STAFF SHORTAGES AND IMMIGRATION IN FOOD PROCESSING

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[1] Thanks to Mr Paul Brindley, Department of Town and Regional Planning, University of Sheffield for the production of the maps used in this report.

Project overview

"A set of review papers on the micro-level determinants of employer demand for migrant labour and the alternatives to immigration for responding to labour shortages in key sectors of the UK economy."

This paper is part of a research project commissioned by the Migration Advisory Committee (MAC), a body of independent economists set up by the UK Government in late 2007. The MAC has been tasked to advise the Government where in the UK economy there are skilled labour shortages that can be "sensibly" filled by migrant workers from outside the European Economic Area (EEA).1 The MAC's current remit focuses on skilled labour shortages. Specifically, the MAC has been asked to produce a list of "shortage occupations" for Tier 2 of the UK's new points-based system. However, future work may also involve analysis of low-skilled labour markets. As explained in its recent report on "Identifying skilled occupations where migration can sensibly help to fill labour shortages" (February 2008), the MAC's methods will include "top-down" approaches (including analysis of available data from employer skills surveys and the labour force survey) and "bottom-up" approaches which provide more detailed micro-level information about the nature and determinants of labour demand, supply, staff shortages and alternatives to immigration for filling vacancies in key sectors and occupations.

This research project contributes to the MAC's bottom-up approach by providing an independent analysis and assessment of the nature and determinants of staff shortages in key sectors and occupations of the UK economy. Given the short time period within which the MAC needs to produce its first list of shortage occupations (July 2008), the main method of this project has been to mobilise existing information and research rather than to generate new data. To this end, academic experts provided an analytical research perspective on staff shortages and immigration in seven sectors of the UK economy: agriculture, food processing, financial services, construction, hospitality, health care and social care. Although taking a sectoral approach, the seven "sectoral review papers" highlight and discuss key occupations in each sector. All sectoral review papers were written during April-May 2008 and are based on a common template of questions. A separate paper discusses key concepts, selected empirical findings from the sector papers, and the implications for a skills-based immigration policy.

All papers in this research project were coordinated by Bridget Anderson and Martin Ruhs, with the assistance of Rutvica Andrijasevic and Karin Heissler (all at Centre on Migration,

1 The EEA includes the EU 27 plus Iceland, Liechtenstein and Norway.

Policy and Society (COMPAS) at the University of Oxford). The full list of papers produced for this research project is:

Concepts and overview:

Anderson, B. and M. Ruhs (2008) "A need for migrant labour? The micro-level determinants of staff shortages and implications for a skills-based immigration policy", A report prepared for the Migration Advisory Committee, Migration Advisory Committee (MAC), London

Sectoral review papers:

Bach, S. (2008) "Staff shortages and immigration in the health sector", A report prepared for the Migration Advisory Committee, Migration Advisory Committee (MAC), London

Chan, P., Clarke, L. and A. Dainty (2008) "Staff shortages and immigration in construction", A report prepared for the Migration Advisory Committee, Migration Advisory Committee (MAC), London

Geddes, A. (2008) "Staff shortages and immigration in food processing", A report prepared for the Migration Advisory Committee, Migration Advisory Committee (MAC), London

Jones, A. (2008) "Staff shortages and immigration in the financial services sector", A report prepared for the Migration Advisory Committee, Migration Advisory Committee (MAC), London

Lucas, R. and S. Mansfield (2008) "Staff shortages and immigration in the hospitality sector", A report prepared for the Migration Advisory Committee, Migration Advisory Committee (MAC), London

Moriarty, J., Manthorpe, J., Hussein, S. and M. Cornes (2008) "Staff shortages and immigration in the social care sector", A report prepared for the Migration Advisory Committee, Migration Advisory Committee (MAC), London

Scott, S. (2008) "Staff shortages and immigration in agriculture", A report prepared for the Migration Advisory Committee, Migration Advisory Committee (MAC), London

All papers can be downloaded at the MAC's website: www.bia.homeoffice.gov.uk/mac

Executive summary

1. Overview of the sector and its labour markets

Food processing encompasses a wide range of economic activities and occupations. There is evidence that the number of enterprises in the sector is declining while turnover is rising, suggesting concentration among larger food processing companies. At the same time, the costs of inputs are rising, employment is falling and employment costs are growing. Competitive pressures within the sector are associated with consolidation and economies of scale. There are labour saving pressures that can be accommodated by casualisation, reduction in use of labour and/or mechanisation.

Significant variations in products have important effects on labour use. Of central importance is: seasonal work linked to harvesting and public holidays, and: deployment of temporary labour through the various recruitment modes associated with the gangmaster system. There is evidence of significant presence of workers from European Union (EU) and non-EU states in food processing with spatial concentration in small town and rural Britain.

Competitive pressures associated with UK retailing cascade 'down' supply and value chains and impact on food processing operations driving down costs and margins and encouraging industry consolidation.

2. Employer demand: What are employers looking for?

Labour force restructuring has been central to cost base reductions in food processing. Skills and wage levels are relatively low. Demand for temporary, agency work is an historically important aspect of labour use in food processing.

Distinct modes of recruitment can be identified with attendant lower and higher risks of informality. There is evidence of abuse and exploitation of workers with the Gangmasters Licensing Authority created in 2004 to operate a licensing system for temporary labour providers and to tackle worker exploitation. Modes of recruitment are a key aspect of labour use in food processing and are linked to the seasonal nature of indirectly employed labour in this sector and pressures exerted on supply and value chains by large retail multiples.

3. Labour supply: Who wants to do what?

Workers from EU states and from outside the EU now fill labour market gaps for flexible workers with some perception amongst employers and recruitment agents that British-born workers are unwilling/unable to undertake this kind of work, which is often arduous. Distinct phases in temporary labour provision can be identified as a way that seasonal demands have been met. Distinctions can be made between use at various points in time of women workers and students, male workers displaced by industrial decline, old EU migrants, asylum-seekers, migrants working illegally and new EU migrants.

4. Immigration and labour demand: How and whom do employers recruit?

Employment of migrant workers is a labour recruitment strategy used by food processing businesses as a response to market pressures that have prompted an intensification of what have been called 'work place regimes'. Flexible working interacts with employer demand and is intermediated by recruitment agents/gangmasters and the aspirations of workers from EU states and from outside the EU to create particular employment dynamics in food processing with a strong presence of migrant workers. Significant spatial concentrations of migrant workers can also be identified, such as in the east of England.

5. Immigration and alternative responses: A need for migrant labour?

'Demand-pull' versus 'technology push' versus a 'mixture of both' are too simplistic as a way of viewing sectoral automation. Mechanisation is linked to product type, the process, the market, company ownership, market size and company size. For example, given seasonal variation and competitive pressures, smaller companies are more likely to see capital investment as high risk while larger companies are better able to run this risk. Certain aspects of production, such as labelling are more likely to be mechanised.

Increasing wages and improving working conditions may induce more British workers to enter the sector, but a key issue is the regulatory reach of agencies such as the GLA, Health and Safety Executive and HMRC in order to ensure that modes of recruitment that are more prone to informality do not lead to the undercutting of standards and worker exploitation.

6. Conclusion: Implications for analysing staff shortages in the sector

Food processing relies on a supply of flexible workers able to undertake seasonal activities in, often, arduous conditions. Workers from within the EU and outside the EU have been and continue to be an important part of labour recruitment strategy for employers in food processing. Migration from A8 states has been an important factor in the sector, but even though the evidence base is patchy, workers from outside the EU are an equally significant presence in the sector and an integral component of the workforce in food processing, canning, bottling, packing and filling, in particular.

1. Overview of the sector and its labour markets

1.1 Key features and recent developments

Food processing encompasses a range of occupations integral to UK agri-business and food retailing. It is clear that a ready flow of workers from outside the UK has meant that foreign workers have become an important component of food supply systems with particular concentrations in food processing, canning, bottling, packing and filling.

While the food processing sector is diverse, there is evidence of broader sectoral patterns. Annual Business Inquiry (ABI) data provided in Table 1 for the period 1995-2005 show that the number of enterprises is declining; turnover is rising; Gross Value Added (GVA) is rising; the costs of inputs (purchases) are increasing; employment is falling and employment costs are growing. Competitive pressures within the sector are associated with consolidation and an associated increase in economies of scale. This suggests that as input and labour costs increase then pressure for labour saving will increase. Savings can be achieved through casualisation, reductions in labour used, increases in labour efficiency or mechanisation.

