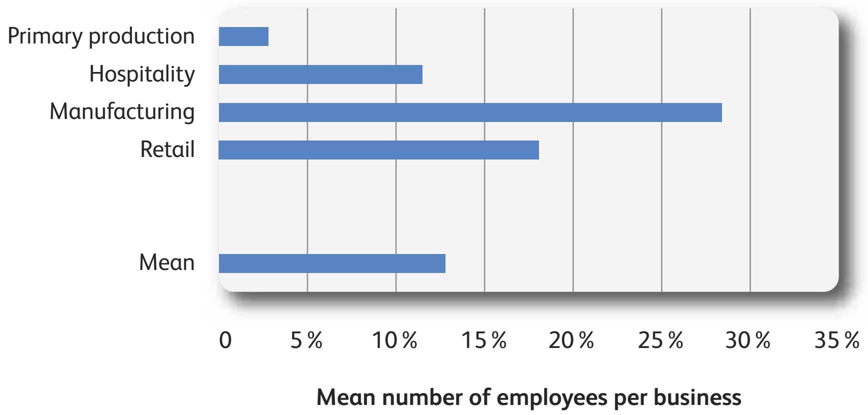
Data tabulations

Data tabulations documenting the results of the survey have been produced in various volumes. Each volume includes all questions in the questionnaire analysed against a different set of analysis breaks.

Business size

The average number of employees per business included in this survey was 13. This was far higher for manufacturing businesses, where the average was 29 and much less for primary production businesses which had an average business size of 3 employees. Figure 33 shows the means for all sectors.

Figure 33 **Mean number of employees per business**



Source: Table A 26 in Appendix 8

In the primary production sector, approximately three-quarters (78 %) of businesses surveyed employed less than ten people and 30 % employed two people or less. There was only 1 % of primary production businesses who employed more than twenty people and only 3 % in total who employed more than five people.

In both the hospitality and manufacturing sectors almost three quarters (74 %) of all businesses surveyed employ less than 10 people. The majority of the remaining quarter of hospitality businesses employed between 11 and 20 people although 4 % of businesses employed more than 50 employees. Among businesses operating in the manufacturing sector, nearly one in ten (9 %) employed more than 50 people, hence the higher average number of employees for businesses in that sector.

65 % of business respondents who operated mainly in the retail sector employed less than 10 people. A little less than a third of respondents employed between 11 and 50 employees, while only 4 % of the businesses surveyed who operated in retail employed more than 50 employees.

Breakdown of Language of respondents

All survey respondents were asked if they would like to take the survey in English or Welsh and 96 % of respondents chose to take it in English. More respondents requested to undertake the survey in Welsh in the primary production sector than any other sector (11 %). Further analysis of the use of Welsh language can be found in the section on profile of businesses.

Appendix 4
Qualitative research topic guide and online survey questionnaire

Qualitative research topic guide

Changing Market

What are your views on current performance and prospects for the food and drink supply chain?

What are the main factors driving change in your field?

(For example: economic and political, or social and environmental factors)

Is an increased awareness of food sustainability and/or low carbon activities impacting on the FDSC?

What impact if any is climate change having on the FDSC?

What new/innovative/cutting edge practices are you aware of in your sector?

We are finding that difficulties with local sourcing and distribution networks seem to be an issue for some businesses in the supply chain – what are your thoughts on this?

What new skills needs are emerging that need to be addressed?

Are you aware of any new technologies /techniques etc. that are being used more in the FDSC?

We are finding that increasingly, businesses require retails skills and in particular presentation of goods for sale – what is your experience of this?

We are finding that recently, providing customers with a ‘sense of place’ is becoming important for some businesses – what is your experience of this?

How do you feel about the current supply of skills? How important are perceptions of the FDSC?

How reliant are we on migrant workers, and why?

What can we do to improve the supply of skills and labour?

Are there opportunities for recruiting from different parts of the food supply chain?

Do you have an opinion on the quality and availability of practical facilities for students?

Cross-sectoral skills

Our view of skills that are common across the FDSC will include things like leadership and management, generic skills such as literacy and employability.

However, we are also interested in more technical skills such as meat cutting, raw materials handling, local sourcing and customer service skills. Are there any other areas that stand out for you?

How do generic skills or management skills vary across the supply chain?

What opportunities are there for diversification into other areas of the food and drink supply chain?

Training and development

We are exploring the idea of core modules for the food chain as a whole, with sector specific modules for particular settings. Would this work?

What opportunities are there for cross-sectoral progression?

Does it happen at present? Could it be encouraged? If so how?

How can we develop a better image for careers in food supply?

What impact do you think the recent increase in media attention given to the food supply chain is having? For example the increase in Chef related TV programmes?

In your opinion, how do you think the food and drink supply chain is portrayed by potential employees as a career path?

Agriculture Specific: Are you aware of a changing profile of entrants into the industry? – in terms of highest qualification level of entrants / existing links with the industry (e.g. students with no previous link to the sector)

Online survey questionnaire

1. Are you studying a course that is related to the food and drink supply chain in some way?

Yes

No

For example, agriculture, horticulture, food and drink production, food and drink processing or manufacturing, food and drink service such as cooking, catering and hospitality or food and drink retail.

2. What course(s) are you studying? And where are you studying?

Barry College

Bridgend College

Coleg Ceredigion

Coleg Glan Gafren

Coleg Gwent

Coleg Harlech

Coleg Llandrillo

Coleg Menai

Coleg Morgannwg

Coleg Powys

Coleg Sir Gar

Deeside College

Gower College Swansea

Llysfasi College

Merthyr Tydfil College

Neath Port Talbot College

Pembrokeshire College

St David's Catholic College

Yale College Wrexham

Ystrad Mynach College

Other (please specify)

3. Which of the following industry sector(s) would you like to work in?

Agriculture / food and drink production

Food and drink processing / manufacturing

Food and drink service and hospitality (including chefs, cookery and catering)

Food and drink retail

Other (please specify)

4. Thinking about the industry sector(s) chosen in the previous question, to what extent do you agree with the following statements about other people's perceptions.

Totally agree, agree, disagree, totally disagree;

Most people see my chosen industry sector(s) as a temporary career.

Most people think that my chosen industry sector(s) is low paid and part-time.

At school/college, subjects relating to my chosen industry sector(s) are not given as much importance as other subjects.

Many people choose to work in my chosen industry sector(s) if they can't get a job somewhere else.

My chosen industry sector(s) is highly regarded by my family and friends

5. How do you feel about your job prospects at the moment?

I feel really positive

I feel quite positive

I'm worried

I'm very worried

6. To what extent do you agree with the following statements about your job prospects?

Totally agree, agree, disagree, totally disagree;

I think it's harder to get a job now than it has been in the past.

The economic recession has meant there are less jobs in my chosen industry sector(s).

The best jobs in my industry sector(s) are outside Wales

7. To what extent do you agree with the following statements about the course you are studying.

Totally agree, agree, disagree, totally disagree, n/a

The course I'm doing is just a way of getting a job I expect to learn how to do the job when I get one.

The course I'm doing now is teaching me everything I need to know to be work ready.

The course I'm doing is completely up to date with the technology and knowledge that is being used in the industry I want to work in.

8. Thinking about your chosen industry sector(s), what skills do you think you will need to have?

9. Thinking about the skills that you might need in your future career, which of the following statements BEST describes how you feel?

I will have to do more training in my job because the skills I will need cannot be taught in a classroom

I will have to do more training because learning will be ongoing throughout my career

I will have all the skills I need for my career when I finish the course I am studying

10. To what extent do you agree with the following statements about your career potential?

Totally agree, agree, disagree, totally disagree;

I see my chosen career as a stepping stone to something better.

I want to work in my chosen industry for my entire career.

My chosen industry sector(s) is good to work in.

I think there will be opportunities for me to change jobs but stay within the food and drink industry.

SURVEY END

Appendix 5
Literature Review

Government Policies and Strategies

Farming Food and Countryside – Building a Secure Future, May 2009[2]

The Farming, Food and Countryside (FFC) document outlines the Welsh Assembly Government's policy direction to secure a sustainable future for the farming, food and land based production industries and the Welsh countryside environment through to 2020. The overarching objective of the FFC is to contribute to the delivery of the Government's 'One Wales' commitments by stimulating a sustainable and profitable future for farming families and businesses. It aims to achieve this through increased production and processing of farm and forestry products whilst also:

- Safeguarding the environment, animal health and welfare
- Adapting to climate change and mitigating its impacts, and
- Contributing to the vitality and prosperity of our rural communities.

The strategy of the FFC identifies five key aims.

- Connecting to the marketplace
- Producing sustainably and profitably
- Safeguarding animal health and welfare, plant health and food safety
- Sustaining our countryside, and
- Encouraging innovation.

Under the banner of connecting to the marketplace, the strategy notes challenges with ensuring that farmers are equipped with the business, marketing and people management skills necessary to collectively market produce and manage producer co-operatives successfully. It is noted that the Government will promote and support collective action among farmers. To achieve this, it suggests that farmers will demand skills they either do not have or that are not inherently linked to the agriculture sector. This research, which aims to provide robust information about cross-sectoral skills needs, will therefore be essential in understanding what skills are needed and where, as well as ensuring collaborative provision of learning is offered to facilitate such market development. Further still, the proposed action plan of the FFC aims to include actions to strengthen education and lifelong learning in relation to a number of food related skills and this research is expected to lead to the collaborative provision of crosscutting skills needed in the food supply chain.

The FFC highlights the need for the industry to be 'fit for the future' and highlights the challenge of attracting young entrants. It is an action of the Welsh Assembly to work with agricultural colleges and Lantra to ensure that vocational education, training and skills development for young people takes account of such challenges and it is believed that this research will provide valuable insight into both the skills needs of potential young entrants as well as issues or barriers which affect youngsters decisions to enter the industry. The findings of the research will therefore be important for achieving this action.

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[2] Welsh Assembly Government, 2009. 'Farming, Food & Countryside: Building a Secure Future: A New Strategy for Farming'. Available online, [http://wales.gov.uk/docs/drah/publications/090507ffcmaindocen.pdf]. Accessed [22.02.11].

The Food Strategy for Wales – 'Food for Wales, Food from Wales 2010-2020'[3]

The Food Strategy for Wales, prepared by the Welsh Assembly Government in December 2010 acknowledges growing concerns about the security of the Welsh food supply. In the light of environmental, health and social impacts of changes to the food system, its approach recognises a shift from the provision of bulk quality foods at a reasonable price to an approach focussed on sustainable development - including economic, social and environmental impacts of the production and consumption of food. It is the intention of the Strategy to build resilience in the food system by considering crosscutting issues such as health, food culture and education, food security, environmental sustainability and community development.

"The Food Strategy is centred on an overarching theme of building connections and capabilities" and the strategy outlines four commitments which interventions must be guided by. They are;

- Sustainability
- Resilience
- Competitiveness, and
- Profitability.

The Strategy identified five key drivers for change which are:

- Market Development
- Food Culture
- Sustainability and well-being
- Supply Chain Efficiency, and
- Integration.

The Strategy also identifies the main focus of recommendations for each change driver detailed above. Notably, three of the recommendations for 'supply chain efficiency' are complemented by this research project. They are: skills development throughout the food supply chain, investment in food chain R&D and to promote efficient knowledge sharing, and supporting collaborative partnership. Further still, the findings of this research demonstrate close synergies with the proposed future direction of the strategy. The strategy indicates that a delivery plan will be developed in partnership with industry to drive it forward. The key components of this include the need to develop a robust and transparent evidence base, and to work in partnership with industry and other key stakeholders to identify their role in delivery. This research is the first of its kind in the FDSC in Wales which brings together research spanning four Sector Skills Councils' (SSCs) footprints.

The aim of this research is to establish robust information regarding the demand for education and skills across the supply chain and investigate how this is likely to change over the next ten years. Once established, this knowledge is expected to form the basis of collaborative activities between the SSCs to plan ahead, advising both employers and public agencies on appropriate strategies and policies. Thus, it is felt that this research directly contributes to two key components of the Food Strategy for Wales' impending delivery plan.

[3] Welsh Assembly Government, 2010. 'Food for Wales, Food from Wales 2010/2020: Food Strategy for Wales'. Available online, [http://wales.gov.uk/docs/drah/publications/101207foodforwalesfoodfromwalesen.pdf]. Accessed [22.02.11].

Food Tourism Action Plan (2009)

The Food Tourism Action Plan (FTAP) produced by the Welsh Assembly Government in 2009 is a document which aims to make connections between the Welsh FDSC and the tourist industry within Wales. The plan itself has been developed in partnership with a host of representatives from both industries and highlights the current challenges and opportunities faced by each sector, as well as setting out a number of actions to address current issues. The overall aim of the plan is to, "support the competitiveness of Welsh tourism, hospitality, food and drink businesses in a way that is economically, socially and environmentally sustainable." The plan also sets out to achieve the following objectives.

- Increase visitor numbers to Wales who are likely to return and become advocates for Wales
- Ensure more visitor spend stays in the local economy
- Ensure more visitors to Wales feel that they have experienced a distinctive Welsh experience
- Increase demand for Welsh food and drink produce
- Minimise the impact of the tourism and food and drink industries on the environment.

The FTAP recognises that food is an essential part of the tourism offer in Wales, with visitor trends indicating that interest in food continues to rise at a substantial rate. Visitors are now seeking a high quality and distinctive food experience when choosing tourist destinations and the availability of high quality, local food has become a key driver for many people when selecting a place to visit.

The document sets out the challenges and opportunities faced by the sectors, and proposes a number of actions to address these issues. One of the major areas of concern surrounds changing public perception and raising awareness of Welsh food, with many visitors unaware of the high quality produce and restaurants available to them when visiting the country. In order to tackle this the Food Tourism Action Plan outlines an increase in marketing and rebranding of certain aspects of industry including high profile food events and the True Taste brand.

FTAP acknowledges that a major barrier to the development of food tourism within Wales is attracting and retaining skilled staff. Research undertaken by People 1st in 2007 shows an estimated 34% staff turnover rate in the industry. The demand for chefs grew over a six year period whilst the number of chefs being trained through the education system was recorded as declining by 10% over the same time. There was also evidence that the quality of training provision declined as the NVQ system failed to support the provision of high quality practical catering skills. Many restaurateurs felt that they were unable to achieve the standards to which they aspired because of the difficulties of obtaining staff with the appropriate skills. In the FDSC, the skills required by front of house staff were identified to be further complicated given the technical skills of dealing with customers (serving food, taking orders). The Food Tourism Action Plan sets out two new developments to address these problems:

- A new 3 level Hospitality and Catering Diploma for 14–19 year olds, and
- The Applied Ability Awards, practical exams for professional chefs, designed and delivered by chefs.

Linkages between the producer, hospitality and retail sector are also identified as an area which needs to be developed in order to improve food tourism in Wales. Some work has already been undertaken to improve supply chain linkages. For example through investment in the Supply Chain Efficiency Scheme, or the work of some Leader groups - which has led to greater awareness of the advantages and opportunities offered by using quality, Welsh produce in hospitality establishments. Networking and increased communication between the two sides are recognised as leading to further product development, accessing of new markets and collaboration on issues such as distribution and improved servicing of clients, ultimately improving the overall food supply chain.

