

Food and the Economy in Wales

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Summary

Primary food production has, historically, been a relatively important part of the Welsh economy, especially beyond the industrial conurbations of the South and North-East. However, with successive changes in the supporting policy framework and fast-moving changes in both consumer tastes and retailing, agriculture in Wales has suffered a worse decline than in any other region of the UK between 1997 and 2007. As far back as 2000, Christine Gwyther's written answer to an Assembly Question suggested that agriculture contributed 1.4% of Welsh GVA but, if subsidies were excluded, its contribution was "close to zero." However, this ignores the fact that agriculture acts as the base of an increasingly closed supply chain embracing processing, distribution and retailing, and as an agri-food sector the contribution made is substantially greater. This paper reviews the analytic tools which can be used to demonstrate the strength of interconnections between the components of this supply chain and indicates the relative contributions of different commodities to employment and value-added in the economy of Wales. It concludes by challenging the conventional wisdom underpinning the strategy for the food and drink sectors which emphasises export-led growth.

Agriculture, often described as the backbone of Welsh rural areas, makes a contribution that goes beyond its own internal economic functioning. It is a provider of public goods, which include stewardship of the landscape and agrobiodiversity (both important for a growing rural tourist industry), and now more especially the role of upland farming in managing and developing the carbon sink provided by peat lands. These are emerging as key dimensions in the discussion about the future of EU subsidies after the current budgetary programming period expires in 2013. The fortunes of farming in Wales have always been volatile, and although at present farm gate prices are relatively high due to the combined effect of a world food price spike and sterling's weakness, the long term trends in employment, incomes and contribution to national Gross Value Added (GVA) are all downwards. Indeed, of all regions in the UK, the decline of farming in Wales has been the most pronounced over the past decade.² In 1998, the contribution of agriculture to Welsh GVA was 1.4%, although if direct subsidies were netted off this declined to 0.6%, and taking

into account the (admittedly difficult to quantify) indirect subsidisation effects of tariffs on imports, it made no contribution at all.³ Publication of this opinion attracted considerable criticism at the time but, neglecting any risk of further controversy, it is probably safe to assume that, measured in these terms, a decade later the contribution of farming is probably negative.

Nevertheless, the non-farm element of the EU's Rural Development Programme (RDP) is based on the idea that, together with the jobs associated with agriculture in marketing, processing and distribution of food products, the agri-food complex contributes substantially to rural economies. Because food manufacturing can take advantage of the proximity of sources of primary inputs, the multiplier effect is strong: in four European rural regions, Mattas and Tsakiridou (2010) found employment multipliers in the food sector ranging from 2.0 to almost 3.5. These linkages derive from the employment supported in other sectors that supply food manufacturing, and spending out of the wages they generate on local goods and services, in turn supporting more jobs.

Moreover, the food sector is one part of the manufacturing economy that is to an extent recession-proof, as spending on food is resilient even when economies stop growing. The contribution that the food sector can make in Wales is important, especially when, according to ONS data, Welsh manufacturing employment has shrunk from 19.6% of the total workforce in 1999 to 12.7% in 2009. In absolute terms, Wales has more than a quarter of its manufacturing labour force in the previous decade.

Development of a new Strategy for the Food and Drink sector in Wales takes this centrally into account: without a financially sustainable industry at its core, the wider aims relating to nutrition and health, cutting food miles and consequently also reducing greenhouse gas emissions, and developing thriving local economies throughout the territory of Wales, will all be frustrated. In its draft consultation form, *Food for Wales, Food from Wales*,⁴ encapsulates the twin aims of increasing the consumption of fresh local produce by enhancing resident food culture, while at the same time raising the value of export sales by drawing on improved diversity, range, quality and distinctiveness. To achieve this, the ambitious intention (facilitated and led by the Assembly Government,

rather than undertaken by it) is to improve the entire food system, through market development with an emphasis on stronger branding and promotion, improved consumer information and awareness, more ecologically efficient production and supply chains, innovation and niche product development, higher skill levels in the workforce, and integrated policy development, especially with regard to regulation.