Table 1: Annual Business Inquiry Data Covering the Manufacture of Food Products

Standard Industrial Classification (UK SIC 2003)	Description	Year	Number of enterprises (number)	Total turnover (£ million)	Approximate gross value added at basic prices (£ million)	Total purchases of goods, materials and services (£ million)	Total employment - point in time (thousand)	Total employment - average during the year (thousand)	Total employment costs (£ million)
15.1	Production, processing and preserving of meat and meat products	1995	1,407	11,837	2,512	9,399	..	..	1,509
		1996	1,294	12,112	2,861	9,302	..	..	1,590
		1997	1,306	12,015	3,048	9,058	..	..	1,692
		1998	1,241	11,055	2,884	8,170	122	121	1,763
		1999	1,248	11,146	2,811	8,354	124	122	1,971
		2000	1,179	12,181	3,061	9,144	130	128	2,063
		2001	1,153	11,916	3,073	8,847	120	119	1,998
		2002	1,113	12,392	3,010	9,406	113	112	2,027
		2003	1,022	13,114	3,365	9,769	119	118	2,120

Standard Industrial Classification (UK SIC 2003)	Description	Year	Number of enterprises (number)	Total turnover (£ million)	Approximate gross value added at basic prices (£ million)	Total purchases of goods, materials and services (£ million)	Total employment - point in time (thousand)	Total employment - average during the year (thousand)	Total employment costs (£ million)
		2004	1,012	13,490	3,269	10,245	118	117	2,134
		2005	1,008	13,807	3,421	10,426	113	112	2,151
15.11	**Production and preserving of meat**	**1997**	433	3,768	691	3,126	..	..	327
		1998	416	3,232	471	2,743	21	21	321
		1999	410	3,318	568	2,762	23	22	366
		2000	394	3,335	506	2,843	23	22	357
		2001	398	3,375	548	2,833	21	21	364
		2002	390	3,519	509	3,015	20	20	373
		2003	281	3,238	515	2,732	16	16	324
		2004	296	3,640	587	3,060	18	18	340
		2005	305	4,040	708	3,359	19	19	364
15.12	**Production and preserving of poultry meat**	**1997**	125	2,235	543	1,701	..	..	388
		1998	127	1,993	465	1,525	27	27	377
		1999	139	1,938	432	1,506	26	25	421
		2000	119	1,912	426	1,461	21	21	325
		2001	117	1,978	570	1,427	23	23	353
		2002	107	2,088	475	1,621	20	20	371
		2003	112	2,400	534	1,860	22	22	402
		2004	117	2,214	531	1,691	23	23	375
		2005	115	2,480	490	1,992	22	22	430
15.13	**Production of meat and poultry meat products**	**1997**	748	6,013	1,815	4,231	..	..	978
		1998	698	5,830	1,947	3,902	74	74	1,066
		1999	699	5,889	1,811	4,086	76	75	1,185
		2000	666	6,933	2,129	4,840	86	85	1,381
		2001	638	6,562	1,956	4,587	76	75	1,281
		2002	616	6,786	2,025	4,770	72	72	1,283
		2003	629	7,476	2,316	5,177	80	79	1,394
		2004	599	7,637	2,150	5,494	77	77	1,419
		2005	588	7,286	2,224	5,075	72	72	1,357

Standard Industrial Classification (UK SIC 2003)	Description	Year	Number of enterprises (number)	Total turnover (£ million)	Approximate gross value added at basic prices (£ million)	Total purchases of goods, materials and services (£ million)	Total employment - point in time (thousand)	Total employment - average during the year (thousand)	Total employment costs (£ million)
15.2	**Processing and preserving of fish and fish products**	**1995**	341	1,842	390	1,454	..	..	258
		1996	368	1,744	384	1,372	..	..	238
		1997	395	1,696	346	1,357	..	..	239
		1998	393	1,762	355	1,411	20	20	255
		1999	391	1,721	378	1,353	22	21	267
		2000	388	1,884	438	1,440	25	25	273
		2001	367	1,860	445	1,428	21	21	254
		2002	393	1,983	445	1,576	20	20	280
		2003	399	1,981	483	1,507	20	20	299
		2004	392	1,985	480	1,525	18	18	296
		2005	387	2,224	542	1,707	19	18	284
15.3	**Processing and preserving of fruit and vegetables**	**1995**	1,138	4,614	1,614	3,006	..	..	724
		1996	906	5,216	1,577	3,644	..	..	701
		1997	798	4,094	*	*	..	..	631
		1998	698	3,748	1,321	2,467	39	39	617
		1999	617	3,762	1,394	2,393	35	34	624
		2000	578	3,681	1,374	2,250	36	36	635
		2001	540	4,075	1,561	2,543	35	35	663
		2002	517	3,881	1,401	2,504	36	36	654
		2003	484	4,335	1,544	2,805	39	39	731
		2004	459	4,699	1,699	3,004	39	38	770
		2005	440	4,638	1,597	3,076	40	40	855
15.31	**Processing and preserving of potatoes**	**1997**	70	1,368	*	*	..	..	249
		1998	64	1,358	501	857	13	13	259
		1999	57	1,409	634	785	11	11	248
		2000	57	1,350	596	736	10	10	233
		2001	60	1,480	628	864	11	11	246
		2002	60	1,401	585	814	11	11	243
		2003	61	1,480	642	839	11	11	221
		2004	55	1,570	715	870	11	11	232
		2005	55	1,296	566	724	12	12	297

Standard Industrial Classification (UK SIC 2003)	Description	Year	Number of enterprises (number)	Total turnover (£ million)	Approximate gross value added at basic prices (£ million)	Total purchases of goods, materials and services (£ million)	Total employment - point in time (thousand)	Total employment - average during the year (thousand)	Total employment costs (£ million)
15.32	**Manufacture of fruit and vegetable juice**	**1997**	24	436	*	*	..	..	38
		1998	22	360	73	292	2	2	36
		1999	21	409	124	293	2	2	39
		2000	23	479	138	325	3	3	50
		2001	21	381	106	282	2	2	47
		2002	23	376	88	287	2	2	41
		2003	19	395	101	287	2	2	42
		2004	23	410	109	294	2	2	47
		2005	26	467	131	338	2	2	51
15.33	**Processing and preserving of fruit and vegetables not elsewhere classified**	**1997**	704	2,290	791	1,491	..	..	344
		1998	612	2,030	748	1,318	24	24	321
		1999	539	1,944	636	1,315	22	22	337
		2000	498	1,853	640	1,189	23	23	352
		2001	459	2,215	828	1,398	22	21	370
		2002	434	2,105	728	1,403	23	23	370
		2003	404	2,460	802	1,680	27	27	468
		2004	381	2,719	875	1,840	25	25	492
		2005	359	2,875	900	2,013	26	26	507

Source: (Annual Business Inquiry (ABI) 2006).

Employment in food processing tends to lower skilled and with low pay levels. There is highly significant seasonal variation in demand for labour affects labour use and mechanisation. There is strong reliance on temporary/agency workers deployed through temporary labour providers/gangmasters to cater for peaks and troughs in labour demand. There are also strong pressures 'down' supply and value chains from large retail multiples[1]

[1] Concerning 'large retail multiples,' precise market definitions differ across local geographic markets. Larger grocery stores are those bigger than 1,000–2,000 square metres while mid-sized stores are larger than 280 square metres. The Competition Commission, in its Groceries industry enquiries,

that can squeeze the profit margins of smaller food processing operations and contribute to overall trends in the sector that see increased presence of larger companies.

All these factors generate sub-sectoral concentrations of migrant workers in particular food processing occupations. As employment in food processing is related to the spatial distribution of British food manufacturing this leads to significant spatial concentrations. There are particular concentrations in areas such as the East of England and, more generally, a move to rural and small town Britain with attendant policy implications for local service providers.

The seasonal variation in certain types of production such as processing of fruit and vegetables and at certain times of the year, such as at Christmas, have long required the deployment of temporary workers. The acknowledged strong reliance on workers from within and outside the European Union (EU) fits with the requirement for temporary work. There are a great variety of occupations and tasks in modern food processing, but one that best exemplifies modern food retailing and consumption is the bagged salad. According to Lawrence (2004: 29) fresh salad did not exist in bagged form before 1992, but it is now clear that picking, packing, processing and distribution relies heavily on migrant labour (Anderson, Ruhs et al. 2006; Citizens Advice Bureau 2003; Francis, 2003; Winkelmann-Gleed and McKay 2005; Taylor and Rogaly 2004, Rogaly 2006; Trades Union Congress 2004; Zaronaite and Tirzite, 2006). Primary packaging of, for example, salads can be an area with high levels of automation, but there are differences between particular products such as the more basic, chopped, washed and bagged salad and the higher-end baby leaf salads that require hand packing.

While the national origins of the workers in food processing have changed and/or varied (for example, British-born, 'old' EU migrants, 'new' EU migrants and non-EU migrants), there are deeper underlying patterns of continuity in terms of deployment of temporary/seasonal labour in the food processing sector. Seasonal variation, the temporary nature of work and the perception that British-born workers are unwilling to undertake some of the often laborious employment in food processing is the backdrop to the use of migrant labour from inside the 'new' EU and from outside the EU to fill labour market gaps in UK food processing. Use of casual labour has been a key labour market strategy in the food processing sector. This does not in itself generate demand for migrant labour, but migrant

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analysed stores from the lower size thresholds of 280 square metres for mid-sized stores and 1,400 square metres for larger stores.

labour has been seen by labour users as a widely available, flexible and efficient way to meet labour needs in food processing.