The Impact of the Common Agricultural Policy Reform on UK Agriculture[4]

The purpose of this paper is to set out the Welsh Assembly Government's initial views on the Common Agricultural Policy (CAP) 2013 Reform. It takes a predominantly Welsh viewpoint upon the subject outlining the current impact the CAP has upon the industry, as well as the prospective effects of the policy reforms.

The document states that funding available through the European Union via the CAP makes a vital impact upon sustaining farming and food production in Wales. Farmers continually struggle to make profitable returns from the current market with the CAP Single Payment Scheme (SPS) typically contributing to 80-90% of a farmer's business income. Research in 2010 indicated that farming within Wales would not be viable without the contribution from the European Union.

The National Assembly recognises the significance of CAP to the future of farming and food production within Wales and holds the viewpoint that there must be no fundamental changes in the underpinning purpose of the policy, "To provide income support for farmers, to sustain food production and to continue to support sustainable land management action."

The Welsh Assembly Government expresses that it will remain committed to a CAP reform as long as it:

- Maintains direct support
- Provides the basis for sustainable food production
- Strengthens the competiveness of our land based industries
- Recognises the role of farming in safeguarding and enhancing the natural assets of Wales; and
- Contributes to the socio-economic development of our rural communities.

The document has implications for this research as not only does it provide insight into the current status of the farming industry within Wales, but also highlights the impact and self reliance of Welsh farming and primary production upon European funding.

Sector Research

The National Strategic Skills Audit for Wales 2011[5]

In the summer of 2010 the Welsh Assembly Government published a holistic economic renewal strategy in response to the recent recession's economic challenges. Although the strategy was disappointing in that it did not highlight the FDSC as a priority, it did focus on creating the right environment for businesses to thrive, succeed and ultimately contribute to the financial recovery. Skills make up a large part of the strategy and having the right skills available in business is recognised as crucial leading to higher productivity and profitability. The first National Strategic Skills Audit for Wales was produced by the UK Commission for Employment and Skills (UKCES) and is broken down into a number of areas looking at the existing structure of the Welsh economy, current skills shortages, drivers for change, key sectors and priorities for action.

Skills shortages refer to vacancies that are hard to fill as a result of existing employees failing to have the necessary skills experience or qualifications. The number of skills shortages was reported to be relatively low in Wales, totalling an estimated 2,000 people across the workforce. Associate professionals and skilled trades were identified as occupations which accounted for the greatest share of skills shortages.

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[4] UK Parliament, 2011.'The Impact of the Common Agricultural Policy Reform on UK Agriculture', Available online at [http://www.publications.parliament.uk/pa/cm201011/cmselect/cmenvfru/writev/671/cap28a.htm]. Accessed June 5th 2011.

[5] UK Commissions for Employment and Skills (UK CES), 2011. 'Skills for Jobs: The National Strategic Skills Audit for Wales 2011 – Volume 1: Key Findings, 2011, Available Online [http://www.ukces.org.uk/assets/bispartners/ukces/docs/publications/national-strategic-skills-audit-for-england-2010-volume-1-key-findings.pdf] Accessed 5th June 2011.

Skills gaps are far more common across the Welsh economy with 28 % percent of establishments reporting gaps, translating to an estimated 80,000 workers. In terms of occupational roles, the report suggested sales, customer services and machine operative roles contributed the largest number of skills gaps. However, in recent years the most rapid increase in incidence of skill gaps has been in higher level roles, such as managers and professionals.

In terms of future priorities, the audit highlighted a growing requirement for corporate managers across all sectors, continued demand for workers in skilled trades and occupations to meet demands of manufacturing and construction, and a significant demand for improvements in customer care. With reference to the food supply chain the audits stated that there was a shortage of food technologists and chefs within the sector, recognised as vital to the future of the food industry and with the potential to knock on to related areas such as tourism and manufacturing.

The National Strategic Skills Audit for Wales provides a supportive piece of literature to the research currently being undertaken. It not only provides a focus on the subject of skills, but also covers some of the main issues examined throughout the food supply chain research. Although the audit is too general to make specific comparisons with the subject of the FDSC in Wales and the individual sectors within the supply chain, it does offer an initial benchmark for industry comparisons to be made.

The United Kingdom Food Supply Chain report[6]

The United Kingdom Food Supply Chain (UK FSC) report produced by Improve, the Sector Skills Council (SSC) for the manufacturing and processing sector (in collaboration with Lantra, People 1st, Skillsmart Retail, Skills for Logistics, DEFRA, FDF, IDG and NFU) highlights the key issues facing the UK FSC. The document incorporates key structural economic indicators which emphasise the importance of the food industry within the UK economy, as well as providing a primary reference source for skills needs, occupations and activities across the supply chain. The report intends to support the impending Skills Action Plan for the Food Supply Chain (2011) due to be published in June 2011. The Action Plan, initiated by the Sector Skills Councils (SSCs) along with associate organisations, will look to improve workforce skills across the entire food chain.

The report is structured around the five SSCs, Lantra, Improve, People 1st, Skills for Logistics and Skillsmart Retail - who collectively make up the UK FSC, from primary production through to food retail and hospitality. The report not only focuses upon the current state of each sector, including occupational profiles and current workforce skills, but also indicates future needs and provides solutions to make the transition and ultimately improve the UK food supply chain.

In terms of skills deficits, significant gaps were highlighted in each sector within the UK FSC. In primary production there is reported to be a considerable deficit in recruiting employees who have the necessary skills to fulfil the skilled trades role. This is attributed to the infrequent nature of recruitment within the sector, given that many businesses are micro enterprises where there is minimal staff turnover. Skill shortages within this area are generally seen to be temporary, and primarily as a result of a lack of experience, although the sector does suffer considerably with attracting a fresh supply of employees.

[6] Improve, 2011. 'United Kingdom Food Supply Chain, 2011'. Available Online at [http://improveltd.co.uk/industry-report/uk-food-supply-chain-report], accessed 5th June 2011.

The manufacturing sector is believed to suffer from a similar issue where predominately, the high skilled roles within the industry are extremely hard to fill. In order to tackle this issue, Improve has begun focusing on improving current channels into the sector. One example of this is the formulation of Improve Proficiency Qualifications (IPQ's) and Improve Vocational Qualifications (IVQ's) set up in line with the UK Vocational Reform Programme. Improve has also worked on developing a coherent and responsive set of standards, based on a comprehensive and overarching analysis of the structure of the industry.

Within the retail sector, a large proportion of businesses highlighted a considerable difficulty with the generic skills levels of employees, with many suffering from low communication and numeracy skills as well as having less than 5 GCSE qualifications. Poor customer service was another issue outlined by Skillsmart Retail, which will resonate with other sectors of the food supply chain, in particular the hospitality sector. In order to improve this issue, People 1ST secured the UK license for the World Host Customer Service programme developed for the 2010 Winter Olympics in Vancouver by Tourism British Columbia. The programme is now supported across all Sector Skills Councils (SSCs) to provide a consistent strategic approach to customer service across the food supply chain. The hospitality sector is identified as having a history of suffering from high staff turnover at an operational level, which in turn restricts progression within the industry and ultimately causes gaps in skilled management. As a result, People 1st has begun to increase apprenticeships within the sector, in a bid to encourage employees to progress onto higher skilled roles and hence improve the productivity and management of the hospitality industry.

The UK FSC report provides a thorough insight into the sectoral skills needs of the UK food supply chain. The document provides a useful starting point in understanding the structure and formation of the SSCs and the issues they face in terms of skills deficits. Overall the document is extremely complementary to the research we are conducting as part of this project.

Building on Success

The Building on Success document produced by IGD[7] explores the current condition of the food supply chain across the UK. The report examines the whole FDSC from primary production to the dining table exploring the changing atmosphere of the FDSC and the potential problems it may face in the upcoming future.

The document begins with the review of a recent conference highlighting the changing face of the food retail sector and how businesses are currently addressing these changes. The continuing change in consumer spending habits is one issue currently affecting food retail. Retailers are continually trying to differentiate between their competitors leading to a greater tailoring of stores and ranges.The French supermarket Carrefour has incorporated a large, seasonal area changing seven times a year in their stores as well as a second space, hosting twenty-eight events per year including innovative features such as a 'virtual make up consultant', a baby advisor and a cookery coach in a bid to increase the time customers spent in store ultimately impacting upon profitability.

Future proofing of the food supply chain is yet another issue discussed within the document and once again looks at some of the hazards affecting the FDSC and how these in turn can be improved. The document indicates that food security, climate change and increased demand have placed increased pressures on food businesses involved within supply. In order to address issues which are not foreseeable and therefore more likely to impact economically, described as 'Black Swan Events', businesses across the food chain are currently implementing methods in which to boost efficiency.

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[7] The Institute of Grocery Distribution

An example of this is Heinz who are currently driving a global programme for reducing water used in agriculture by developing a range of measures including: selecting more drought tolerant plants, using efficient “drip” irrigation and ensuring that irrigation systems are well maintained. Reducing dependence on scarce resources helps but it doesn’t provide full protection against possible interruptions in supply. This is where a strategic approach to sourcing is vital.

With regards to skills, the report describes the rapidly changing requirements needed within the food chain. IGD hosted a Food and Grocery Industry Skills and Employment Summit, Spanning the whole chain, debating today’s big skills and employment issues and made an assessment of the industry’s future need. Several challenges were cited at the event such as an

- Insufficient understanding about what business involved in the FDSC want from the education system
- The number of food technology courses is declining as demand from student’s falls
- Time pressure means fewer people are able to participate
- Yesterday’s teaching methods don’t engage the younger generation.

In terms of skills required in the current climate, a survey compiled by IGD indicated that 95 % of companies felt skills gaps were among graduate recruits in professional numeracy (e.g. ability to develop budgets or assess weekly sales figures). Three quarters reported skills gaps in numeracy and literacy among school leavers and nearly forty percent reported problems recruiting people with basic skills in food technology.

IGD has delivered training and development tailored to the needs of people at all levels of the food supply chain. They help individuals advance their careers and companies to grow by increasing sales, reducing costs and lowering their environmental impact. In response to the changing skills agenda, IGD has launched a new Academy - a centre of excellence for learning and development. The resource caters for all industry levels and offers a range of training from practical open workshops, in-house training, entry-level overviews and networking events to cross-functional, long-term organisational learning programmes. The IGD Academy harnesses commercial, consumer, supply chain and retail expertise. The one- and two-day workshops are hosted in a newly refurbished state-of-the-art training suite and cover a selection of areas including

- Successful category management
- Introducing ranging and merchandising
- Data driven insights
- Shopper engagement
- Customer engagement
- Investment and promotional effectiveness
- Creating and managing budgets
- Introduction to supply chain
- What do retailers want from your supply chain?
- Sustainability: understanding the FMCG perspective.

The IGD ‘Building for Success’ document is highly relevant to the current research as not only does it provide an insight into the different aspects of the food supply chain but also continues to delve further highlighting the issues that affect each particular sector from production to retail. The document appreciates and recognizes the importance of skills development in improving profitability and productivity of the food supply chain and provides an example of how different agencies within the food industry are addressing issues for the future.

The Future of Food and Farming

The aim of this report - written by the Government Office for Science, London, was "to explore the pressures on the global food system between now and 2050 and identify the decisions that policy makers need to take today, and in the years ahead, to ensure that a global population rising to nine billion or more can be fed sustainably and equitably"[8].

The report notes global challenges with meeting a growing demand for food. The increasing population, coupled with increased wealth is expected to fuel demand for food, in a increasingly competitive global economy where competition for land, water and energy will intensify. All of this, they say, will lead to a strategic reappraisal of the way the world is fed. The report offers five key challenges for the future, which if addressed, it believes can manage changes. They are:

- Balancing future demand and supply sustainably – to ensure that food supplies are affordable
- Ensuring that there is adequate stability in food supplies – and protecting the most vulnerable from the volatility that does occur
- Achieving global access to food and ending hunger. This recognises that producing enough food in the world so that everyone can potentially be fed is not the same thing as ensuring food security for all
- Managing the contribution of the food system to the mitigation of climate change
- Maintaining biodiversity and ecosystem services while feeding the world.

The report also acknowledges the major failings in today's food system, namely widespread hunger caused by sub optimal diets and the un-sustainability of food production. It notes different types of hunger. Those with limited access to macronutrients such as carbohydrates, fats and proteins, and 'hidden hunger' cause by a lack of access to food with sufficient vitamins and minerals. It also notes the increasing incidence of over consuming which causes chronic conditions such as type 2 diabetes and cardiovascular disease. In terms of food production un-sustainability, the report notes that without change the global food system will continue to degrade the environment and compromise the world's capacity to produce food in the future, as well as contributing to climate change and the destruction of biodiversity. The report concludes that action must be taken now and that action must consider the global food system. Furthermore, the report calls for increased acknowledgement of the role of food in the global economy, stating that it should be recognised as a unique class of commodity – calling for recognition that views of food go beyond narrow perspectives of economics and food security.

Sector Initiatives

Developing Sustainable Food Business[9]

Developing Sustainable Food Business (DSFB) was a pilot project funded by Powys-based rural development initiative Glasu and delivered by Ecostudio, experts in developing sustainable business for the FDSC. The project ran from October to December 2010 and focused upon reviewing small local food businesses within the local authority and making them more sustainable and pro-active within their chosen sector. Over fifty businesses applied to take part in the pilot from which only five were chosen. Each business was assigned a mentor who helped establish a set of goals and created the capacity in which the business could develop.

[8] The Fovernement Office for Science, 2011 'The Future of Food and Farming', Available online [http://www.bis.gov.uk/assets/bispartners/foresight/docs/food-and-farming/11-546-future-of-food-and-farming-report.pdf] p10.

[9] Ecostudio,2011. 'Delivering Sustainable Food Business', Available Online, [http://www.glasu.org.uk/en/uploads/documents/Developing%20Sustainable%20Food%20Businesses%20Final%20Report.pdf], accessed 5th June 2011.

More than 70 % of respondents requested support with the following common food business activities: product development, supply chain, branding, packaging, distribution and marketing. This identified a number of potential collaborative project opportunities and provided a way to align sustainable development with business needs.

The pilot was a success and clearly showed how small business mentoring and supplying skills in business activities can be extremely beneficial in strengthening productivity and the overall supply chain. This provides evidence for this research, as it shows how small-scale businesses with evident skills deficits can benefit from skills mentoring, as well as identifying some of the more common, cross-cutting skills needs in the FDSC.

The Sustainable Supply Chains Initiative: Benchmarking and Practical Implementation of Sustainable Development In Micro-Enterprise Food Supply Chains[10]

The 2010 Food Strategy for Wales produced by the Welsh Assembly Government placed sustainable development as a central driver for the future of food and farming in Wales. The Sustainable Supply Chain initiative provided innovative ways to assist microenterprises to embrace sustainable practices, develop tools and techniques, and to create a suite of indicators to help benchmark sustainability in food supply chains. The pilot, which focused on south east Wales and ran from July 2009 to February 2011 included;

- Consultation with over one hundred microenterprise food and drink producers and other supply chain businesses
- Generation of over eighteen project opportunities
- Selection of five projects against a strict eligibility criteria, and
- Supporting over forty micro enterprise food and drink businesses and other supply chain partners.