This ambition appears more courageous now that the full extent of reductions in UK public expenditure has become apparent. To some extent, support for the whole agri-food complex is insulated from these funding pressures because the main resource comes from the EU budget, together with domestic co-funding which is pre-committed. However, the majority of RDP resources – themselves rather less generous than elsewhere in the EU, for historical reasons – are devoted to aids to the farming sector itself. Although there is the intention to leverage private contributions, only 8% of the overall €993 million of public spending component of the programme supports either the Processing and Marketing Grant Scheme or the Supply Chain Efficiency Scheme, which are the main means of accomplishing the Food Strategy objectives. It is unlikely that much additional funding will come from the Assembly Government's own reduced budget, and even European sources may contract after 2013 as the Commission's competitiveness and employment aspirations clash with member states' desire to restrict its spending to half of what has been proposed.

As currently structured, the draft Food Strategy envisages a coordinating role for updating all of the action plans that currently exist: for local sourcing, food tourism, red meat, dairy, horticulture and organic foods, as well as a new initiative for fish. Whilst some overarching activity is necessary for all food and drink produced in Wales, devoting limited and perhaps declining resources across all food sectors risks giving too little attention to any. This uncomfortable trade-off implies that prioritisation must occur, and one of the criteria that will help to distinguish between options is the strength of the employment multiplier effect (another could be the potential for future growth, which of course would also need to take any multiplier effect into account in order to gain an overall perspective).

The most popular way of estimating multipliers is to use an input-output model. This model is based on detailed representation of purchases and sales between different productive sectors as a means of constructing, understanding and reconciling different means of calculating GVA. It also possesses the virtue of being able to discriminate between the income and employment multiplier effect exerted by each individual sector. Less well-known, however, are the model's limitations. Firstly, because the underlying data required is so detailed and complex, by the time accurate input-output accounts become available they represent a dated snapshot of how an economy has worked historically, and intervening structural changes often substantially affect their accuracy. Secondly, the underlying model assumes that all the necessary inputs, especially labour, will be available, and utilised, from local sources where specified.

Subject to these caveats, the following employment multipliers and relationships for the Welsh Food and Drink industry are drawn from an input-output table for 2003 (derived from an exercise to extend the framework to encompass the diverse nature of the tourism industry: see Jones and Munday, 2004).

The first column of the table shows the familiar employment multiplier measure, representing the total number jobs that depend, directly and indirectly, on each person directly employed in the various branches of the Welsh food sector. From this perspective, the dairy processing sector creates most, with just over two and a half additional jobs depending on every direct job, and overall the food sector generates about four extra jobs in other sectors for each five within it. The dairy and meat multipliers are broadly in line with those found by Mattas and Tsakiridou (2010). However, this measure can be misleading as it can be inflated if an

industry is relatively labour-extensive, or vice-versa, so the second column shows an alternative based on jobs within or dependent on food processing sectors per unit of turnover; here, the largest multiplier effect is in other food products (including animal feed production, but also incorporating a small amount of employment in producing other minor products).

Finally, to account for the fact that the overall workforce size varies between processing sectors, the third column shows total employment directly and indirectly created within Wales by the various commodity activities. Directly, the food sector employs about 2% of the overall workforce, whereas if the indirect jobs are also taken into account this rises to about 3.6%. Given the bias of food industries towards locating in rural areas, the proportion of employment in the rural labour force is likely to be considerably higher. Meat processing is responsible for a third of all related jobs, and together with dairy processing, just over half of all food related jobs are dependent on these two sectors. Both activities are predominantly large in scale and concentrate jobs in a small number of localities, and such enterprises have benefited substantially from investment aids provided by the RDP.

While it is useful and important to know what proportion of employment in Wales exists as a result of the food sector, the data above do not provide a guide to the most appropriate priorities for public investment. Although they apparently lend support to the current strategy of developing the export sectors in dairy and sheepmeat, there are good reasons why such evidence needs to be interpreted cautiously. First, technology and market changes since 2003 will have almost certainly altered the relationships between directly created jobs in the food sector and those elsewhere, so that the magnitude of impact is overstated: for example, there

are fewer slaughterhouses and creameries in Wales now than in 2003, and those that remain are more labour-efficient. Equally, the sources of inputs for expanding food industry employment will often be generated outside, rather than within, Wales, reducing backward local linkages. It is not uncommon, for example, for livestock from the North and East of England to be processed in Welsh facilities. Hence, the historic multipliers only poorly correspond to how different sectors will respond to expansion and contraction. More recent data provided by the forthcoming Input-Output Tables for Wales in 2007 will go some way to overcoming this drawback.