Analysis of the presence of migrant workers in UK food processing needs to be cognisant of trends in UK food consumption and retailing related to changing tastes, to the complexity of food supply-chains and to the pressures exerted upon value-chains from the major retailers. 'Value chains' can be understood as the full range of activities that bring a product to market through various different production stages. The notion of the value chain captures the complexity of the modern UK food industry and its relation to agri-business, food retailing and the power of large retail multiples that can cascade down supply and value chains to impact directly on food processing businesses. The role of migrant workers can be viewed at various points along this value chain, for example, in field work; work in packhouses; employment in plants processing fruit, vegetables, fish and meat; work as lorry drivers and other distribution activities; warehouse operatives, and; shop sales. The focus of this paper is on food processing, but the analysis cannot be separated from the broader relations of supply and production in food processing that play an important part in structuring employment generally, and migrant employment more particularly. As discussed later, Competition Commission enquiries have shown how supermarkets exert pressure 'down' the supply chain with effects on the profit margins of food processors with a particularly strong impact on smaller operators. In situations of significant sort-term variation, there can a high awareness of capital cost risks that deter longer-term investment in automation (University of Lincoln 2007).

Significant variation in products can have important effects on labour use and mechanisation. For example, levels of automation and labour use are more intense for shorter shelf-life products, such as meat and fish preparation and chilled ready meals while labour is used less intensively and automation more extensively in medium to long shelf-life items such as dried and frozen foods. The largest sub-sector is the 'manufacture of other food products'. This deserves slightly more attention because the range of activities encompassed within it is indicative of the 'convenience food' culture that is an important element of UK consumer demand. Included within this broad 'other' sub-sector is the manufacture of bread, biscuits, sugar, confectionery, tea, coffee, condiments and ready meals.

Table 2 shows the migrant presence in food processing sectors in 2006-7 using broad Standard Occupational Classification (SOC) categorisations. The data are based on Labour Force Survey (LFS) data and thus present some measurement problems given the

small sample sizes in each category and the difficulty identifying migrant workers within these small samples. It may also be problematic to identify short term, temporary and agency work within which migrant workers are likely to be particularly concentrated. The data also measures only the 'foreign born' and makes no distinction between recent arrivals and established migrants who have lived in the UK for a long time. Particular concentrations are evident in packing, bottling, canning and filling where migrants comprise nearly 40 percent of the work force with equal reliance on A8 and non-EU migrants. Similarly, around 30 percent of the workforce in the processing of tobacco, food and drink are migrants, with evidence suggesting particular concentrations in food processing rather than the drinks and tobacco sub-sectors.

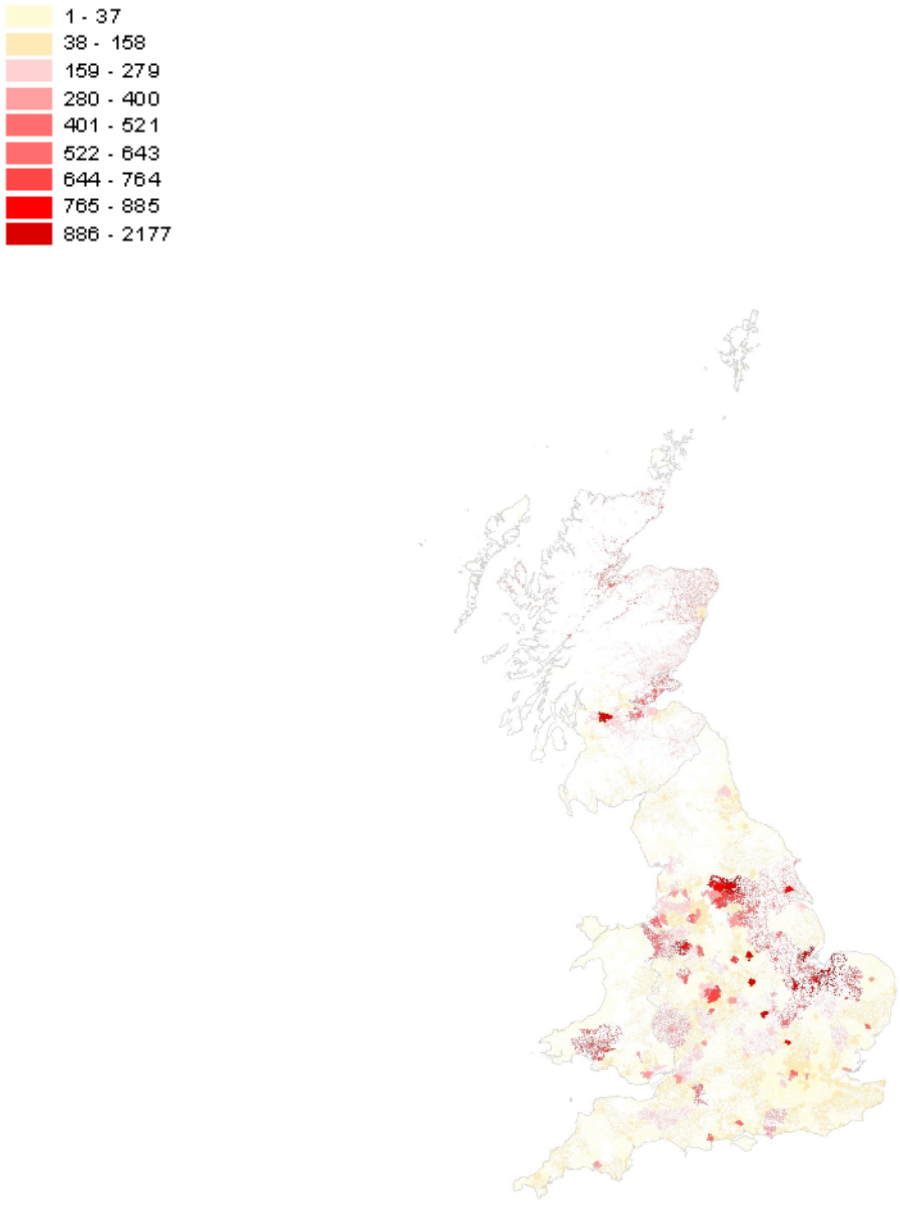
Table 2: Migrant workers in food processing (Percentage by SOC: 2006-7)

Occupation (SOC code)	UK born	EEA (not A8)	A8	A2 Bulgaria, Romania	Non EEA	N
5431 Butchers, meat cutters	91.4	1.8	2.2	0.6	4.0	325
5432 Bakers, flour, confectioners	84.2	4.0	2.2	0.3	9.3	324
5433 Fishmongers, poultry dressers	82.8	0	5.1	3.0	9.1	99
8111 Food, drink and tobacco process operatives	72.4	2.3	10.0	2.1	13.2	1902
9134 Packers, bottlers, canners and fillers	60.3	3.0	16.6	4.0	16.1	1496

Source: (Labour Force Survey 2006-7).

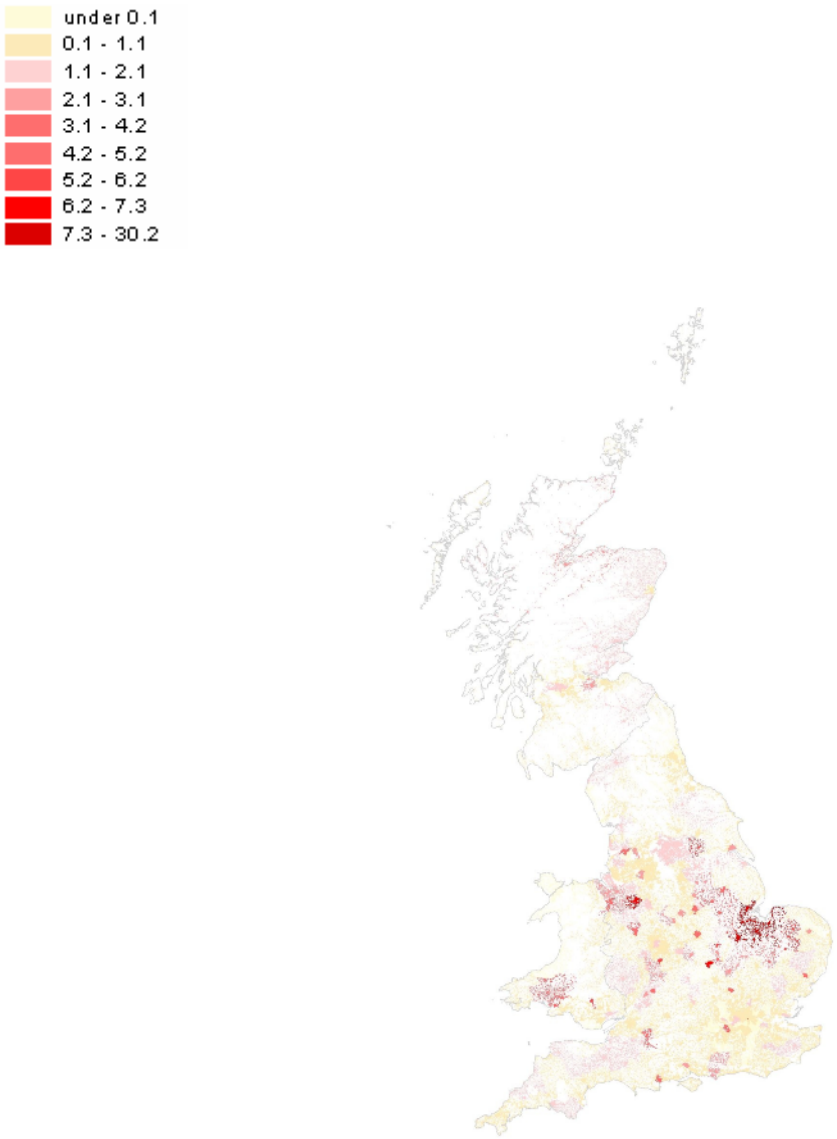
WRS data allow analysis of A8 migrant employment in food manufacturing. Map 1 shows the total number of A8 migrants registered on the Worker Registration Scheme (WRS) employed in food manufacturing at district level in overall terms while Map 2 shows A8 migrants per thousand of the population. Map 2 highlights the particular concentration of A8 migrants in food manufacturing in eastern England and rural/small town England, more generally.