The following five areas were focused on during the eighteen month project:

- Calon Wen Organic Dairy Co operative: ecological footprint evaluation for new product development
- Community Food Co-operatives: sustainability review and development of an action plan to build the marketplace for the Welsh horticulture industry
- Sustainable Welsh Wine: developing a commitment to sustainable production and consumption amongst a collaborative group of wine makers
- Riverside Market Garden: testing a new resilient model of horticultural enterprise and enabling supply chain ownership by local communities
- Farmers market and micro distribution hubs: developing collaborative marketing and distribution opportunities for small food producers to step up the availability of local food to trade buyers.

The project highlighted to both micro enterprises and larger businesses across the food chain that sustainable development is both viable and important within the current climate. Businesses need to address the common and immediate challenges they face and take a long term view and develop practical action plans which ultimately generate a good return for them. The project did however encounter a series of problems, including engaging with primary producers and micro enterprises. Some barriers included the logistics of face to face meetings, geography of residence as well as the understanding of basic business. Some workshops were not well attended as producers were unwilling to take time from work, as they did not see immediate benefits. The Sustainable Supply Chain initiative found that taking a whole supply chain approach brought most added value from the project. It also experienced a greater level of engagement with organisations higher up the food chain such as Co-operatives, marketing groups and supply chain agencies who were generally more receptive and in turn more likely to engage with those businesses further down the supply chain.

[10] ECORYS, 2011. 'Evaluation of the Sustainable Supply Chains Initiative' , Available Online [http://www.sustainablesupplychains.org.uk/SSC-Evaluation-Report.pdf]. Accessed 5th June 2011.

In terms of relation to the current research, the project provides a brief insight into the gaps that face businesses across the food chain as well as highlighting some of the barriers that could be faced by Sector Skills Councils when engaging with businesses across the food chain; in particular in primary production and manufacturing. The whole supply chain approach taken by the Sustainable Supply Chain Initiative also holds many similarities to the current project, as every aspect of the current Welsh supply chain has been analysed from producer to retailer.

Supply Chain Efficiency Scheme[11]

SCES are an important element of the Rural Development Plan for Wales 2007-2013 (RDP). They are part funded by European funds and by the Welsh Assembly Government and are designed to develop supply chain partnerships to a stage where they are confident to adopt a new supply chain process - subsequently leading to greater physical benefits. The key aim of SCES is to assist farmers, growers and foresters in developing a collaborative, supply chain-focused initiative by providing the capacity and building support that is not available through any other mechanism. In total there are 28 SCES across Wales totalling £25,879,834 in grant funding. Many of the Schemes are heavily food focused and range from improving production to getting products to market.

In terms of its relevance to the research, there are several SCES which hold similar goals to the project being undertaken. The schemes themselves not only demonstrate areas of best practice but also explore and address areas where distinctive skills gaps in the food supply exist. A selection of SCES are considered in more detail below.

Cywain

Cywain, delivered by Menter a Busnes is a project that provides a capacity building service through facilitation, mentoring and expert advice, with an underlying principle of adding value to primary production. The project aims to build the capacity and confidence of the participants in order to enable them to take ownership of the new venture and to encourage them to make the most of its potential. Market intelligence plays an important part within this project and will assist with the development of new products and markets across the food supply Chain.

Monmouthshire Food Works

Monmouthshire Food Works project offered networking and training opportunities through a programme of focused events, surgeries and bespoke training courses. Collaboration was encouraged on product deliveries with a view to reducing carbon emissions. The project received £135,750 of grant funding and was concluded in February 2011. A mid-term evaluation of the project indicated that micro businesses benefited considerably from the facilitation of networking opportunities. Through these networks, businesses shared experiences and lessons learned and exchanged best practice ideas which led to an increase in confidence and the creation of new personal networks and partnerships. In some instances new products were developed and new markets were accessed, ultimately resulting in an increase in company turnover.

Welsh Food: Added Value

Welsh Food: Added Value is a project set up by Coleg Menai, at The Food Technology Centre (FTC) Llangefni. It was set up in conjunction with the European Union, the Welsh Assembly Government, Welsh Development Agency and Anglesey Council in 1999 and aims to help the long-term development of food processing and manufacturing capacity

[11] A full list of SCES projects can be found in Appendix 9.

in North Wales and across the UK. The project aims to provide technical services, research and development, technical advice, and training services in a bid to meet the long-term needs of the food industry and introduce a modern culture into the agri-food sector. The initiative is focused upon improving skill gaps in the FDSC and helps producers learn new technological methods in production as well as ways of propelling their products to agencies higher in the supply chain.

The Food Knowledge Transfer programme

The Food Knowledge Transfer programme provided by UWIC at the Food Industry Centre(FIC), is designed to deliver a more structured approach to the long term technical development of companies in the FDSC. The programme provides access to technical experts and delivers clearer targetable financial, environmental and skill outputs through funded training. The Centre was launched in 1999 and has built up a reputation for the support it offers the Welsh food industry through consultancy, training and related research. It has established itself as one of the largest providers of Knowledge Transfer Partnerships (KTPs) in Wales and is the largest provider of food related KTPs in the UK. In the past two years the Food Industry Centre has had a significant impact in the food processing sector in Wales and Southern UK and undertakes work for government agencies such as the Food Standards Agency and Welsh Assembly Government.

Fork2Fork

The Fork2Fork campaign is a two year information and awareness raising campaign to encourage people to buy direct from producers. It is a timely campaign, in that many producers of local and organic food have suffered significant downturns in trade over the last two years as a result of supermarkets acknowledging the consumer demand for local produce.

The programme works with the producer to access a wider market, by encouraging residents to make more use of direct sales channels. The campaign is extremely challenging and needs to bring about a cultural change amongst the general population through social marketing. Fork2Fork designed to achieve this, through a combination of events, advertising, PR and the development of a web portal. The project, which began in November 2009, runs through until September 2011.

Fork2Fork is funded by the European Agricultural Fund (EAF), through the Welsh Assembly Government via the Rural Development Plan (RDP) 2007 2013, the mechanism by which the Welsh Assembly government implements funding and policies through schemes which support the countryside and rural areas. The Fork2Fork programme is one of the Welsh Assembly Governments (WAG) Supply Chain Efficiency Schemes (SCES) and is funded via the RDP.

Food Network Wales

Food Network Wales is a collaboration of three food centres, The Food Technology Centre (Coleg Menai), Food Centre Wales (Horeb) and the Food Industry Centre at UWIC (Cardiff). Each centre has come together with the support of the Welsh Assembly Government to help develop food producers businesses. Each centre is dedicated to encouraging the development of the agri-food sector and offers technical and practical support on all aspects of food production from farm to fork. Each centre offers expertise in a range of areas to help address potential skills issues as well as helping linkages and communication across the food chain.

In terms of its relevance to the overall research, the Food Network Wales is a good quality example of agencies collaboratively working to address current deficits in the FDSC in a bid to ultimately improve the Welsh Food Supply Chain.

Horticulture Wales

Horticulture Wales is a project focused on delivering expert support to enhance the efficiency of medium, small and micro businesses involved in both the edible and amenity horticulture supply within Wales. The project is financed through the Supply Chain Efficiencies Scheme of the Rural Development Plan for Wales 2007-2013, which in turn is funded via the Welsh Assembly Government and European Agricultural Fund. The initiative aims to develop brands, stimulate innovation and promote collaboration between all parts of the supply chain, in a bid to ultimately encourage environmental sustainability across the sector.

The programme incorporates a significant amount of research across the supply chain, identifying current and future markets for welsh produce as well examining ways businesses can build upon their working capacity to ultimately improve productivity. Horticulture Wales aims to assist businesses across the supply chain become a great deal more streamlined and intend on achieving this by formulating effective marketing techniques and implementing a host of new technologies in the sector such as logistics management systems, web-based ordering and supply chain tracking.

Horticulture Wales will develop a programme of support for horticulture supply chains, which compliments work previously carried out in the industry. It will make positive contributions towards the WAG target of reducing greenhouse emissions by 1% per annum and assist in raising environmental and sustainability awareness within horticulture supply chains in Wales.

Appendix 6
Economic Contribution

The following list describes the source of data for each variable as well as providing commentary on the scope of each data source, noting the limitations where necessary and describing alternative solutions.

- **Number of Employees** - sourced from the Office of National Statistics (ONS) Business Register and Employment Survey, and the Agricultural Surveys. The Business Register and Employment survey replaces the Business Register Survey and the Annual Business Inquiry and began collecting data in 2009. BRES surveys businesses in Great Britain that are registered for VAT and / or PAYE and in theory should produce an accurate representation of the employment levels in all FDSC sectors. However there is a notable shortfall of employment figures in the primary production sector. This is likely to be because the survey is based on workplace counts and excludes the self-employed. For this reason we have used Agricultural surveys to measure primary production labour numbers.
- **Number of Businesses** - sourced from the Interdepartmental Business Register 2009/2010. The IDBR is a list of UK businesses held by the Office of National Statistics and provides a key data source for analysis of business activity. Similarly to BRES, the IDBR records data from VAT or PAYE registered businesses and therefore misses a small number of unregistered companies (approximately 1 %). The register aggregates information by business unit of which there are three types. The following analysis uses local units, which are individual sites (for example factory or shop) that may or may not form part of a larger enterprise.
- **Turnover** – sourced from the Interdepartmental Business Register 2009/2010. The IDBR can be analysed by both SIC code and turnover banding. Midpoint estimates were used in the following analysis to determine average turnover per sector and turnover by employee.
- **Gross Value Added (GVA)** – Unfortunately GVA is not recorded by the IDBR and so data has been sourced from the ONS Regional GVA tables. Furthermore, GVA is not recorded by SIC code but by industrial grouping. For example, GVA is measured for the retail and wholesale industries collectively and it is difficult to separate them without making the assumption that the average GVA for food-related businesses in retail and wholesale is equal to the average GVA for all businesses in the two industries. The analysis is more straightforward for primary production, food manufacturing[12] and hospitality as the SSC footprints for these industries closely match broad industrial groupings. In some sectors, GVA per employee outweighs turnover per employee. It is acknowledged that this is impossible but it should be noted that turnover and GVA have been sourced from different datasets and there are inherent inconsistencies between the two.
- **Exports** – sourced from HM Customs and Revenue data tables on StatsWales.

The following section provides information on the size and value of the Food and drink supply chain (FDSC) in Wales, and where appropriate, comparison with the UK sector as a whole. This section utilises the following official data, sourced from the Office of National Statistics (ONS):

- Business Register and Employment Survey (BRES)
- Agricultural Surveys
- Interdepartmental Business Register (IDBR).

Data has been compiled and analysed for all sectors of the FDSC from primary production through to retail although some datasets cannot be matched directly to SSC footprints. Mismatches are discussed in more detail when they occur in the following section. Details regarding the economic indicators used in the analysis as well as more detailed profile can be found in Appendix 6. Information is broken down by sector where possible using the two, three and four digit SIC codes footprints of each sector of the food chain. These can be found in Appendix 1.

[12] GVA for food-related manufacturing includes the tobacco manufacturing industry in Wales, an industry that will not largely impact on the overall figure for GVA

Employment

Number of Employees

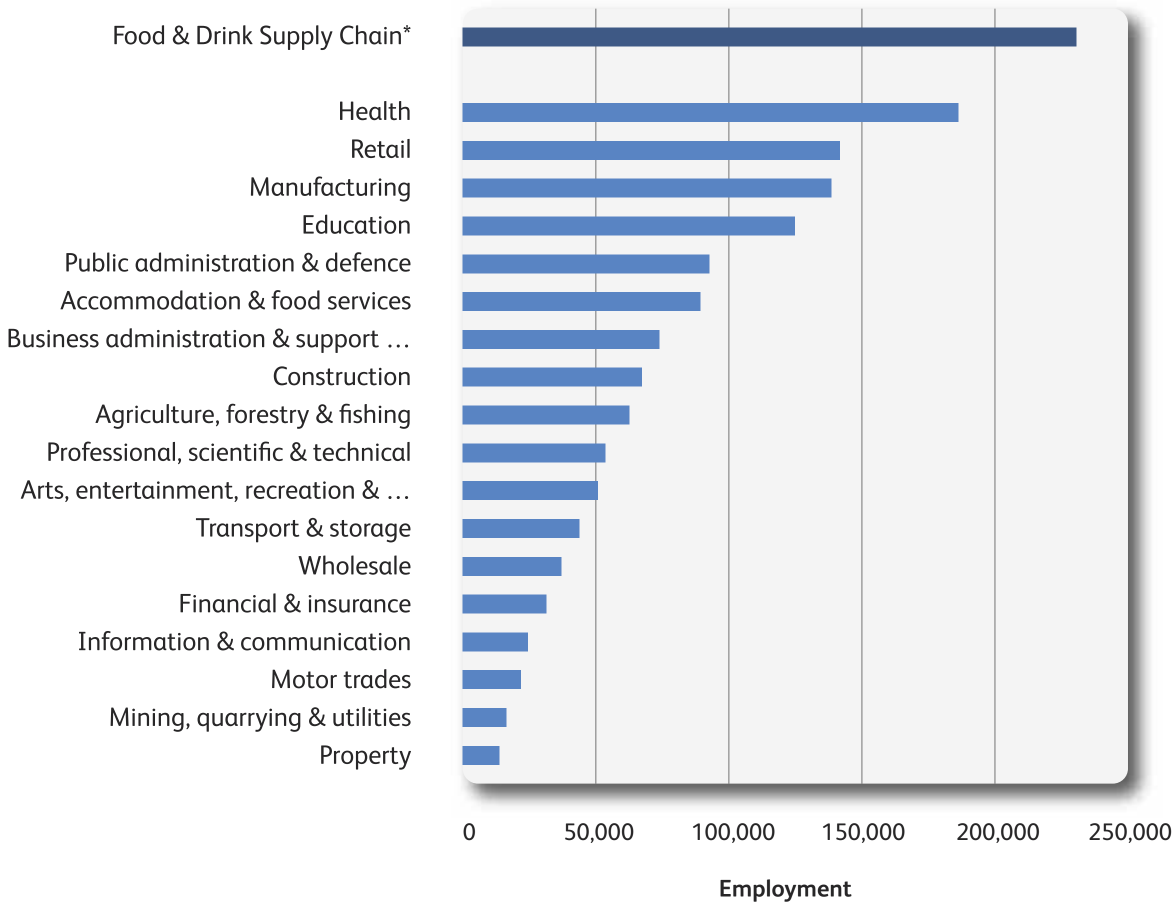
The FDSC in Wales employs approximately 230,000 people in Wales which accounts for 5.7 % of the entire UK FDSC.