The critical issue, however, is that these multiplier relationships are merely a representation of the strength of existing supply-chain linkages in a regional economy. It is usual also to assume that any expansion (of the food processing sector, say) will be able to acquire the necessary inputs, particularly labour, from local sources. However, labour supply in rural Wales is limited in both quantity and quality, and as a result of new developments competing for labour with other existing rural employers, the overall effect on job growth and rural development is likely to be substantially weaker than the standard multiplier approach implies. There have been no studies in Wales of the *ex-post* rural multiplier: the change in employment observed *after* a new development has taken place, rather than that predicted by multiplier analysis beforehand. However, evidence from the United States (see, for example, Kilkeny and Partridge, 2009) suggest that too much rural employment in export-oriented food processing can *reduce* investments that make rural life attractive, undermine the quality of amenities and diminish the economically active population.

For a food strategy that aims to promote overall rural development, the

Table 1: Multiplier Relationships, Welsh Food Sector

	Employment Multiplier (direct and indirect employment per directly created job)	Jobs (direct and indirect) per £1m of turnover	Total jobs (and % workforce) in Wales dependent on sector†
Meat processing	2.11	15.5	13,280 (1.2%)
Dairy products	3.56	17.1	6,510 (0.6%)
Fruit, vegetable and fish processing	1.81	17.9	5,480 (0.5%)
Bread and biscuits	1.27	20.1	8,200 (0.8%)
Other food products	1.55	20.4	4,760 (0.4%)
Confectionery	1.60	17.2	1,240 (0.1%)
<i>Average for food sector</i>	<i>1.84</i>	<i>17.5</i>	<i>39,470 (3.6%)</i>

† Based on 2003 input-output relationships and 2007 workforce statistics, derived from NOMIS

implications of this question the conventional wisdom that the support for large scale, efficient export-oriented processing plants should form the main thrust of policy. Two effects may occur, the first putting pressure on limited rural labour markets, and the second (because of the trade balance effect) leading to an outflow of the capital necessary to develop a range of local

activities that could counter this specialisation and improve the quality of amenities and services. In the extreme, this would even be self-defeating because together these pressures could accelerate population decline. As a result, the more important priority than market development appears to be the enhancement of food culture: diverse, innovative and high quality foods,

available from short local supply chains, can be an important contributor to the attractiveness and amenity of rural areas for residence purposes. Though further investigation in the specific context of Wales is necessary, it seems likely that a larger and more stable rural population, generating demand for local food, is a necessary and important prerequisite for overall development.

Notes

1. Peter Midmore is a member of the Welsh Assembly Government's Food and Drink Advisory Partnership, but writes here in a personal capacity. Grateful acknowledgements are due to Dennis Thomas and Hadyn Edwards for helpful comments on an earlier draft.
2. Source: ONS, Statbase, available at <http://www.statistics.gov.uk>, and Welsh Assembly Government, <http://wales.gov.uk/topics/statistics/?lang=en>. In current price terms, Welsh agriculture, hunting, forestry & fishing contributed £634 million to GVA in 1997 and £202 million in 2007. If inflation is taken into account, this represents a decline of 77%. Total numbers in employment have not fallen so fast: in 1997 the total labour force was 63,397, whereas in 2007 it was 57,020.
3. National Assembly for Wales, Answers to Questions not reached in Plenary, 24 May 2000, available at: <http://www.assemblywales.org/bus-home/bus-chamber/bus-chamber-first-assembly/bus-chamber-first-assembly-rop/392e716e000e84d2000012b800000000.pdf?langoption=3&ttl=Answers>
4. Food for Wales, Food from Wales 2010-2020: Proposed Food Strategy for Wales, Cardiff, Welsh Assembly Government. Available at: <http://wales.gov.uk/docs/drah/consultation/100705foodstrategyconsultation.pdf> (accessed 15th November 2010).

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