Map 1: Total number of A8 migrants registered on the WRS employed in food manufacturing at district level



Source: (Worker Registration Scheme 2007).

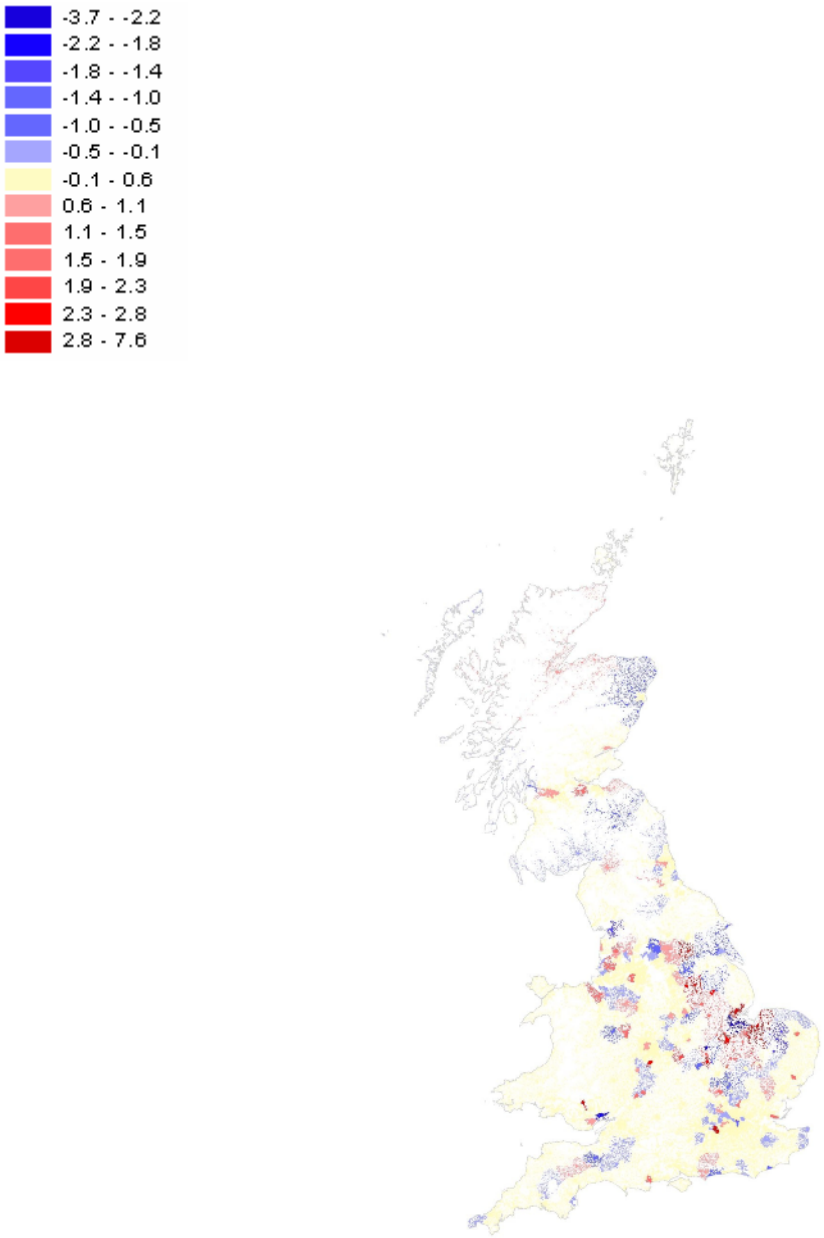
Map 2: A8 migrants per thousand of the population particular; the concentration of A8 migrants in food manufacturing in eastern England and rural/small town England



Source: (Worker Registration Scheme 2007).

Map 3 shows change in WRS workers in food manufacturing between 2005 and 2007. It shows particular concentrations in the east of England, but also in areas such as the east coast of Scotland where the main activity is fish processing and where there is also a concentration of A8 migrants. The sub-sector and spatial concentration of migrant employment in food processing is a theme returned to later in this paper when migrant employment in the Wash is analysed in order to identify patterns in labour use of A8 migrants at the heart of UK agri-business and food processing.

Map 3: The change in WRS workers in food manufacturing between 2005 and 2007



Source: (Worker Registration Scheme 2007).

1.2 Major policy issues

Sectoral developments can be grouped under three headings: corporate consolidation; new production techniques; and divisions in food supply chains between core and peripheral producers. The net result is a highly competitive retail market with strong competition concerning price and quality. The Competition Commission has seen this as generally advantageous for consumers, but as also exerting pressure 'down' supply and value chains that impact squarely upon food processing.

1.2.1 Corporate consolidation.

Of particular importance is the concentration of the industry power in the hands of larger food processing companies and a squeeze on smaller companies, as shown by the ABI data in Table 1. The largest food processing company in the UK is the Icelandic-owned multinational Bakkavör group which operates 42 subsidiaries across the UK ranging from Alresford Salads through Italpizza to Yorkshire Fresh Fruit.

1.2.2 ICT married to just-in-time (JIT) production techniques.

Large retail multiples dominate UK food-buying (Competition Commission 2000, 2007; Gereffi, Korzeniewicz et al. 1994, Poole, Clarke et al. 2001; Young 2004). Since the 1990s the UK food supply system has been markedly altered by significant advances in efficiency and flexibility (Blythman, 2004; Lawrence, 2004; McMichael, 2004; Seth and Randall, 2001). Retail sales of groceries in the UK amounted to £123.45 billion in 2006, around 16 percent of total consumer expenditure. This marks an increase of 16.8 percent in real terms since 2000. During the same period, real prices for food fell by 7.3 percent and the number of product lines supplied by the four largest grocery retailers increased by 40 percent (Competition Commission, 2007: 12). Table 3 shows the market share of the leading supermarkets. There have been changes in UK food retailing at both the 'lower' and 'higher' ends of the quality spectrum as lower cost retailers such as Aldi and Lidl have entered the UK market while, in response to consumer demand for locally produce that cuts down on 'Food Miles', there has been the development of, for example, Tesco 'Finest' where locally produced food is sold to compete with retailers such as Waitrose and Marks and Spencer that have tended to compete on quality and at a higher price.

Table 3: Market share of the leading supermarkets by till roll sales (percent)

Supermarket	***Share of till roll sales (percent)***
Tesco	*30.4*
Asda	*16.5*
Sainsbury's	*15.9*
Morrisons	*10.3*
Somerfield	*5.6*
Co-ops	*4.7*
Waitrose	*3.7*
Iceland	*1.6*
Aldi	*2.3*
Lidl	*2*
Netto	0.7

Source: (Competition Commission 2007: 15).

The governance of value chains by large retail multiples sees them manage supply through close attention to relations with their suppliers with a requirement for flexible supply networks so that orders are constantly adjusted to reflect the ebb and flow of consumer demand (Boyd and Watts 1997; Lang and Heasman 2004). As the Tesco Chief Executive, Terry Leahy, put it:

> we have linked our ordering to our electronic point of sale system. And we've linked our ordering system to our suppliers with electronic data interchange. Now when we sell a sandwich for example, the sale is registered by the scanner which automatically speaks to the ordering system, which orders a replacement. This is transmitted to the supplier straight into the supplier's production planning system; automatically calculating the raw ingredients required, the amount to be produced on the next shift, the labour needed, the line capacities, the dispatch and distribution details and so on. Out go the lorries into the distribution centre depots, deliver straight to stores, back on the shelf, back in the trolley and across the scanner within forty eight hours (cited in Geddes, Scott et al. 2007: 34).