Table 22 **Employment by sector, 2009**

Sector	Wales	UK
Primary production	56,600	375,802
Manufacturing	21,233	423,279
Hospitality	77,845	1,730,846
Retail	62,526	1,197,646
Wholesale	8,834	190,122
FDSC	**227,038**	**3,917,695**

Source: ONS 2009 Business Register and Employment Survey / Agricultural Census

Figure 34 **Employment levels across all Welsh industries**



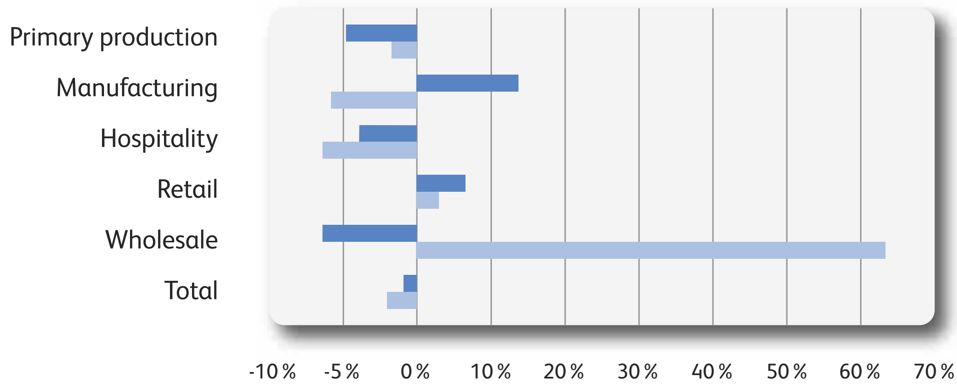
Source: ONS 2009 Business Register and Employment Survey / Agricultural Census

As a whole, the FDSC makes up approximately 18 % of the total Welsh workforce, making it the largest collective of employment across Wales (Figure 34). Comparatively, the proportion of the UK wide FDSC workforce accounts for just over 13 % of the total UK workforce. Therefore in Wales, the FDSC employs a larger proportion of the total workforce than the UK equivalent.

Figure 35 indicates that employment numbers in the FDSC in both Wales and Great Britain[13] fell from 2008 to 2009 by 2 % and 1 % respectively. Food manufacturing (-5.8 %) and hospitality (-6.4 %) were particularly hard hit in Wales. In comparison, Great Britain saw similar reductions in primary production, hospitality and wholesale. The retail element of the FDSC was the only sector that experienced increases across both Wales and Great Britain as a whole.

Employment in wholesale increased substantially in Wales between 2008 and 2009, but it is worth noting that this sector remained very much smaller than any of the others – employing some 37,000 out of a food supply chain total of more than 230,000.

Figure 35 **Employment growth 2008 to 2009**



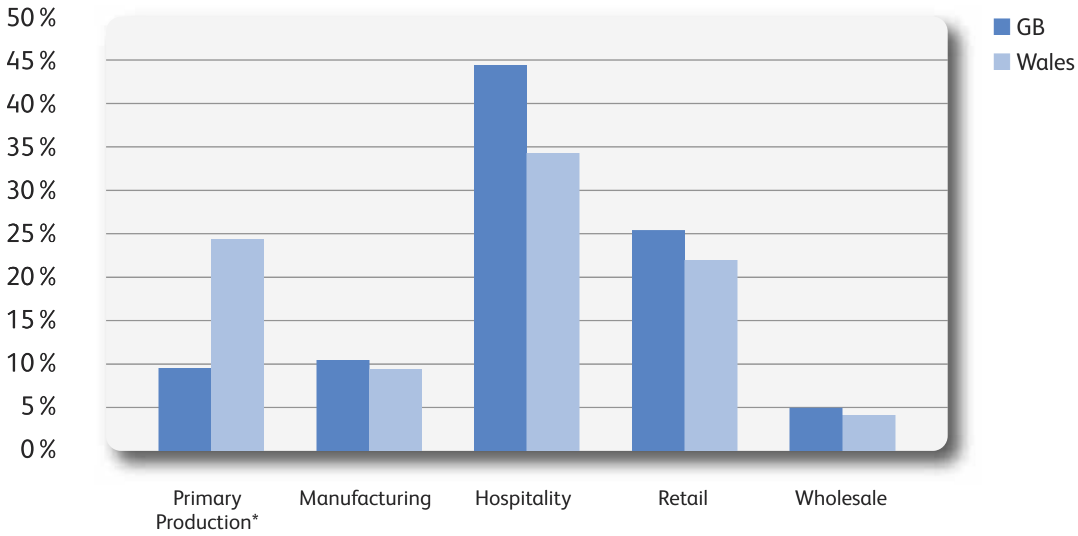
*Source: ONS 2008/2009 Business Register and Employment Survey, * June Agricultural Surveys 2008/2009. Excludes self-employed*

[13] The ONS business register and employment survey uses Great Britain as a comparator geographical area rather than UK which is used by other Government data sources.

Sector Distribution

Primary production accounts for a larger proportion of the FDSC workforce in Wales than it does in comparison to Great Britain as a whole, as Figure 36 shows. This is unsurprising, given the agriculture nature of much of rural Wales. The hospitality sector is under-represented in Wales by 10 % compared with the Great Britain figure.

Figure 36 **Proportional breakdown of employment in the FDSC in Wales and GB**



*Source: ONS 2009 Business Register and Employment Survey, * June Agricultural Survey 2009. Excludes self-employed*

In Wales, the food and drink elements of the hospitality and retail industries employ the largest proportions of people, collectively accounting for over 60 % of total FDSC workforce. By comparison, 75 % of people employed in the FDSC in Great Britain work in one of these industries. Just over 1 in 4 people working in food and drink across Wales are employed in retail. The wholesale industry employs the smallest number of people in the sector in both Wales and Great Britain.

Number of businesses

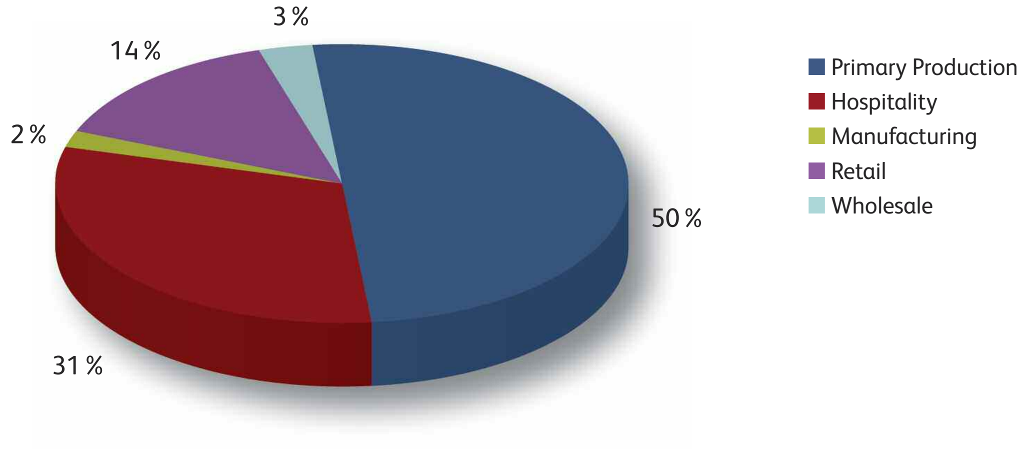
There are 27,515 local business units[14] in the FDSC in Wales which accounts for approximately 6.6 % of the equivalent number in the UK. Taken in conjunction with the number of Wales-based employees as a proportion of the UK equivalent (5.7 %), it can be inferred that the average number of employees per local business unit in Wales is lower than in the UK. This can be accounted for by the larger proportion of agriculture businesses in Wales.

[14] Local business units were used instead of businesses as large businesses may have more than one business unit

Sector Distribution

Figure 37 highlights the distribution of local business units in Wales by sector. Primary production accounts for half of all units in Wales and hospitality accounts for a third. According to Figure 36, primary production accounts for 25 % of employees – reflecting the small size of each individual business unit. This may be expected considering the largely family-based nature of primary production.

Figure 37 **Sector distribution of local business units in Wales, 2010**



Source: Number of local units of VAT and/or PAYE based enterprises in 2010 (IDBR 2010)

The converse is seen in the hospitality industry in Wales where the proportion of total employees is broadly in line with the proportion of business units. It is worth noting, however, that the data for business units records only those businesses which are VAT and/or PAYE registered and so will ignore many of the smaller, lifestyle businesses in the sector.

Retailing units are clearly larger than in the other sectors, given that 14 % of business units employ 28 % of employees across the FDSC.

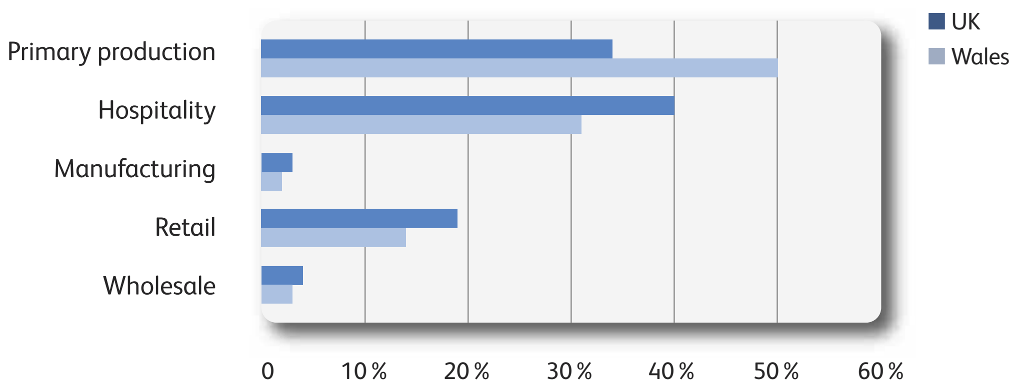
Table 23 **Number of businesses by sector, 2009**

Sector	Wales	UK
Primary production	13,790	142,845
Manufacturing	560	11,320
Hospitality	8,665	167,630
Retail	3,805	77,465
Wholesale	695	17,835
FDSC	**27,515**	**417,095**

Source: Number of local units of VAT and/or PAYE based enterprises in 2010 (IDBR 2010)

Figure 38 provides a breakdown of the distribution of local business units by sector in Wales, and compares them to the UK equivalent. Wales has a significantly higher proportion of primary production units than the UK. Conversely, the UK has a higher proportion of manufacturing units, albeit to a lesser extent. Each of the other sectors in the UK command a higher proportion of business units than the Welsh equivalent. This is broadly in line with the employment profile.

Figure 38 **Sector distribution of local business units in the UK and Wales**



Source: number of local units of VAT and/or PAYE Based enterprises in 2010 (IDBR 2010)

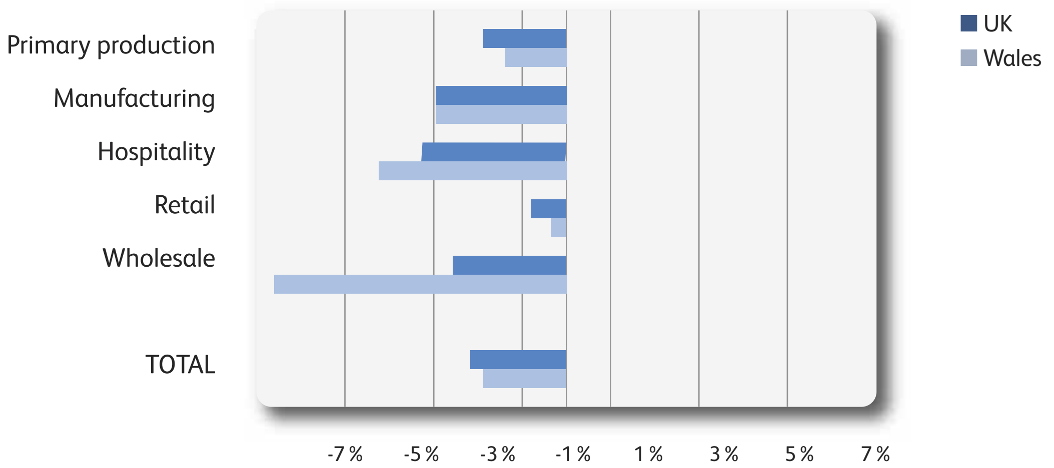
Business Count

Figure 39 identifies that business numbers declined in both Wales and the UK over the last year according to the Inter Departmental Business Register. The FDSC in the UK experienced a fall of 2.2 % compared to 1.9 % in Wales, partially due to the relative resilience of the primary production sector. The food-related wholesale industry in Wales saw the sharpest fall with the number of local business units falling by nearly 7 % over the year.

Food-related retail units in Wales fell by only 0.3 % compared to a 0.8 % fall across the UK, the lowest fall across all sectors. Hospitality was harder hit in Wales and experienced a 4.3 % fall compared to 3.3 % across the UK. The number of food manufacturing business units in Wales fell over the same period by 3 %, equivalent to the percentage drop across the UK, as the reduction in the domestic market was mitigated to some extent by a growth in exports.

The fall in number of businesses seen in Figure 39 appears in tune with national GDP figures that fell quite heavily during 2009 before making a slight recovery in early 2010.

Figure 39 **Growth in count of local business units by sector over 2009/10, Wales and UK**



Source: number of local units of VAT and/or PAYE based enterprises in 2010 (IDBR 2010)

Turnover

The FDSC in Wales turned over approximately £6.5bn[15] in 2010, up 3.4 % from 2009. In comparison, the FDSC contributed about £141bn to the UK economy, up just 1.4 % from the previous year. These figures indicate that the Welsh share of FDSC turnover amounts to about 5 % of the UK total. Table 24 shows the distribution of turnover by sector in Wales in 2010. The unweighted figures indicate that the two largest sectors by turnover (food related retail and wholesale) account for more than half of the total national turnover. Food related manufacturing, a small proportion of overall manufacturing in Wales, accounts for just 3.6 %.

Table 24 **Turnover distribution by sector in Wales, 2010**

Sector	Turnover Distribution[16] Wales, 2010	Turnover Distribution UK, 2010
Primary Production	26.88 %	22.74 %
Manufacturing	7.16 %	6.78 %
Hospitality	35.16 %	33.57 %
Retail	22.09 %	22.63 %
Wholesale	8.71 %	14.28 %

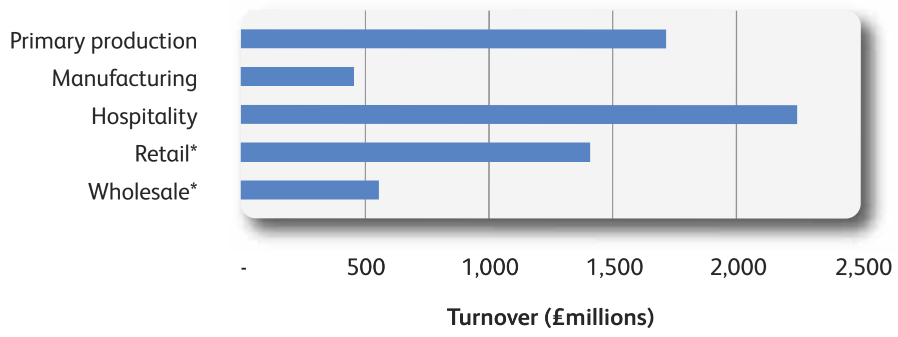
Source: IDBR 2010

[15] Midpoint weighted turnover estimates, Inter Departmental Business Register 2010.