This demand for just-in-time delivery requires flexible resources on the part of food processors so that peaks and troughs in demand within the retail multiples can be met. This also places great pressure on processing operations because, if they cannot meet the demand of the larger supermarkets for the right product at the right time in the right place,

then it is likely that other suppliers will be ready to step in. This then translates into pressures exerted 'down' the supply chain by large retail multiples, which are felt by food processing operations (as well as further down the chain by farmers).

1.2.3 The division of supplier networks into core and peripheral producers.

Enquiries by the Competition Commission as part of its analysis of the groceries business in the UK have shown how pressures from large retail multiples can cascade down supply chains and favour larger food processing businesses (and thus underpin the corporate consolidation shown in Table 1). For example, suppliers can be required to make payments or concessions to gain access to supermarket shelf space. This means that it is not necessarily the best or most efficiently produced product, but which producer is best able to make the payment requested. For example, 61 percent of all supermarket retailers required obligatory contributions to marketing costs; 48 percent of suppliers reported delays in receiving payment; 48 percent of suppliers were required to make excessive payments in cases of customer complaints; 37 percent of suppliers were required to provide additional packing and distribution services; 37 percent of suppliers were requested to make price reductions before or after delivery. Applying different standards to different suppliers forces some suppliers to compete on more onerous terms than others. The imposing of retrospective changes to contractual terms or transferring costs to suppliers transfers risks to the suppliers and favours larger over smaller operations because they are more able to absorb such costs and delays.

1.3 The Gangmasters Licensing Authority

Food processing is one of the sectors that fall within the remit of the Gangmasters Licensing Authority (GLA). The Gangmasters (Licensing) Act was introduced in 2004 to curb exploitative and fraudulent activities by so-called gangmasters supplying labour to agriculture, horticulture, shellfish and related produce packing and processing sectors. The Gangmasters Licensing Authority (GLA) is responsible for the implementation of the Act via its operation of the Gangmaster Licensing Scheme. The GLA's specific sectoral remit is linked essentially to sectors that fall under the remit of the Department for Environment, Food and Rural Affairs (Defra). The entire recruitment sector is regulated by the Employment Agencies Act (1973) while the Gangmaster (Licensing) Act 2004 applies only to the specific sectors listed above.

Of the 1097 Labour providers on the GLA register in November 2007, 63 percent operated in the food processing/packaging sector. Many of these gangmaster businesses are relatively small with 74 percent employing 100 people or less.

In October 2006 it became an offence to supply agency workers to agricultural, horticultural and food processing/packing operations without a gangmasters licence. Since December 2006 it has been illegal in these sectors to use unlicensed labour providers.

2. Characteristics, dimensions and determinants of employer demand

Labour is the most significant cost input in food processing. It tends to be lower skilled with relatively elastic supply. Labour force restructuring has been central to cost base reductions in food processing. Table 4 shows that food processing occupations are amongst the sectors with the lowest estimated share of people with level 3 National Vocational Qualification (NVQ) or above. In 2007, **'**Improve', the Sector Skills Council for Food and Drink launched a range of new National Vocational Qualifications and Scottish Vocational Qualifications (SVQs) in Food Manufacture. At level 2, new 'units' of competence can be combined to create any of 10 different pathways to a universally recognised NVQ or SVQ in Food Manufacture. This replaces existing qualifications like those in meat and poultry, bakery, and general food and drink manufacturing. At level 3, six different pathways will lead to the NVQ or SVQ. Rates of pay within the sector also tend to be low, as Table 5 shows.

Table 4: Estimated share of people in food processing occupations with NVQ level 3 and above

Occupation (SOC code)	Estimated share of people in occupation with NVQ level 3+	Standard error	Estimated number of people of UK working age population (rounded to nearest '000)	N
5432 bakers, flour, confectioners	0.213	0.028	27000	207
8111 Food, drink and tobacco process operatives	0.121	0.009	160000	1246
5433 Fishmongers, poultry dressers	0.115	0.036	10000	78
9134 Packers, bottlers, canner and fillers	0.082	0.009	111000	883
5431 Butchers, meat cutters	0.078	0.017	30000	243

Source: (Labour Force Survey 2007).

Table 5: Rates of pay in food processing

Occupation (SOC code)	Numbers of workers ('000)	Median hourly pay £	Annual change 2006-7 %
543 Food preparation	25500	7	5.3
5431 Butchers, meat cutters	25	7.26	1.3
5432 Bakers, flour and confectioners	25	7.13	-0.3
8111 Food, drink and tobacco process operatives	191	7.50	0.8
9134 Packers, bottlers, canners and fillers	114	6.86	6.3

Source: (Annual Survey of Hours and Earnings 2007).

Research for the GLA (Geddes, Scott et al. 2007; Scott, Geddes et al. 2007) identified a range of factors affecting employer demand for workers and the ways in which this demand connects with modes of recruitment and use of migrant labour.

- Reliance in seasonal food processing activities on agency labour. The presence of migrant from the 'old' EU, the new EU and outside the EU workers within the temporary/agency labour force is readily apparent when the nationality of agency workers is analysed. Only 9 percent of the 1067 gangmasters registered with the GLA employ only British workers while 23 percent employ only migrant workers. Particularly striking is that 82 percent of gangmasters employ some Polish workers, 45 percent some Lithuanian workers and 27 percent some Portuguese workers.
- There is some perception among employers that migrants are preferred because they have a stronger work ethic than British-born workers and are more likely to be flexible.
- There is some evidence of a shift in deployment of migrant workers from temporary to directly employed staff as migrant workers become settled and acquire/develop competence in the English language.

The general point about the importance of temporary labour within those forms of food processing where migrant workers are particularly concentrated can be extended by analysing various modes of recruitment into food processing employment. Table 6 identifies and specifies modes of recruitment into food processing and identifies those that are more open to informality and therefore abuse and exploitation of workers. Table 6 also identifies recruitment modes that have a very different relation to the regulatory reach of the state. The GLA was specifically designed to tackle the abuses caused by those modes of recruitment that are more prone to informality and hence to abuse. The role of the GLA will be explored further in the following section when issues around supply of labour and worker exploitation are considered.

Table 6: Modes of 'gangmaster' recruitment in food processing

	Type of work	Risk of informality
Independent gang labour	A worker heard a small gang of other workers	High
In house gang labour	An employer externalises recruitment and HR function by relying on one gangmaster as a source of temporary labour	Low
Project oriented gang labour	Fixed term work for a specific time delimited project, such as slaughtering and bagging turkeys at Christmas	High
Direct labour provision	Deployment, often through an agency, to a range of clients	Low
Indirect labour provision	Deployment by an agent to another labour market intermediary. This is quite common a mode of international recruitment where a foreign labour provider supplies workers to a UK labour provider	High
Co-operative labour provision	Businesses exchange labour on a kith and kin basis	High
Internal flexible labour provision	A parent company has a number of division, including a labour supply unit supplying workers to other units	Low
Internal integrated labour provision	HR managers employed within a company to supply labour to that company. This can involve use of overseas networks, such as the EU-wide EURES	Low

Source: (Scott, Geddes et al. 2007: 19-20).

To summarise the key points from this section, employer demand for temporary workers in food processing is concentrated either in sectors with seasonal variation or in those forms of employment in which British-born workers are seen as unwilling to engage. Migrant workers comprise a significant component of the temporary/agency workforce. A key role is played by labour providers/gangmasters with various recruitment modes operating within the food processing sector that generate concomitant risks of informality and thus greater possibilities of worker abuse and exploitation.

3. Characteristics and segmentations of labour supply

Overall data do not capture the diversity and fluidity of many employment relationships in the food processing sector. The strong seasonal component to much food processing work related to harvesting cycles or to peaks in consumer demand, such as public holidays stimulates the requirement for temporary and/or agency work to complement directly-

employed staff at periods of peak demand. Temporary labour providers/gangmasters have traditionally mobilised labour as and when required by food processing companies. A number of distinct historical stages in temporary labour can be distinguished (Geddes, Scott et al. 2007; Scott, Geddes et al. 2007; Pai 2008):

- Until the 1980s, women workers and students during college vacations were an important part of the temporary workforce.
- From the 1980s until the end of the 1990s, workers from former industrial areas, particularly in the north of England, were available for temporary work in food processing. This supply of workers was reduced when greater efforts were made to tackle Value Added Tax (VAT) and National Insurance fraud through Agricultural Compliance and Operation Gangmaster.
- Prior to 2004, there is evidence of increased reliance on migrant workers grouped into three main types:

    - 'OId EU' with particular concentrations of Portuguese migrants in food processing in the east of England. There is, in fact, some evidence to suggest that among this 'Portuguese' population Brazilian migrants were working illegally as they were not EU citizens.
    - Asylum seekers employed illegally according to asylum legislation which forbade asylum applicants from working while their claim was being processed.
    - Illegal workers, with a particular presence of Chinese (according to Pai (2008). It was the death in February 2004 of 23 Chinese gang workers employed to pick cockles in Morecambe Bay that impelled creation of the GLA, which included within its remit food processing. Increased reliance on migrants from the A8 accession states that joined the EU in May 2004.