[16] Weighted by the number of food related enterprises as a proportion of total enterprises in the sector. For example, about 30 % of all retail enterprises in Wales are food-related and so the above figures have been adjusted to account for this.

However, the weighted turnover figures indicate that the dominant sectors are primary production and hospitality, jointly representing 60 % of Welsh turnover. Turnover figures are displayed in Figure 40, in monetary value rather than proportional value. The data shows that the manufacturing, hospitality and retail sectors command similar shares in Wales and the UK as a whole. However, primary production and wholesale in Wales contributes more to the FDSC turnover than across the UK as a whole.

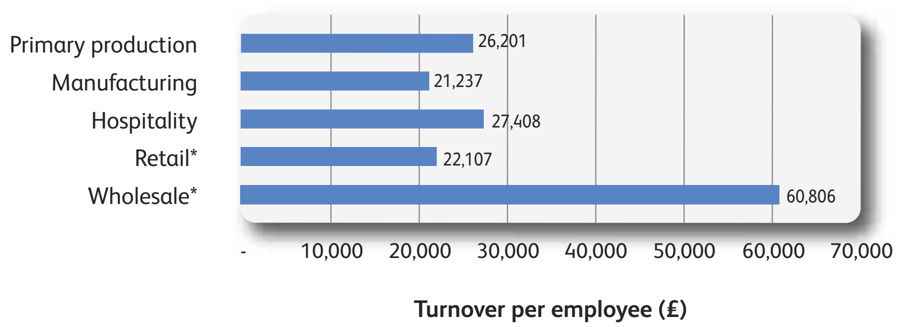
Figure 40 **Total weighted turnover by FDSC sector in Wales, 2008**



Source: Turnover by SIC and Government Office Region (IDBR 2010)
**Assuming average turnover per business is the same in the food related part of the sector as it is across the whole sector*

Figure 41 illustrates the turnover per employee in each of the FDSC sectors across Wales in 2009. The large value seen for wholesale may be expected as a result of the relatively low labour intensity of the industry and the value of goods handled. Otherwise, the information shows primary production and hospitality turning over the largest amount per employee, followed by retail and manufacturing.

Figure 41 **Turnover per employee by FDSC sector in Wales, 2009**



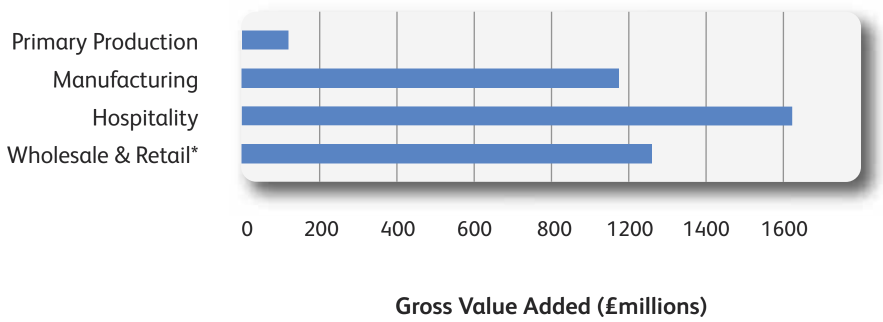
Source: Turnover by SIC and Government Office Region (IDBR 2009),June Agricultural Survey 2009
**Assuming average turnover per business is the same in the food related part of the sector as it is across the whole sector*

Gross Value Added

The total GVA of the FDSC in Wales in 2008[17] was approximately £3.6 billion which accounts for 3.7 % of the UK figure at £97.1 billion. The Welsh share of UK GVA in the FDSC is lower than its share of turnover, indicating that comparatively, the FDSC in Wales adds less value than the FDSC in the rest of the UK. This is a good argument for up skilling in the Welsh FDSC; a higher skilled workforce is more likely to deliver greater added value in its production.

NOTE: The GVA of the FDSC in Wales is taken from the Office of National Statistics Regional Gross Value Added data tables. This data is not broken down by SIC Code and so a direct match with the SSC SIC Code footprints was not possible. This may explain the unexpected discrepancy between sector turnovers and sector GVA figures although other sampling differences between the Regional GVA dataset and the IDBR may also play a part.

Figure 42 **Gross Value Added[18] by sector in Wales, 2008**



*Source: Regional gross value added (ONS 2008)**

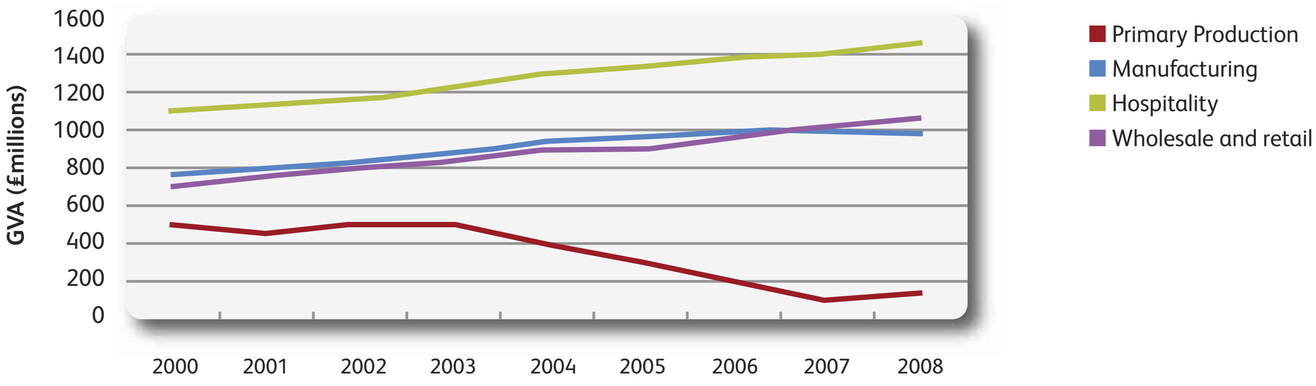
The hospitality industry delivers the most added value in the FDSC in Wales, followed by wholesale and retail, manufacturing and then primary production, as Figure 42 illustrates. The relatively low Gross Value Added in the primary production sector is of concern. However it broadly agrees with the sector feedback which states that the rising cost of primary production over the last decade has had a large impact on sector returns.

Figure 43 illustrates that in 2000, there was a much smaller range in GVA across the FDSC sectors than at present. With the exception of primary production, which has seen an almost continuous fall, each sector has seen a rise in GVA across Wales. Again, rising costs associated with a range of factors, including fuel and feed costs, are likely to be largely responsible for this fall in value added in the industry.

[17] ONS 2008

[18] Weighted by the number of food related enterprises as a proportion of the number of total enterprises in the sector. * Assuming average GVA per business is the same in the food related part of the sector as it is across the whole sector.

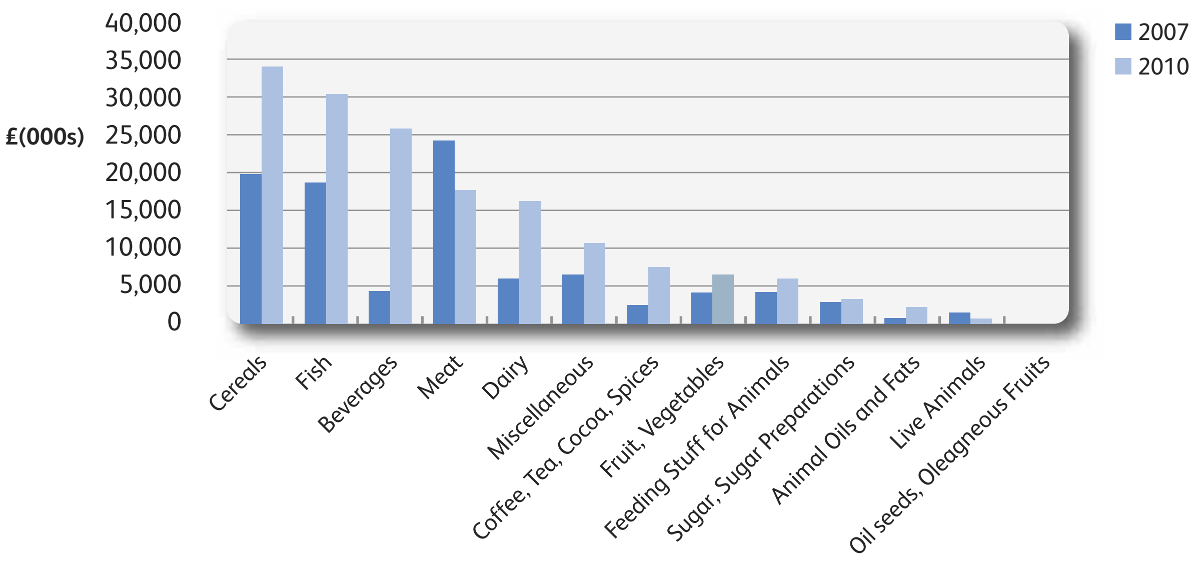
Figure 43 **Weighted GVA by sector in Wales, 2000 - 2008**



Source: Regional gross value added (ONS 2008)

Exports

Figure 44 **Welsh exports by food type, 2007 - 2010**



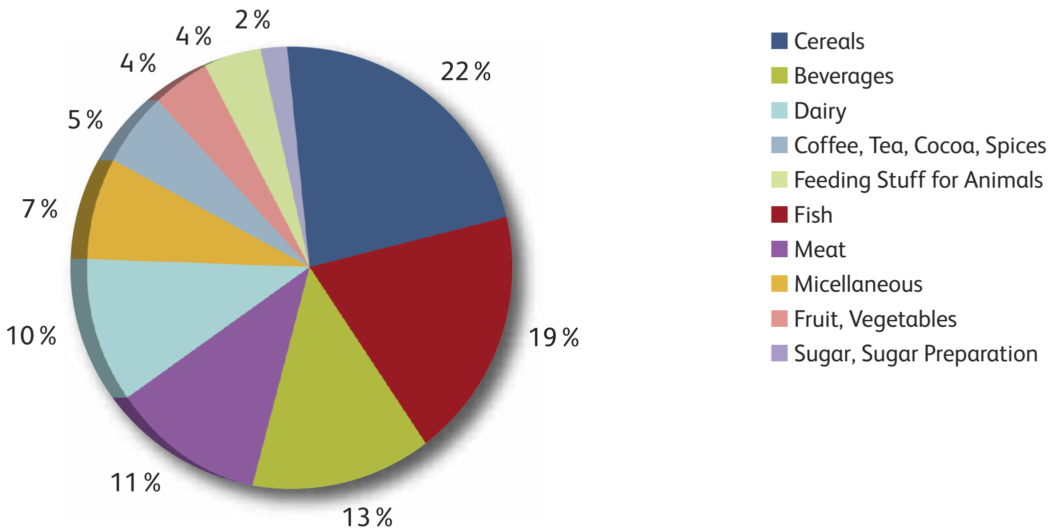
Source: Regional trade in goods , Wales (HRMC 2007)

According to official data, Welsh FDSC exports were worth £157 million to the Welsh economy in 2010, a rise of 60 % since 2007. In 2010, cereals and cereal products, fish and beverages were reported to be the top three exports accounting for £34 million, £31 million and £21 million respectively, which is somewhat surprising given the nature of primary production in Wales (although cereal products will include baked goods). Illustrated by Figure 44 and Figure 45, meat and live animals were the only two categories to see a fall in the value of exports over the same period. This is likely to be a result of the following factors:

- Payments for livestock farmers have been decoupled to some extent from headage payments encouraging the primary sector to produce smaller numbers of higher quality livestock and hence reducing the number available for export
- The market price of meat has risen dramatically which has impacted on external demand and led to increasing domestic market sales in favour of exports
- Increased demand for meat from large importers of livestock has reduced the import of meat into Wales. For example, increased demand from China has diverted supply from larger suppliers such New Zealand.

Certain elements of Figure 44 are unexpected. For example, meat exports from Wales may be expected to be higher than fish exports, considering the importance of Welsh products such as Welsh lamb, and exports of cereals are also not expected to be so high.

Figure 45 **Top ten Welsh exports by food type, 2010**

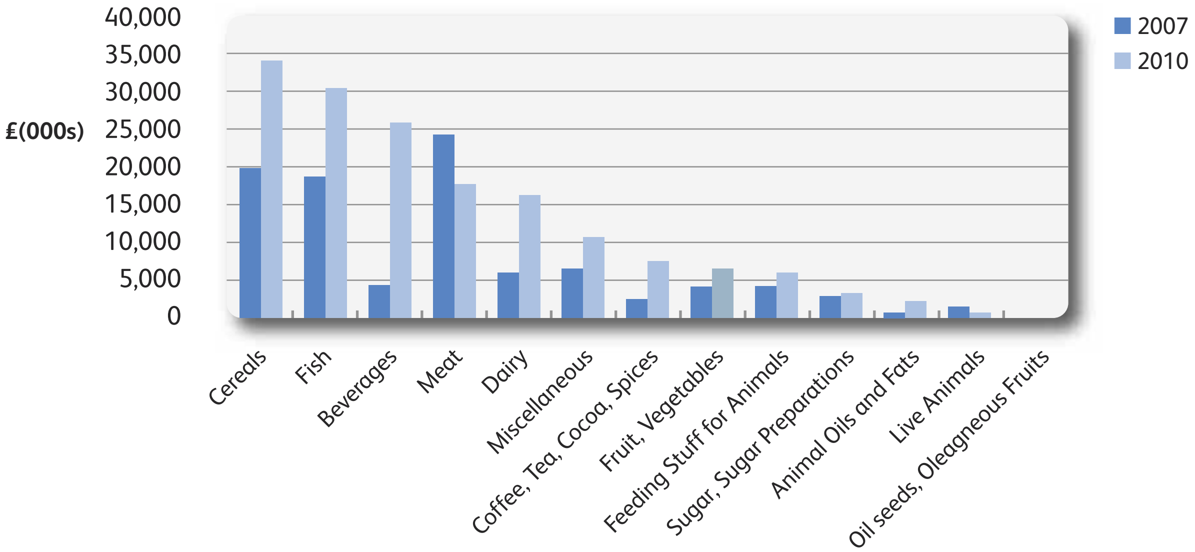


Source: Regional trade in goods, Wales (HRMC 2010)

Figure 46, shows the growth in Welsh and UK food exports over the period 2007 – 2010. Four key sectors stand out as being increasingly important to the Welsh export market: Beverages, Animal Oil and Fats (albeit from a low base), Coffee, Tea, Cocoa and Spices and Dairy.

With the exception of meat and live animals, the Welsh export market appears strong in 2010 with most food types outweighing the growth in exports from the UK as a whole.