The variety of forms of temporary labour provision shown in Table 6 generate different tendencies towards formal and informal employment types and thus affect the likelihood of worker abuse and exploitation. There is a greater tendency to informality in use of 'Independent gang labour', and less when 'In-house gang labour' is used.

Union membership applies to only one in ten private sector workers. Wills (2005) showed that there are 8 million trade union members in the UK and that sectoral concentration vary, with 27 percent union penetration in the manufacturing sector. This would include food

processing and manufacturing, but there are good reasons to doubt that levels of union penetration on this scale would be evident in food processing sectors. Membership levels among women, part-time workers, migrant workers, ethnic minority workers and seasonal/temporary staff are particularly low. Agency workers are particularly unlikely to commit to a trade union because they change their employer and move sectors on a regular basis. There is some evidence of increased migrant worker membership. UNITE, for example, claims 15,000 Polish members across economic activities (Scott, Geddes et al. 2007: 57). Problems for unions include that migrant workers may be unaware of their rights and may be more concerned with maximising their earning opportunities. Some of the larger trade unions, such as UNITE have begun to publish recruitment material and other information in over 30 different languages, but the nature (seasonal) and type (temporary/agency work with high preponderance of migrants) are likely to impede union membership. Union efforts have thus been directed towards the protection of the rights of vulnerable workers and securing more effective statutory protection of workplace rights for agency workers.

There is evidence of informality and worker exploitation in food processing. For example, research for the GLA shows that provision of accommodation to migrant workers is an area particularly open to abuse with a shift from the workplace to home as the place where exploitation occurs (Scott, Geddes et al. 2007). There is debate about whether the protections offered by GLA licensing should be extended to other sectors where there may be analogous patterns of exploitation in difficult-to-regulate economic activities, such as the hospitality and construction sectors, perhaps creating a more general labour inspectorate with broader sectoral remit.

4. Immigration and labour demand

The food processing sector has been characterised as oligopsonistic (Poole, 2002) with large retailers and large, specialised food processing operations. In turn this has led to an intensification of pressure within supply and value chains that stretch from the farm to the supermarket shelf and that include various types of food processing activity. There are unequal distributions of power within supply and value chains with migrants often at the bottom of the heap. Ease of recruitment because of significant seasonal variations is a key factor underpinning demand for labour in food processing and the recruitment modes linked to the ‘gangmaster’ system that deploys temporary labour. There are particular concentrations of migrant workers among agency staff. A 2004 analysis of ‘secondary’ food processing based on employer and employee surveys found that 90 percent of agency

workers were migrant workers and, of these, 64 percent were from accession states. Of these, 67 percent were aged between 18 and 34, 56 percent were male, 36 percent were female (8 percent gave no answer) (Precision Prospecting 2005).

This structuring of the food processing sector has been seen to then affect labour recruitment and leads to the intensification of what Rogaly (2006) calls 'workplace regimes' as pressures are transferred down the supply chain for quick, efficient and cheap production. The result is that intensifying price competition in food retailing works its way back down the supply chain and impacts on both the recruitment of labour and the employment conditions within the sector with migrant labour seen as a cost saving input. Stenning (2006: 66-7) notes the rise of flexible working practices in food processing driven by the interplay of employers' labour demand and the supply of workers. This was intermediated by recruitment agencies and the short-term aspirations of new migrants from EU member states. They were prepared to tolerate lower skilled, lower status work in the hope of either moving 'up' the UK labour market (which tends to be dependent on English language skills) or returning home with significant savings (linked to the strength of the GBP pound £ against the Euro € as accession states enter the Euro zone).

Migration into food processing was covered by the sector-based scheme (SBS) for non-European Economic Area (EEA) workers for temporary employment (maximum 1 year) in lower skilled occupations such as hospitality and food processing. Table 8 shows SBS migrants in food processing occupations. From 1 January 2007 the SBS applied only to Bulgarians and Romanians and was fixed at 3500. The Home Office (2005: 16) noted that:

> *In the light of the additional labour now available from new EU countries, we will phase out over time our current quota based schemes in the agriculture, food processing and hospitality sectors (i.e. SAWS and SBS). Where additional needs are identified in the future, we will introduce small tightly managed quota based schemes for specific shortage areas and for fixed periods only, with guarantees that migrants will leave at the end of their stay.*

Research for the GLA suggests that the effects on food processing of the phasing out of the SBS have not been felt to the same extent as the phasing out of Seasonal Agricultural Workers Scheme (SAWS) on the agricultural sector. SAWS was seen by farmers as a way of recruiting workers who were often agricultural students or who had an interest in an agricultural career. The skills base for entry into food processing is low and specific

knowledge or food-related motivation is not required. However, the 'work ethic' of new migrants compared to British born workers is often commended by employers and seen as a particularly relevant factor generating use of migrant labour. While systematic data are not available, employers have speculated that any downturn in availability of migrant workers would negatively affect their business. Here the issue is not so much that these are migrant workers, but that they are flexible workers (Geddes, Scott et al. 2007; Scott, Geddes et al. 2007).

Table 8: Food processing in total and as percentage of Sector Based Schemes

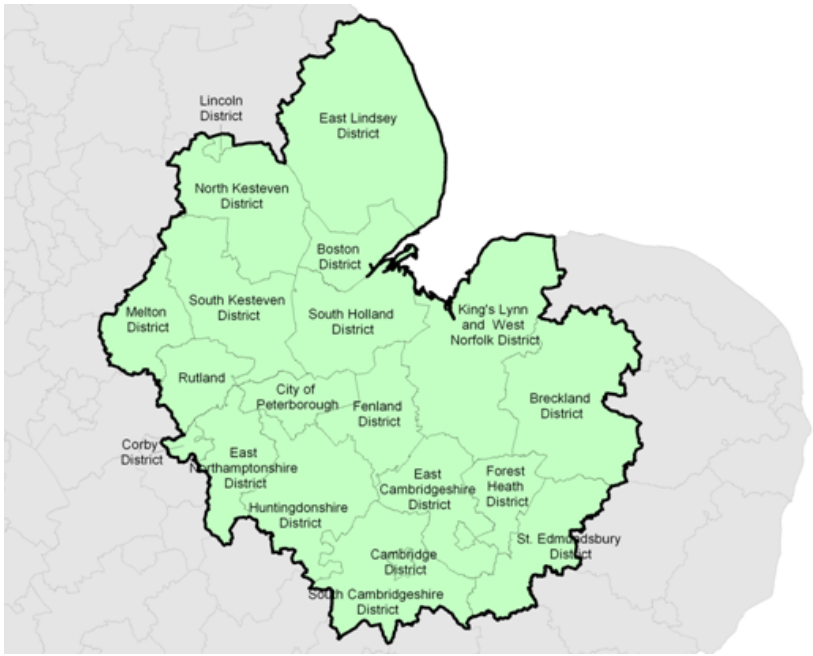
	2003	**2004**	**2005**
Total	7808	16864	7401
Food processing	1941 (24.9 percent)	4656 (27.6 percent)	4355 (58.8 percent)

Source: (Geddes, Scott et al. 2007: 144).

Migration into food processing is also indicative of the changed geographies of migration to Britain as migrants move into rural or small town communities, for example, to areas without significant histories of immigration (Trades Union Congress 2004; Anderson, Ruhs et al. 2006; Ruhs 2006). The Commission on Rural Communities (2007: 17) found the arrival pattern of migrant workers in rural areas to be more seasonal than in urban areas with specific concentrations in Lincolnshire, the Wash, Yorkshire and Humberside. There is significant regional concentration in the manufacture of food products and beverages. Although 2005 ABI data are patchy, the data show that three regions accounted for around 30 percent of total sector turnover. The Wash is at the epicentre of modern UK food processing and merits closer attention in order to explore demand for migrant workers and the sub-sectoral and spatial variation in deployment.

The area around the Wash is a major centre for UK food processing, a UK centre for gangmasters and the most significant new centre for migrant labour in the UK. WRS data allow us to explore the situation of A8 migrants in food processing in the Wash in more detail. Similar data are not available for non-EU migrants. In the Wash it is also useful to distinguish between 'old EU migrants such as the Portuguese who have often been in the area longer and 'new EU' migrants from A8 states.