Figure 46 **Growth in Welsh and UK exports by food type, 2007-2010**



Source: Regional trade in goods , Wales (HRMC 2007)

Appendix 7
Quantitative survey questionnaire

Food and Drink Supply Chain Skills: Employer Survey Questionnaire – MAIN SURVEY 17.03.11

LOAD FROM SAMPLE:

- Organisation name
- Telephone number
- Contact name (if known)
- Contact job title (if known)
- SIC code + SIC description
- Sector
- Size band
- Region

READ OUT

Good morning / afternoon / evening, my name is ………… and I am calling from Beaufort Research, an independent market research agency based in Cardiff.

We are carrying out research on behalf of ………… [insert name of SSC, depending on SIC code of organisation approached?] into the food and drink supply chain in Wales. Can I speak to the person who is responsible for the recruitment of staff within your organisation.

IF NOT AVAILABLE NOW, ARRANGE CALLBACK. IF REFUSED, RECORD AS REFUSAL.

ONCE SPEAKING TO RESPONDENT

We are carrying out research on behalf of ………… [insert name of SSC, depending on SIC code of organisation approached?] into skills, training and recruitment in the food and drink supply chain. The aim of the research is to gather information for [insert name of SSC] that can be used as evidence to fund training.

Your participation in the survey it totally confidential. The interview will take around 15 minutes to complete – is it convenient to conduct the interview now?

IF NOT CONVENIENT NOW, ARRANGE CALLBACK. IF REFUSED, RECORD AS REFUSAL.

ASK ALL

Q1. I have the questions for this survey in both English or Welsh. Which would you prefer?

1 ☐ English
2 ☐ Welsh

ASK ALL

Q2. Can I ask your position within your business / organisation?

RECORD VERBATIM RESPONSE

ASK ALL

Q3a. And could you tell me the main activity and nature of your business / organisation at your location?

PROBE FOR DETAIL: (e.g. "What is manufactured?", etc.)

INTERVIEWER: ALSO CODE TO ONE OF THE GROUPS BELOW

READ OUT AS NECESSARY

1 ☐ Growing of crops, fruit or vegetables

2 ☐ Raising of livestock / animals

3 ☐ Game & Wildlife Management

4 ☐ Fishing / aquaculture

5 ☐ Other agriculture or land based activity

6 ☐ Providing overnight accommodation and food to paying guests (bed and breakfast)

7 ☐ Preparation, cooking and serving food or drink for lunch or evening meals for paying guests

8 ☐ Other organisation involved in food & drink cooking and hospitality services

9 ☐ Processing of meat, fish, fruit or veg

10 ☐ Processing of other food & drink

11 ☐ Manufacturing of food or drink products

12 ☐ Other 'manufacturing'

13 ☐ Sale of food or drink via retail shops

14 ☐ Sale of food or drink via markets and stalls

15 ☐ Sale of food or drink via other retail outlets

16 ☐ Other (food & drink related) ➜ **INTERVIEWER TO SUSPEND INTERVIEW & QUERY WITH RESEARCH TEAM**

17 ☐ Other (non food & drink supply chain)

ASK ALL

Q3b. Other than [ANSWER AT Q3a] is your business/organisation involved in any of these other activities?

READ OUT

1 ☐ Growing of crops, fruit or vegetables

2 ☐ Raising of livestock / animals

3 ☐ Game & Wildlife Management

4 ☐ Fishing / aquaculture

5 ☐ Other agriculture or land based activity

6 ☐ Providing overnight accommodation and food to paying guests (bed and breakfast)

7 ☐ Preparation, cooking and serving food or drink for lunch or evening meals for paying guests

8 ☐ Other organisation involved in food & drink cooking and hospitality services

9 ☐ Processing of meat, fish, fruit or veg

10 ☐ Processing of other food & drink

11 ☐ Manufacturing of food or drink products

12 ☐ Other ‘manufacturing’

13 ☐ Sale of food or drink via retail shops

14 ☐ Sale of food or drink via markets and stalls

15 ☐ Sale of food or drink via other retail outlets

16 ☐ No other business activities / None of the above

*IF ‘OTHER (NON FOOD & DRINK SUPPLY CHAIN)’ (CODE 16) AT Q3B AND NO OTHER BUSINESS ACTIVITIES / NONE OF THE ABOVE’ (CODE 16) AT Q3C, THANK AND CLOSE

ASK ALL

Q4. Including yourself, how many people currently work for your business/organisation at this location? At this stage please exclude any temporary or seasonal workers?

RECORD EXACT NUMBER:

Don't know / refused

INTERVIEWER NOTE: IF EXACT NUMBER NOT POSSIBLE, ASK FOR BEST ESTIMATE

ASK ALL

Q5. I'd now like you to classify these into 4 broad levels of occupations. The four groups are…

GROUP 1 – OWNERS & SENIOR MANAGERS OR DIRECTORS

GROUP 2 – SUPERVISORY, JUNIOR OR MIDDLE MANAGERS

GROUP 3 – SKILLED TRADES

GROUP 4 – SEMI-SKILLED AND UNSKILLED

Group 1 is …… [INSERT DESCRIPTION OF GROUP 1 AND EXAMPLES FROM SECTOR].

How many people do you have who work in these type of occupations?:

RECORD EXACT NUMBER:

Or

RECORD PROPORTION (%):

Don't know / refused

REPEAT FOR GROUPS 2, 3 and 4

	Agriculture examples:	Production Horticulture examples:	Aquaculture examples:	Game & Wildlife examples:
Group 1	e.g. Farm owner or director	Company Director	Fish Farm owner or director	Estate Manager
Group 2	e.g. Farm manager or assistant manager	Horticulture Production Manager	Fish Farm Manager or assistant	Head Gamekeeper
Group 3	e.g. Skilled machinery operators or supervisors	Horticulture Technician	Fish Farm Technical or Biologist	Under Keeper
Group 4	e.g. General farm worker	General horticulture worker	General Fish Farm worker	General game worker eg.Trainee Keeper / Gun dog handler

Hospitality service examples:

Group 1 – e.g. Hotel, pub or restaurant owners or senior managers/directors

Group 2 – e.g. Bar, restaurant or shop managers or supervisors

Group 3 – e.g. Chefs

Group 4 – e.g. Receptionists, waiters, junior chefs, bar persons

Manufacturing examples

Group 1 – e.g. Manufacturing or production directors and owners

Group 2 – e.g. Sales or production managers

Group 3 – e.g. Technicians

Group 4 – e.g. Warehouse and processing workers, packaging operatives

Retail examples:

Group 1 – e.g. Shop owners or senior store managers

Group 2 – e.g. Specialist/convenience store manager or department managers/supervisors

Group 3 – e.g. Butchers, Bakers, fishmongers

Group 4 – e.g. Sales and checkout staff

ASK ALL

I am now going to ask you a series of questions about different technical skills (i.e. job specific that may or may not be required in your business/organisation.

Q6a. Firstly, I'm going to ask you how important is each skill for your business/organisation on a scale of 1 to 10 where 10 = extremely important and 1 = not at all important.

So firstly, on a scale of 1 to 10, how important is....

READ OUT: [Load skills from skill list matrix (see below) based on answer given in Q3a] * (EXAMPLES OF SKILLS CAN BE FOUND ON ACCOMPANYING SPREADSHEET)

1 ☐ 1 – Not at all important

2 ☐ 2

3 ☐ 3

4 ☐ 4

5 ☐ 5

6 ☐ 6

7 ☐ 7

8 ☐ 8

9 ☐ 9

10 ☐ 10 – Extremely important

11 ☐ Don't know / refused

REPEAT FOR:

(ORDER OF SKILLS TO BE RANDOMISED BETWEEN RESPONDENTS)

SKILLS LIST MATRIX

Business Activity	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Operating & Maintaining Equipment	x	x	x	x	x				x	x	x	x			
Waste Awareness	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Management of Raw Materials e.g. (agriculture) handling livestock or crops etc., (Manufacturing) dealing with raw meat. (retail) product handling,(hospitality) handling ingredients	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Procurement & Contracting	x	x	x	x	x										
Environmental Awareness and Practice	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Business and administration skills	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Sales & Merchandising	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Manual Handling	x	x	x	x	x				x	x	x	x			
Food Technology									x	x	x				
Bakery Skills							x		x	x			x	x	x
Knife Skills e.g. butchery, filleting		x	x	x	x		x	x	x	x	x	x			
Fishmongery				x	x	x	x		x						
Confectionery Skills							x		x	x	x				
Dairy Production Skills		x			x		x			x	x				
Brewing Skills	x							x			x				
Online Retail Skills						x	x						x	x	x
Sourcing Skills e.g where you purchase goods from	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
The ability to speak to Welsh	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

x denotes when a skill will be asked

ASK ALL

Q6b. And which of these technical skills do you think need improving among your current workforce?

READ OUT – CODE ALL THAT APPLY

(ORDER OF SKILLS TO BE RANDOMISED BETWEEN RESPONDENTS)

[Load skills from skill list matrix based on answer given in Q3a]

Don't know / refused

ASK ONLY IF MORE THAN ONE GROUP SELECTED IN Q5

Q6c. Thinking about all the different technical skills we have discussed, can you tell which skills you think will become more important to your business in the next three years?

DO NOT PROMPT

Record Skill 1

Record Skill 2

Record Skill 3

Record Skill 4

None / No skills will become more important

WILL BE CODED TO LIST IN Q6a / Q6b AT ANALYSIS STAGE

Q6d. Thinking about ….[first skill mentioned at Q6c] for which occupation / job role in your business / organisation do you think this skill will become more important?

Record Occupation(s) / job role(s)

[Code into occupation list in Q5]

Repeat for all skills mentioned at Q6c

ASK ALL

Q7a. Did you recruit any employees (either full-time, part-time, seasonal, voluntary, migrant workers, unpaid family members) over the past 12 months?

Yes/No

IF YES TO Q7a

Q7b. Did you have any difficulties when trying to recruit?

Yes/No

IF YES TO Q7b

Q7c. Why was that?

1 ☐ Not enough applicants

2 ☐ Applicants didn't have experience of the job

3 ☐ Applicants didn't have the necessary skills

4 ☐ Applicants didn't have the right attitude

5 ☐ Other (please specify)

6 ☐ Don't know / refused

ASK IF OPTION 3 IS CHOSEN

Q8. When there are not enough job applicants with the skills you need, which of the following describes how you would respond?

READ OUT

1 ☐ Try to train and develop existing staff

2 ☐ Use temporary staff

3 ☐ Outsource to contractors

4 ☐ Don't undertake or do less work that involves that skill

5 ☐ Other (Please specify)

10 ☐ Don't know / refused

ASK ALL

Q9a. Has there ever been an occasion when your workforce as a whole has not had all of the necessary skills to carry out the needs of the business?

Yes/No

ASK IF YES TO Q9a

Q9b. Which of the following describes how you typically respond?

READ OUT

1 ☐ Recruit new staff and train them up

2 ☐ Upskill and develop existing staff

3 ☐ Use temporary staff

4 ☐ Outsource to contractors

5 ☐ Don't undertake or do less work that involves that skill

6 ☐ Other (Please specify)

10 ☐ Don't know / refused

ASK ALL

Q10a. Are you planning on recruiting any new employees over the next 12 months?

Yes/No

IF YES TO Q10a

Q10b. Can you tell which skills you think are going to be particularly difficult to find when looking for new recruits for your business?

RECORD VERBATIM RESPONSE

No skills particularly difficult to find

WILL BE CODED TO SKILLS LIST AT ANALYSIS STAGE

ASK ALL (BUT ONLY FOR GROUPS OF OCCUPATIONS THAT EXIST IN Q5)

Q11a. I'm now going to ask you a few questions about training.
For… [Group 1], What is the best form of training for your organisation?

READ OUT – CODE ALL THAT APPLY

1 ☐ On the job training with employer

2 ☐ Off-site training with external provider answer part b)

3 ☐ On-site training with external provider answer part b)

4 ☐ We don't do any training

5 ☐ Don't know / refused

REPEAT FOR GROUPS 2, 3 and 4 (IF APPLICABLE)

Q11b. And for… [Group 1], which of the following forms of external training is most effective?

READ OUT & CODE ALL MENTIONED

1 ☐ Day release or modular courses

2 ☐ Distance or e-learning

3 ☐ Conferences or seminars

4 ☐ Mentoring or Business coaching

5 ☐ Best practice or demonstration visits

6 ☐ Don't know / refused

REPEAT FOR GROUPS 2, 3 and 4 (IF APPLICABLE)

ASK ALL (EXCEPT THOSE WHO ANSWERED OPTION 4 in Q11)

Q12. When you need to get training for your staff, where do you go to find out what is available?

RECORD VERBATIM RESPONSE

ASK ALL (EXCEPT THOSE WHO ANSWERED OPTION 4 in Q11)

Q13. Thinking about the training courses and the providers you may know that offer training, how would you rate it in terms of the following factors?

READ OUT:

... the range of courses available

1 ☐ Very Poor

2 ☐ Poor

3 ☐ OK

4 ☐ Good

5 ☐ Excellent

6 ☐ Don’t know / refused

REPEAT FOR:
(ORDER OF STATEMENTS TO BE RANDOMISED BETWEEN RESPONDENTS)

... the quality of teaching / support

... the range of qualifications available

... the cost of training

... the proximity of training location to your business

... the professionalism of the provider

ASK ALL

The next few questions are about business performance and change.

ASK ALL

Q14a. Firstly, I'd like you to think about changes to your business – for example, expanding your range of product or services, becoming involved in new activities including diversifying into different areas? Do you plan to make any changes such as these in the future or have you recently undertaken such change?

Yes

No

DK

ASK IF YES AT Q14a

Q14b. When do you plan to make these changes?

READ OUT

Already done so

Within next 12 months

Within next 1-3 years

Within next 3-5 years

Longer time period

No

DK

ASK IF YES AT Q14a

Q14c. What are the changes you are planning to make / have recently made to your business?

Prompt as necessary: **What would be the new products or services?**

Prompt as necessary: **Which new areas do you plan to move into?**

OPEN ENDED – RECORD VERBATIM

ASK IF YES AT Q14a

Q14d. What skills do you and your organisation currently have to enable you to make these changes to your business?

OPEN ENDED – RECORD VERBATIM

ASK IF YES AT Q14a

Q14e. And what skills do you and your organisation need to improve upon or develop to enable you to make these changes to your business?

OPEN ENDED – RECORD VERBATIM

Q15. In the last 12 months did your turnover increase, decrease or stay the same in comparison to the previous 12 months?

1 ☐ Increase

2 ☐ Stay roughly the same

3 ☐ Decrease

4 ☐ Don’t know / refused

Q16. Do you expect your turnover for the next 12 months to:

1 ☐ Increase

2 ☐ Stay roughly the same

3 ☐ Decrease

4 ☐ Don't know / refused

ASK ALL

Q17. Which of the following issues do you think will increase in importance over the next 3 years for your business/organisation?