Figure 1: Local authority districts proximate to the Wash

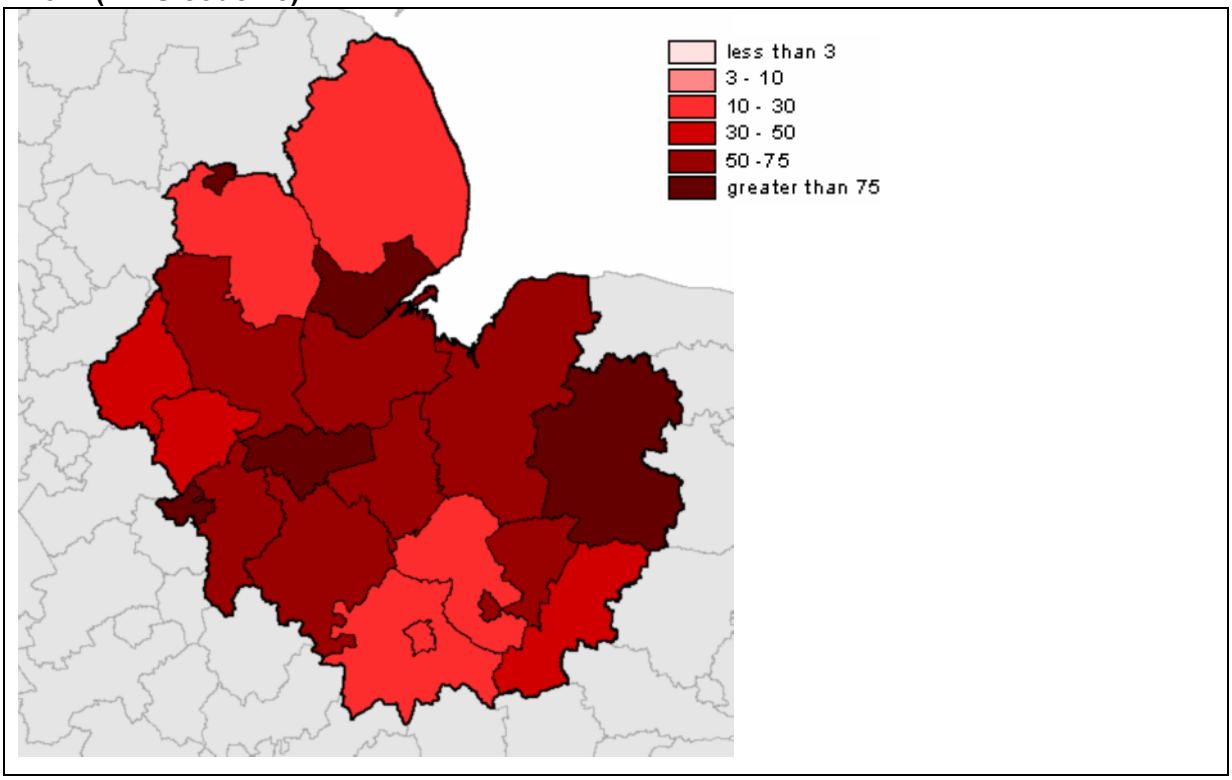


Source: (Worker Registration Scheme 2007).

Of the 20 districts shown in Figure 1, there are cities and towns such as Peterborough and Boston with more than 5000 A8 workers. There are larger rural districts (Breckland, East Cambridgeshire, Fenland, King's Lynn and West Norfolk and South Holland) with more than 3000 A8 workers. Around 25 percent of registered A8 workers in eastern England were employed in WRS Codes 10 and 15 'Food Processing, Factory and Warehouse Work' with particular concentrations in Lincoln (70 percent), Boston (64 percent), Corby (64 percent), Peterborough (62 percent), Breckland (61 percent),Forest Heath (55 percent), South Holland (54 percent), East Northamptonshire (53 percent), Fenland (50 percent), Huntingdonshire (49 percent), King's Lynn and West Norfolk (46 percent), South Kesteven (44 percent), St Edmundsbury (40 percent), North Kesteven (33 percent), and Rutland (25 percent).

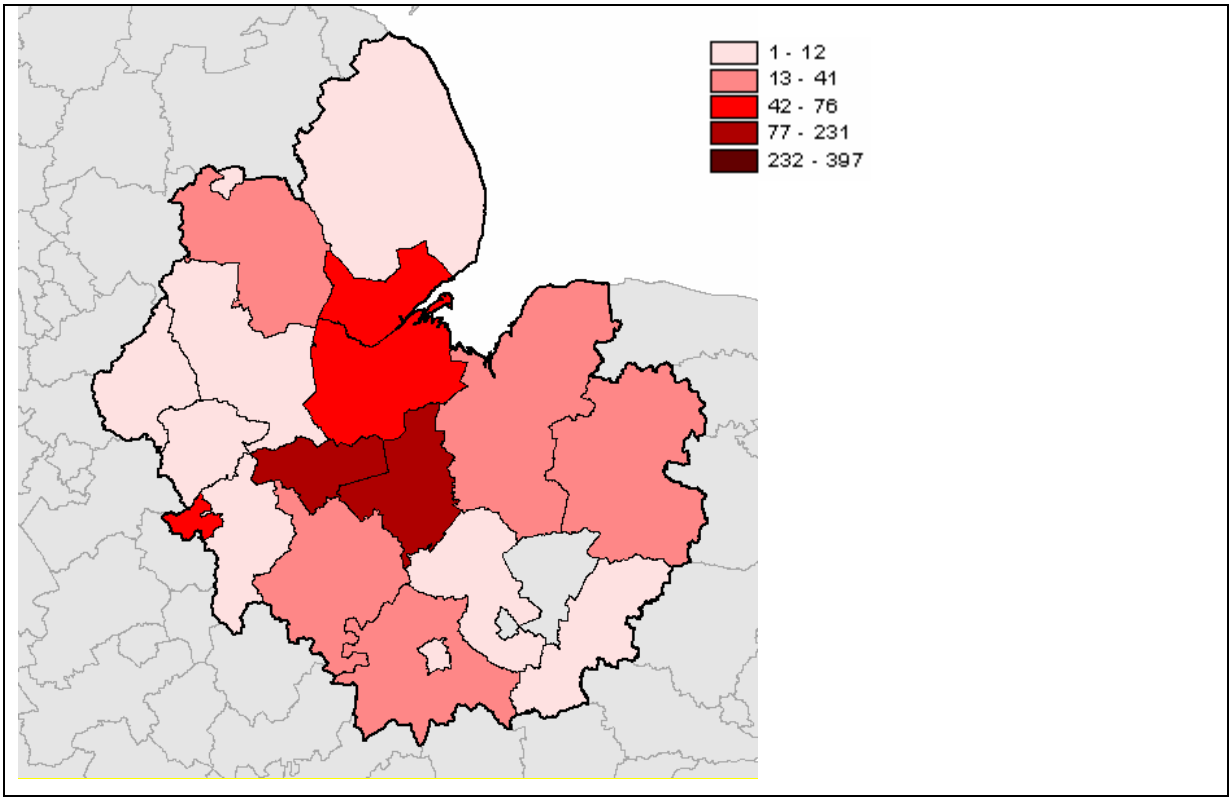
Figures 2, 3 and 4 map the significance of 'Food Processing, Factory and Warehouse Work' (WRS codes 10 and 15) for A8 migrants around the Wash. It is also possible to focus in more detail on the specific occupations. Figure 2 maps where migrants working as 'Packers' are distributed, with a core around the Fenland, City of Peterborough, South Holland and Boston districts. Figure 3 shows the more specialist 'Food Processing Operatives in Fruit and Veg.' occupation, with a concentration extending from East Lindsay in the north, through to Boston, South Holland, Fenland, and finally down to East Cambridgeshire in the south. Figure shows A8 migrants working as packers, with particular concentrations around East Lindsay, Boston and South Holland

Figure 2: percent of WRS workers undertaking process operative or warehousing work (WRS code 15)