READ OUT – CODE ALL THAT APPLY

1 ☐ Labour sourcing and supply

2 ☐ Food safety and security

3 ☐ Health and safety

4 ☐ The economy

5 ☐ Climate change/sustainability/low carbon

6 ☐ Energy and fuel security

7 ☐ Technological development

8 ☐ Regulation and compliance

9 ☐ Globalisation

10 ☐ Labour supply

11 ☐ Language skills (Welsh and ESOL)

12 ☐ Social and cultural attitudes

13 ☐ None of them

14 ☐ Don't know / refused

ASK ALL

Finally, a few questions about you and your business.

Q18a. How would you describe your business/organisation? Is it…..

READ OUT – CODE ONE ONLY

1 ☐ An business/organisation with only one location / site

2 ☐ An business/organisation with more than one location / site Q18b

3 ☐ Don't know / refused

ASK ALL BUSINESSES WITH MORE THAN ONE LOCATION/SITE

Q18b. Are you part of a UK or Wales wide chain or do you see your business as an independent business?

1 ☐ UK wide chain

2 ☐ Wales wide chain

3 ☐ Independent business

4 ☐ Don't know / refused

ASK ONLY HOSPITALITY SERVICE SECTOR

Q19a. Which of the following best describes the location of your business?

READ OUT – CODE ONE ONLY

INTERVIEWER NOTE: IF MORE THAN ONE ANSWER GIVEN (I.E. MULTI-SITE BUSINESS) ASK REPSONDENT TO STATE LOCATION OF ESTABLISHMENT OF WHERE CURRENTLY LOCATED

1 ☐ Rural

2 ☐ Urban

3 ☐ Coastal

4 ☐ Don't know / refused

ASK ONLY HOSPITALITY SERVICE SECTOR

Q19b. Which of these best describes your business model?

1 ☐ We prepare and cook food from scratch using fresh ingredients

2 ☐ We prepare and cook some food from scratch and buy some pre-prepared food

3 ☐ We buy ready made food and prepare it for serving

4 ☐ We do not serve food

5 ☐ Don't know / refused

ASK ONLY AGRICULTURAL SECTOR

Q19c. Are you a member of or associated with any groups such as local growers associations or a food groups etc?

1 ☐ Yes, please specify

2 ☐ No

3 ☐ Don't know / refused

ASK ONLY ANSWER 'YES' TO Q19C

Q19d. Has this led to any training needs for you or your colleagues?

1 ☐ Yes, please specify

2 ☐ No

3 ☐ Don't know / refused

ASK ONLY RETAIL SECTOR

Q19ei. Thinking now about minimising food and drink waste that your business may produce. Is this an area where your staff require any additional training to ensure this process is as cost effective as possible?

1 ☐ Yes

2 ☐ No

3 ☐ Don't know / refused

ASK IF ‘YES’ AT Q19ei

Q19eii. What would this training cover?

RECORD VERBATIM RESPONSE

ASK ONLY PROCESSING AND MANUFACTURING SECTOR

Q19f. Which of the following descriptions best describe the business's current level of automation / approach to production?

1 ☐ Highly / fully automated production dedicated to the production of a small number of different products

2 ☐ Highly / fully automated batch production capable of producing a wide variety of products

3 ☐ Production largely by hand

4 ☐ Don’t know

ASK ALL

Q20. Can you tell me, in the last year, did you employ any migrant workers?

1 ☐ No

2 ☐ Yes – EU

3 ☐ Yes – Non EU

ASK IF EMPLOY MIGRANT WORKERS AT Q20

Q21. And in total, how many migrant workers did you employ in the last year?

RECORD EXACT NUMBER:

Don’t know / refused

INTERVIEWER NOTE: IF EXACT NUMBER NOT POSSIBLE, ASK FOR BEST ESTIMATE

ASK ALL

Q22. Could you tell me when your business/organisation started?

1 ☐ Less than a year ago

2 ☐ 1 to 2 years ago

3 ☐ 2.1 to 3 years ago

4 ☐ 3.1 to 4 years ago

5 ☐ 4.1 to 5 years ago

6 ☐ 5.1 to 7 years ago

7 ☐ 7.1 to 10 years ago

8 ☐ 10.1 to 15 years ago

9 ☐ 15.1 to 20 years ago

10 ☐ 20.1 to 25 years ago

11 ☐ 25.1 to 30 years ago

12 ☐ 30.1 to 40 years ago

13 ☐ More than 40 years ago

14 ☐ Don't know

15 ☐ Refused

ASK ALL

Q23. In your words, what do you think will have the greatest impact on the supply of food and drink over the next 10 years?

RECORD VERBATIM RESPONSE

Q24. Over the next few months we may be conducting further in-depth research with individuals who have taken part in this survey. Would you be willing to be re-contacted to be asked to take part if selected? Saying 'Yes' at this stage does not commit you to taking part.

Yes

No

READ OUT

Thank you for your time.

Just to confirm that my name is .... calling from Beaufort Research and that this survey has been conducted in accordance with the Market Research Society Code of Conduct.

If you'd like to check our credentials, you can telephone the MRS via the freephone number 0500 39 69 99.

Thanks again and goodbye.

RECORD ANY OTHER NOTES

Appendix 8
Source Tables

Table A 1 **Change in turnover in the past 12 months**
Base: All respondents

Expectations of turnover	Primary Production	Hospitality	Manufacturing	Retail	FDSC
Increase	45 %	34 %	47 %	37 %	38 %
Stay roughly the same	38 %	33 %	29 %	31 %	34 %
Decrease	17 %	33 %	23 %	32 %	28 %
Weighted base	486	691	258	543	1720
Unweighted base	739	665	253	481	1720

Table A 2 **Expectations of change in turnover for the next 12 months**
Base: All respondents

Expectations of turnover	Primary Production	Hospitality	Manufacturing	Retail	FDSC
Increase	48 %	53 %	59 %	54 %	53 %
Stay roughly the same	41 %	32 %	28 %	33 %	34 %
Decrease	11 %	15 %	12 %	13 %	13 %
Weighted base	478	720	268	544	1744
Unweighted base	739	665	253	481	1744

Table A 3 **Business structure**
Base: All respondents

Business structure	Primary Production	Hospitality	Manufacturing	Retail	FDSC
A business / organisation with only one location / site	72 %	79 %	68 %	58 %	71 %
A business / organisation with more than one location / site	28 %	21 %	32 %	42 %	29 %
Weighted base	507	768	279	599	1873
Unweighted base	739	665	253	481	1875

Table A 4 **Year of establishment**
Base: All respondents

Years Established	Primary Production	Hospitality	Manufacturing	Retail	FDSC
Less than a year ago	0 %	8 %	2 %	3 %	4 %
1 to 2 years ago	0 %	6 %	4 %	5 %	4 %
3 to 5 years ago	2 %	21 %	16 %	11 %	13 %
6 to 10 years ago	4 %	19 %	14 %	12 %	13 %
11 to 20 years ago	12 %	20 %	17 %	16 %	17 %
21 to 40 years ago	29 %	14 %	26 %	25 %	21 %
More than 40 years ago	54 %	10 %	19 %	25 %	26 %
	0 %	8 %	2 %	3 %	4 %
Weighted base	461	733	188	492	1875
Unweighted base	700	627	169	379	1875

Table A 5 **More than one business activity**
Base: All respondents

Base	**Sector**	**Percent**	**Weighted**	**Unweighted Base**
	Primary Production	36 %	461	700
	Hospitality	20 %	733	627
	Manufacturing	49 %	188	169
	Retail	21 %	492	379
	FDSC	27 %	1875	1875

Table A 6 **Secondary activity in same sector**
Base: All respondents

Sector	Percent	Weighted Base	Unweighted Base
Primary Production	74 %	461	700
Hospitality	75 %	733	627
Manufacturing	13 %	188	169
Retail	17 %	492	379
FDSC	50 %	1875	1875

Table A 7 **Diversification**
Base: All respondents

Sector Overlap		Percent	Weighted	Unweighted
Primary Production	Hospitality	3 %		
	Manufacturing	3 %	461	700
	Retail	3 %		
Hospitality	Primary production	1 %		
	Manufacturing	2 %	733	627
	Retail	3 %		
Manufacturing	Primary Production	9 %		
	Hospitality	5 %	188	1
	Retail	37 %		
Retail	Primary Production	5 %		
	Manufacturing	3 %	492	379
	Hospitality	12 %		

Table A 8 **Businesses involved with or becoming involved in expansion or diversification**
Base: All respondents

	Primary Production	Hospitality	Manufacturing	Retail	FDSC
Yes	34 %	35 %	46 %	45 %	37 %
No	66 %	65 %	54 %	55 %	63 %
Weighted base	461	733	188	492	1875
Unweighted base	700	627	169	379	1875

Table A 9 **Timeframe for expansion or diversification or activities**
Base: All those who plan to make changes to business in future or have recently done so

Timeframe	Primary Production	Hospitality	Manufacturing	Retail	FDSC
Already done so	45 %	40 %	46 %	44 %	41 %
Within next 12 months	31 %	48 %	37 %	46 %	43 %
Within next 1 to 3 years	19 %	12 %	15 %	8 %	13 %
Within next 3 to 5 years	4 %	0 %	0 %	0 %	1 %
Longer time period	1 %	0 %	2 %	1 %	1 %
Weighted base	146	239	86	203	673
Unweighted base	221	204	77	156	658

Table A 10 **Most important business drivers over the next 3 years**
Base: All respondents

Skills	Primary Production	Hospitality	Manufacturing	Retail	FDSC
The economy	74 %	76 %	79 %	78 %	76 %
Energy and fuel security	77 %	67 %	66 %	67 %	69 %
Regulation and compliance	65 %	64 %	64 %	68 %	65 %
Health and safety	63 %	65 %	64 %	68 %	65 %
Food safety and security	53 %	62 %	60 %	63 %	60 %
Social and cultural attitudes	41 %	52 %	47 %	54 %	50 %
Climate change / sustainability / low carbon footprint	53 %	44 %	47 %	49 %	48 %
Technological development	52 %	41 %	45 %	51 %	47 %
Labour sourcing and supply	28 %	39 %	40 %	44 %	38 %
Globalisation	35 %	28 %	27 %	34 %	31 %
Language skills (Welsh and ESOL)	18 %	27 %	21 %	23 %	23 %
Weighted base	508	769	280	599	1875
Unweighted base	739	665	253	481	1875

Table A 11 **Importance of skills (weighted mean)**
Base: All respondents

Skills	Primary Production	Hospitality	Manufacturing	Retail	FDSC	Unweighted	Weighted
Operating and maintaining equipment	8.35	8.29	8.14	8.09	8.3	945	746
Waste awareness	7.82	8.42	8.20	8.43	8.26	1875	1875
Environmental awareness and practice	8.06	8.23	8.12	8.12	8.12	1875	1875
Sales and merchandising	7.52	7.91	8.34	8.82	8.09	739	508
Manual handling	7.87	7.78	8.30	8.43	8.00	1875	1875
Food technology	6.93	8.21	7.75	7.52	7.75	1875	1875
Administration skills	8.04	7.66	7.66	7.58	7.74	1875	1875
Management of raw materials	7.4	7.77	7.36	5.96	7.08	945	746
Sourcing skills	6.92	7.24	6.85	6.78	7.06	245	272
Procurement and contracting	6.16	5.87	4.64	5.77	6.16	981	1173
Knife skills	2.42	5.32	4.60	4.72	4.21	1468	1371
Bakery skills	4.72	4.16	5.00	3.90	3.99	672	738
Confectionery skills	2.39	4.07	3.75	3.87	3.94	664	762
The ability to speak Welsh	4.87	3.68	3.62	3.74	3.94	1270	1146
Online retail skills	5.04	3.96	3.98	3.76	3.86	565	551
Dairy production	3.29	2.58	3.53	3.37	3.02	981	1176
Fishmongery	1.53	2.95	2.06	1.96	2.74	1875	1875
Brewing skills	1.29	2.86	1.66	1.73	2.05	1875	1875

Table A 12 **Most important skills which relate to all sectors**
Base: All respondents

Industry	Skills	Important	Unweighted	Weighted
Primary Production	Operating and maintaining equipment	51 %	700	461
	Waste awareness	43 %	700	461
	Environmental awareness and practice	42 %	700	461
	Sales and merchandising	41 %	700	461
	Manual handling	40 %	700	461
	Food technology	40 %	22	14
	Administration skills	37 %	700	461
	Management of raw materials	28 %	700	461
	Sourcing skills	26 %	33	22
	Procurement and contracting	21 %	700	461
	Knife skills	21 %	645	445
	Bakery skills	5 %	31	20
	Confectionery skills	3 %	24	16
	The ability to speak Welsh	0 %	700	461
	Online retail skills	51 %	33	22
	Dairy production	43 %	661	435
	Fishmongery	42 %	96	63
	Brewing skills	41 %	213	140
Hospitality	Waste awareness	57 %	627	733
	Management of raw materials	57 %	627	733
	Environmental awareness and practice	54 %	627	733
	Sales and merchandising	51 %	627	733

	Administration skills	42 %	627	733
	Sourcing skills	41 %	627	733
	Knife skills	27 %	561	656
	Brewing skills	18 %	169	198
	Bakery skills	16 %	433	506
	Confectionery skills	14 %	427	499
	Online retail skills	14 %	505	590
	The ability to speak Welsh	9 %	627	733
	Fishmongery	9 %	502	587
	Dairy production	8 %	428	500
Manufacturing	Sales and merchandising	60 %	169	188
	Operating and maintaining equipment	59 %	169	188
	Food technology	49 %	163	182
	Waste awareness	47 %	169	188
	Management of raw materials	47 %	169	188
	Environmental awareness and practice	46 %	169	188
	Manual handling	45 %	169	188
	Sourcing skills	40 %	169	188
	Administration skills	39 %		
	Bakery skills	31 %	138	154
	Knife skills	26 %	169	188
	Dairy production	22 %	138	148
	Confectionery skills	21 %	163	182
	The ability to speak Welsh	6 %	169	188
	Fishmongery	6 %	169	188
	Brewing skills	5 %	131	1

Retail	Sales and merchandising	71 %	379	492
	Waste awareness	61 %	379	492
	Environmental awareness and practice	55 %	379	492
	Administration skills	41 %	379	492
	Management of raw materials	37 %	379	492
	Sourcing skills	35 %	379	492
	Bakery skills	21 %	379	492
	Fishmongery	13 %	27	35
	The ability to speak Welsh	10 %	379	492

Table A 13 **Technical skills gap (all sectors)**
Base: All respondents

Skills	Percentage
Operating and maintaining equipment	20 %
Waste awareness	19 %
Environmental awareness and practice	18 %
Sales and merchandising	18 %
Manual handling	17 %
Food technology	17 %
Administration skills	15 %
Management of raw materials	12 %
Sourcing skills	11 %
Procurement and contracting	11 %
Knife skills	10 %
Bakery skills	10 %
Confectionery skills	8 %
The ability to speak Welsh	8 %
Online retail skills	7 %
Dairy production	6 %
Fishmongery	5 %
Brewing skills	3 %
None of the above	55 %
Weighted base	1875
Unweighted base	1875

Table A 14 **Technical skills gaps by importance (all sectors)**
Base: All respondents

Skills	Importance
Sales and Merchandising	55 %
Food Technology	46 %
Operating and Maintaining Equipment	53 %
Administration Skills	42 %
Waste Awareness	52 %
Environmental Awareness and Practice	51 %
Manual Handling	44 %
Online Retail Skills	13 %
Management of Raw Materials	46 %
Sourcing Skills	36 %
The ability to speak Welsh	13 %
Procurement and Contracting	21 %
Knife Skills, e.g. butchery, filleting	20 %
Bakery Skills	20 %
Confectionery Skills	16 %
Dairy Production Skills	15 %
Fishmongery	8 %
Brewing Skills	8 %
Weighted base	1875
Unweighted base	1875

Table A 15 **Technical skills gaps by sector**
Base: All respondents

Industry	Skills	Improving	Weighted Base
Primary Production	Fishmongery	-	738
	Administration skills	24 %	1875
	Operating and maintaining equipment	21 %	746
	Sales and merchandising	18 %	1875
	Environmental awareness and practice	18 %	1875
	Waste awareness	17 %	1875
	Manual handling	14 %	746
	Management of raw materials	13 %	1875
	Sourcing skills	13 %	1875
	Procurement and contracting	10 %	508
	The ability to speak Welsh	7 %	
	Dairy production	6 %	1146
	Knife skills	5 %	1371
	Brewing skills	1 %	551
Hospitality	Sales and merchandising	19 %	1875
	Waste awareness	16 %	1875
	Environmental awareness and practice	16 %	1875
	Administration skills	15 %	1875
	Management of raw materials	11 %	1875
	Sourcing skills	10 %	1875
	Online retail skills	10 %	1176
	The ability to speak Welsh	10 %	
	Knife skills	8 %	1371
	Bakery skills	6 %	1173
	Confectionery skills	5 %	762
	Fishmongery	4 %	738

	Dairy production	4 %	1146
	Brewing skills	1 %	551
Manufacturing	Sales and merchandising	25 %	1875
	Administration skills	21 %	1875
	Food technology	17 %	272
	Environmental awareness and practice	17 %	1875
	Operating and maintaining equipment	15 %	746
	Waste awareness	14 %	1875
	Manual handling	13 %	
	The ability to speak Welsh	12 %	
	Management of raw materials	11 %	1875
	Sourcing skills	11 %	1875
	Knife skills	8 %	1371
	Confectionery skills	6 %	762
	Bakery skills	5 %	1173
	Dairy production	4 %	1146
	Fishmongery	1 %	738
	Brewing skills	1 %	551
Retail	Sales and merchandising	23 %	1875
	Waste awareness	21 %	1875
	Environmental awareness and practice	17 %	1875
	Administration skills	15 %	1875
	The ability to speak Welsh	12 %	1875
	Management of raw materials	10 %	1875
	Sourcing skills	10 %	1875
	Bakery skills	7 %	1173
	Fishmongery	0 %	738

Table A 16 **Technical skills gaps by importance - Primary production**
Base: All respondents with either a primary or secondary business activity in the primary production sector

Skills	Important	Improving
Operating and maintaining equipment	51 %	21 %
Administration skills	43 %	24 %
Sales and merchandising	42 %	18 %
Environmental awareness and practice	41 %	18 %
Waste awareness	40 %	17 %
Manual handling	40 %	14 %
Management of raw materials	37 %	13 %
Sourcing skills	28 %	13 %
The ability to speak Welsh	26 %	7 %
Procurement and contracting	21 %	1 %
Dairy production	21 %	6 %
Knife skills	5 %	5 %
Weighted base	508	700
Unweighted base	739	461

Table A 17 **Technical skills gaps by importance - Manufacturing**

Base: All respondents with either a primary or secondary business activity in the manufacturing sector

Skills	Important	Improving
Sales and merchandising	6 %	25 %
Operating and maintaining equipment	59 %	15 %
Food technology	49 %	17 %
Waste awareness	47 %	14 %
Management of raw materials	47 %	11 %
Environmental awareness and practice	46 %	17 %
Manual handling	45 %	13 %
Sourcing skills	4 %	11 %
Administration skills	39 %	21 %
Bakery skills	31 %	5 %
Knife skills	26 %	8 %
Dairy production	22 %	4 %
Confectionery skills	21 %	6 %
The ability to speak Welsh	6 %	12 %
Fishmongery	6 %	1 %
Brewing skills	5 %	1 %
Weighted base	280	627
Unweighted base	253	733

Table A 18 **Technical skills gap by importance – Hospitality**
Base: All respondents with either a primary or secondary business activity in the hospitality sector

Skills	Important	Improving
Waste awareness	57 %	16 %
Management of raw materials	57 %	11 %
Environmental awareness and practice	54 %	16 %
Sales and merchandising	51 %	19 %
Administration skills	42 %	15 %
Sourcing skills	41 %	1 %
Knife skills	27 %	8 %
Brewing skills	18 %	1 %
Bakery skills	16 %	6 %
Confectionery skills	14 %	5 %
Online retail skills	14 %	1 %
The ability to speak Welsh	9 %	1 %
Fishmongery	9 %	4 %
Dairy production	8 %	4 %
Weighted base	769	169
Unweighted base	665	188

Table A 19 **Technical skills gap by importance – Retail**
Base: All respondents with either a primary or secondary business activity in the retail sector

Skills	Important	Improving
Sales and merchandising	71 %	23 %
Waste awareness	61 %	21 %
Environmental awareness and practice	55 %	17 %
Administration skills	41 %	15 %
Management of raw materials	37 %	1 %
Sourcing skills	35 %	1 %
Bakery skills	21 %	7 %
Fishmongery	13 %	0 %
The ability to speak Welsh	1 %	12 %
Weighted base	599	379
Unweighted base	481	492

Table A 20 **Recruitment in the past 12 months**
Base: All respondents

Skills	Primary Production	Hospitality	Manufacturing	Retail	FDSC
Yes	28 %	59 %	50 %	52 %	48 %
No	72 %	41 %	50 %	48 %	52 %
Weighted base	461	733	188	492	1875
Unweighted base	700	627	169	379	1875

Table A 21 **Reasons for recruitment difficulties**
Base: All those who had difficulties when trying to recruit employees in the past 12 months

Reasons for Recruitment Difficulties	Primary Production	Hospitality	Manufacturing	Retail	FDSC
Applicants didn't have the right attitude	28 %	28 %	28 %	37 %	3 %
Applicants didn't have the neccessery skills	42 %	26 %	28 %	24 %	2 %
Not enough applicants	6 %	15 %	7 %	11 %	12 %
Applicants didn't have experience of the job	6 %	13 %	9 %	9 %	11 %
Weighted base	22	129	23	42	215
Unweighted base	33	110	21	32	196

Table A 22 **Skills growing in importance**
Base: All respondents

Skills growing in importance	Percent
Sales and merchandising	19 %
Environmental awareness and practice	15 %
Waste awareness	12 %
Administration skills	8 %
Online Retail	8 %
Sourcing Skills	5 %
Operating and maintaining equipment	5 %
Food technology	4 %
Procurement and contracting	2 %
Weighted base	1875
Unweighted base	1875

Table A 23 **Skills gaps and future skills needs**
Base: All respondents

Skills	Growing in importance	Skills Gaps	Weighted base
Environmental awareness & practice	15 %	17 %	1875
Sales & merchandising	19 %	20 %	1875
Waste awareness	12 %	17 %	1875
Administration skills	8 %	18 %	1875
Online retail skills	8 %	12 %	1176
Sourcing skills	5 %	11 %	1875
Operating & Maintaining Equipment	5 %	18 %	746
Food Technology	4 %	19 %	272
Procurement & Contracting	2 %	10 %	508

Table A 24 **Best training method by sector**
Base: All respondents who did some form of training

Skills	Primary Production	Hospitality	Manufacturing	Retail	FDSC
On the job training with employer	46 %	78 %	64 %	78 %	72 %
Off-site training with external provider	30 %	19 %	24 %	19 %	21 %
On-site training with external provider	20 %	13 %	21 %	16 %	15 %
We don't do any training	25 %	7 %	12 %	5 %	10 %
Weighted base	124	435	97	285	941
Unweighted base	209	368	86	216	879

Table A 25 **Best external training method by sector**
Base: All those who used external training, (626)

Skills	Primary Production	Hospitality	Manufacturing	Retail	FDSC
Day release or modular courses	72	68	73	65	69
Best practice or demonstration visits	40	32	33	40	36
Mentoring or business coaching	14	22	24	25	21
Conference or seminars	12	18	21	16	16
Distance or e-learning	9	15	16	13	14
Weighted base	67	123	40	86	626
Unweighted base	103	104	36	66	645

Table A 26 **Bases for skills questions**

Skill	Weighted base
Operating & Maintaining Equipment	746
Waste Awareness	1875
Management of Raw Materials	1875
Procurement & Contracting	508
Environmental Awareneness and Practice	1875
Administration Skills	1875
Sales & Merchandising	1875
Manual Handling	746
Food Technology	272
Bakery Skills	1173
Knife Skills e.g. butchery, filleting	1371
Fishmongery	738
Confectionery Skills	762
Dairy Production Skills	1146
Brewing Skills	551
Online Retail Skills	1176
Sourcing Skills	1875
The ability to speak Welsh	1875

Appendix 9
Supply Chain Efficiency Schemes

Applicant	Project Title	Project Description
Aberystwyth University - Institute of Biological and Environmental Research	The PROSOIL Project	Investigate and demonstrate how improved profitability might be achieved from proactive management of soil health in typical grassland farming practices in both conventional and organic farming systems.
Aberystwyth University - Organic Centre Wales	Developing Welsh Organic Supply Chains	Develop new, emerging and existing markets for organic produce whilst driving innovation, at all levels within the supply chain. Provide valuable market information to primary producers and the organic sector in general.
Advents	Monmouthshire Food Works	Provide networking and training opportunities along with actions to improve the economic prosperity of the food and drink sector in Monmouthshire , whilst promoting the principles of environmental sustainability.
Bangor University	Naked Barley Project	Develop a Supply Chain for naked barley as a functional food in Wales
Cambrian Mountains	Farm Produce Development Project	Improve the financial returns to Welsh sheep and cattle farmers in the Cambrian Mountains area, through a collective marketing initiative based on a royalty fee paid by final retailer (e.g. supermarket)
Coed Cymru	End Grain Flooring	In-depth feasibility study of the commercial production of end-grain flooring tiles and the associated supply chain with the aim of demonstrating added value opportunities for timber growers.
Colet Menai	Welsh Food Added Value	Increase communication and integration between supply chain partners, in order to drive a collaborative ethos between primary producers, processors and end users.
Dairy UK	Centralised Anaerobic Digestor in the Dairy Supply Chain.	In-depth feasibility study for the dairy supply chain up to the point of finance and implementation for a centralised anaerobic digests that will use farm waste (slurry), dairy waste, and municipal waste. The knowledge gained will then be used to develop replicable projects across Wales.
Coed Cymru	Value Welsh Timber	Increase the value and utility of low value Welsh hardwood and softwood species. It will drive innovation to bring to market new products, processes that utilise low value minor species ensuring more Welsh timber is used in Wales.
F3 Consultants	Smart Move	8 Month pilot study in East Wales supporting food and drink micro-enterprises to ensure long term business survival by collaborating on supply chain issues through expert facilitation, coaching and metering
Francis Bascom Associates Ltd	Gwir Flas gan Wir Bobl - Real Food from Real People	Deliver a major consumer-focused awareness raising and marketing campaign throughout Wales between Dec 2009 - July 2011 to promote Direct Sales of Food and Drink by primary producers to consumers and other related businesses through Farmers Markets, Farm Shops, Box schemes and Internet sales.
Gweithor Dyffryn Aeron Cyf	Feasibility Study	Study of the agricultural enterprises in the Aerose Valley to look at future opportunities for developments.
Hybu Cig Cymru	Genetic Improvement in the sheep and beef sectors	Improve the financial returns to Welsh sheep and cattle farmers, through better alignment of the characteristics of breeding stock with end market requirements
Hybu Cig Cymru	Economic/Market Intelligence and Benchmarking	HNC will source a wide range of economic/market intelligence relevant to the Welsh red meat industry, for use as a basis for informed decision making in determining priorities and the direction of individual enterprises.
Hybu Cig Cymru	Technology development and transfer to practice, communication and training	Improve the financial returns to Welsh sheep and cattle farmers, through dissemination of up to date relevant information and best practice throughout the supply chain and training for farmers.
IBERS	Aberystwyth University	This project aims to develop and evaluate the genetic and environmental factors associated with more efficient breeding of ewes carrying the Invertase gene.
Livestock Marketing	Information, Communication & Benchmarking	Improve the financial returns to Welsh sheep and cattle farmers, through dissemination of up to date relevant information and best practice throughout the supply chain.
Menter a Busnes	Cywain	Provide a capacity building service through facilitation, metering and expert advice with an underlying principle of adding value to primary produce.
Menter a Busnes	Technology, Agriculture and Greater Efficiencies (TAG Project)	Strengthening the linkages within the supply chain. Working with groups of farmers to encourage collaboration through the use of pilot technology demonstrations in EID and records management.
National Trust	Heathland Beef Scheme	Improve the conservation value of scarce designated sites, create an environmentally and financially sustainable market for the resulting meat. Provide training to ensure the project is sustainable beyond the duration of the funding
Pembrokeshire Produce Direct	Home Delivery Service	A collective marketing initiative undertaken by 72 producers in Pembrokeshire to develop a distributed box scheme for local produce in Pembrokeshire, Carmarthenshire, Swansea and southern Ceredigion
Sarvari Research Trust The National Trust	Disease Resistant Potato varieties	Improve the financial returns to Welsh agriculture through investigating and demonstrating the potential for reduced costs of production by using disease resistant varieties of potatoes.
 The Pedigree Welsh Pig Society	Feasibility study of community enterprise	The proposal aims to further develop activities of the existing Dolaugothi Lamb Group and to act as a catalyst for wider rural development through direct farm sales and product development.
Welsh Assembly Government - Market Development Unit	Development of the Pedigree Welsh Pig Supply Chain	encourage and promote the development of the Pedigree Welsh Pig breed in the pig industry throughout Wales, the UK and the EU by providing support, training and facilitation to breeders and fatteners
	Food Festival Support and Evaluation	Provide a 3 year grant scheme to support food festivals in Wales. Detailed monitoring and evaluation of the economic benefits of festivals will be undertaken.
Welsh Timber Forum Ltd	Wood Fuel Supply Chain Development	Improve the financial returns to Welsh timber growers in the wood fuel market by establishing a quality assurance scheme and reliable log supply chain from producers to customers.
Coleg Sir Gar	Improving the Welsh Dairy Supply Chain	The project will provide the dairy industry in Wales with the information and learning required in order to improve the dairy supply chain in terms of efficiency, sustainability and added value. It has been developed in order to achieve the relevant objectives of the Dairy Industry Strategic Action Plan and the Welsh Dairy Roadmap.
UWIC Knowledge Transfer	Food knowledge Transfer programme	Structured approach to the medium to long term technical development of companies in the food sector. It will provide access to technical experts and deliver clearer targetable financial, environmental and skills outputs