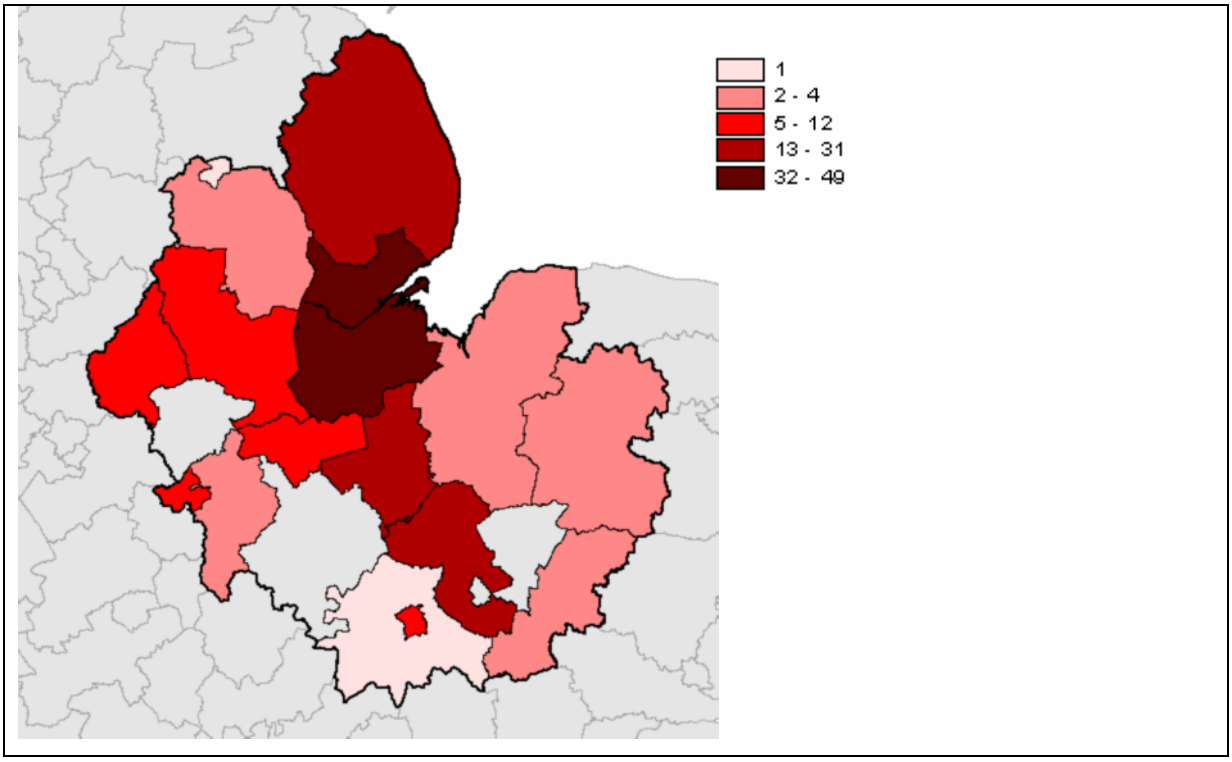
Source: (Worker Registration Scheme 2007).

Figure 3: A8 migrants working as Packers as recorded by the WRS May 2004-December 2006



Source: (Worker Registration Scheme 2007).

Figure 4: A8 migrants working as 'Food Processing Operatives – Fruit and Veg' as recorded by the WRS May 2004- December 2006



Source: (Worker Registration Scheme 2007).

While migrant workers may be directly employed by food processing companies, it is also the case that there is particular concentration of migrant workers in agency/gang work. One factor affecting the likelihood of securing direct employment is English language capability. Another is when a foreign worker is used as an in-house labour recruiter in line with the in-house gang labour recruitment mode identified in Table 6. EU enlargement has had particularly important effects on food processing and packing, although before 2004 there is evidence of other types of migrants being employed in food processing, such as asylum-seekers, Chinese workers and 'old' EU migrants from Portugal (Pai 2008). In summary a number of factors can be seen to drive recruitment:

- Seasonal variation in worker demand
- The low skills base for entry into food processing occupations
- The often dirty and laborious nature of the tasks
- The significant involvement of gangmasters/labour providers in the sector with the various modes of recruitment and with attendant risks of informality and thus exploitation and abuse.

- The demands for flexible production able to respond to the requirements of powerful retail multiples and for workers seen as being able to meet this demand.
- The perception among employers that migrant workers are harder working than British born workers. Evidence for this tends to be anecdotal, but points to reluctance on the part of British-born workers to undertake this kind of work and reluctance on the part of employers to hire them. It may well be that welfare state effects enter the discussion at this point as it can be difficult for a claimant to register and de-register a social security claim in order to take advantage of seasonal work opportunities.
- The availability of a ready supply of migrant workers from inside and outside the EU to fill labour market gaps and thus permit casualisation of labour to be a response to market demands and rising costs in the sector.

5. Alternatives to immigration

Mechanisation leading to less labour intensive production methods and/or raising wages and improving employment conditions could be construed as alternatives to immigration. Research into the mechanisation of food production in the US, where food manufacturing accounts for 14 percent of total national output, suggests that US food producers were slow to automise production with more take-up of new equipment by larger producers with smaller plants in the US tending to be less automated. The main impediment to investment was found to be difficulty justifying capital expenditure in product areas with low profit margins and seasonal variation (Ilyukhin, Haley, et al. 2001; Aly 1989). Research in six European countries analysed 12 food manufacturing companies and the ways in which they innovated through use of new technology. It found 'demand-pull' versus 'technology-push' versus a 'mixture of both' to be too simplistic. Firms were found to behave differently depending on their orientations towards the product, the process, or the market, the types of market they supply (particularly when supplying branded or private-label products), the type of ownership (for example, whether public, private or co-operative), market size and scope, and company size (Traill and Meulenberg 2002). More recent research confirms these findings and suggests that mechanisation in food processing is seen as cost and labour saving rather than as improving production, efficiency or quality. Differences were also found between lower shelf-life products such as chilled ready meals, meat and fish and medium to longer shelf-life products such as dry and frozen foods with higher automation in the latter area (University of Lincoln 2007).

Raising wages and improving working conditions is another option. A basic fact is that the nature of some tasks on food processing is arduous, laborious and not conducted in pleasant conditions. The more general issue would be to secure the regulatory reach of the state in order to ensure that basic working conditions and standards are maintained. This paper has shown that work in food processing tends to be lower paid, lower skilled, seasonal and with a strong reliance on temporary labour. Casual labour has historically been used as a solution to the seasonal requirements of food processing. The alternatives to immigration in the food processing sector thus need to be related to the ways in which the deployment of migrant workers has become a labour market solution to the demands for seasonal/temporary work in certain types of food processing occupation and to the pressures exerted on supply and value chains by large retail multiples. In the context of tendencies in some forms of labour recruitment identified in Table 6 to economic informality, increased wages could encourage British-born workers to enter the sector as too may upgrading of skills though innovation in NVQ and SVQ qualifications. However, the modes of gangmaster recruitment identified in Table 6 suggest that some routes into the sector are more prone to informality than others. Modes of recruitment thus play an important part in structuring labour markets in food processing and generating demand for 'flexible workers' (which is often taken by employers as a synonym for 'migrant workers'). The regulatory reach of the GLA, the Health and Safety Executive and HM Revenue and Customs to impose and enforce labour market standards and to identify and punish 'rogue' gangmasters is a key issue as attempts to improve pay and conditions within the sector would be counter-productive if rogue gangmasters were able to undercut established standards. It can also be difficult for British-born workers to register and de-register a social security claim in order to make themselves available for seasonal work. The risk of losing eligibility to social security benefits may deter some British-born workers without employment to seek seasonal or short term work. In addition to this, there is a view among employers that British-born people are not prepared to do this kind of work and/or are not as hard working as migrant workers. There may thus be some resistance to use of British-born workers as a solution to labour market requirements in food processing both on the part of the workers and the employers.

6. Expert assessment

Workers from inside and outside the EU are key elements of employment within the food processing industry with significant sub-sectoral variation and spatial concentration. Foreign workers can be directly or indirectly employed, with various recruitment modes for indirect employment with greater or lesser tendencies to informality (and thus to abuse and exploitation). A key factor driving labour use is seasonal variation, which drives demand for

temporary/flexible labour to complement directly employed staff. This will, of course, remain a structural feature of employment and labour use in this sector. Migrants are seen by labour users as meeting requirements for flexible work more than is the case for British-born workers, for example, migrant workers from within and outside the EU are seen as being prepared to be flexible and to undertake arduous tasks. A key factor in the sector is pressure 'down' the supply and value chain from large retail multiples with differential effects on larger and smaller producers and with knock-on effects on labour use, casualisation and mechanisation. Smaller producers in areas of activity with significant seasonal variation and where margins are being squeezed seem more likely to see casual labour as a labour market solution than mechanisation because of the perceived risk of major capital expenditure in the context of short-term pressures. There is also evidence of sectoral concentration with larger firms better able to respond to pressures from large retail multiples and more likely to invest in automation, but with variation related to product type (more automation in primary packaging and labelling, less in goods receiving). Workers from inside and outside the EU have become a highly significant presence in food processing, canning, bottling, packing and filling with employers tending to see workers from the EU and outside the EU as more likely to able to respond to the specific requirements of the sector, for example more willing to undertake arduous work and more likely to be flexible compared to British-born workers. These perceptions do, of course, have real effects, but it may also be the case that welfare variables such as social security benefits inhibit ability to undertake seasonal work for British-born workers. In summary, food processing is a sector with a long reliance on seasonal work deployed through 'gangs'. There have been various stages in the development of this system, but migrant workers have become integral to the modern gang system in food processing and play an important part in recruitment and labour use strategies of food processing companies. A ready supply of EU and non-EU workers has been available and employers in food processing have become reliant on their use either through direct employment or through provision by temporary labour providers. As A8 states enter the Euro € zone while the value of the pound £ declines against the Euro € then this may diminish the attractiveness of the UK as a destination for A8 (and A2) migrants while other EU states open their labour markets and lead to a reduced flows of workers to the UK from those countries. Thus, it appears likely that migrant labour will continue to be an important aspect of labour use in food processing. Evidence suggests that A8 migrants are particularly present, but, despite knowledge and information gaps, non-EU migrants have played and continue to play an important part in labour use in food processing.

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