

# ECONOMIC TRENDS IN SCOTTISH AGRICULTURE

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*This report has been prepared by the Scottish Government Rural and Environment Analytical Services for the “Inquiry into the Future of Support for Agriculture in Scotland”. The views presented in this paper are those of the Scottish Government Rural and Environment Analytical Services and not the Inquiry.*

## Contents

1.	INTRODUCTION	6
2.	SCOTTISH AGRICULTURE IN CONTEXT	7
3.	COMMON AGRICULTURAL POLICY SUPPORT	10
3.1	Developments in agriculture policy	10
3.2	Trends in the level of CAP support for Scottish agriculture	10
3.3	Comparison to EU	12
4.	STRUCTURE OF THE AGRICULTURE INDUSTRY	14
4.1	Agricultural Land Use	14
4.2	Livestock numbers	19
4.3	Employment in agriculture	34
5.	TRENDS IN AGRICULTURAL COMMODITY PRODUCTION	40
5.1	Value of output	40
5.2	Cereals production and prices	42
5.3	Other crops production and prices	44
5.4	Livestock products	47
6.	PROFITABILITY AND FARM INCOMES	55

## List of Tables

Table 6.1.1	Farm Business Income and Subsidy Payments per Farm by Farm Type, 2007/08
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## List of Figures

Figure 2.1.1	Trends in agriculture GVA (millions) and its share in total for the economy, 2000 to 2008
Figure 2.1.2	Industry size by geographic area, 2008
Figure 3.2.1	Trends in Producer Support Estimates for Scotland, 2000-2008
Figure 3.3.1	Trends in percentage Producer Support Estimate, 1997 – 2008
Figure 4.1.1	Land Capability for Agriculture
Figure 4.1.2	Trends in agricultural land use in Scotland, 2000 – 2008
Figure 4.1.3	Trends in arable land use in Scotland, 2000 – 2008
Figure 4.1.4	Regional Trends in area cultivated for arable production, Scotland, 2000 to 2008
Figure 4.1.5	Regional trends in area under grass, Scotland, 2000 to 2008
Figure 4.1.6	Regional trends in area under rough grazings, Scotland, 2000 to 2008
Figure 4.1.7	Total Arable Planted with Arable Crops by United Kingdom Regions, 2000 to 2008
Figure 4.2.1	Trends in breeding livestock, Scotland, 2000 to 2008
Figure 4.2.2	Regional Trends in Scottish Dairy Cows, Scotland, 2000 to 2008
Figure 4.2.3	Spatial distribution and percentage change in dairy cow numbers, Scotland, 2000 to 2008
Figure 4.2.4	Number of dairy cows, UK, 2000 and 2008
Figure 4.2.5	Number of dairy cows for selected EU member states, 2000 and 2008 (1000 head)
Figure 4.2.6	Trends in dairy cow numbers (beginning stock) for EU and selected non-EU countries, 2000 to 2008 (thousand head)
Figure 4.2.7	Trends in Scottish beef cattle herd, 2000 to 2008
Figure 4.2.8	Regional trends in Scottish beef cattle numbers, 2000 to 2008

Figure 4.2.9	Spatial distribution and percentage change in beef cow numbers, 2000 to 2008
Figure 4.2.10	Number of beef cows, UK, 2000 and 2008
Figure 4.2.11	Number of cattle, selected EU member states, 2000 and 2008 (1,000 head)
Figure 4.2.12	Trends in cattle numbers (beginning stocks, cattle and calves) for EU and selected non-EU countries, 2000 to 2008 (million heads)
Figure 4.2.13	Trends in Scottish sheep flock, 2000 to 2008
Figure 4.2.14	Size of Scottish sheep flock by region, 2000 and 2008
Figure 4.2.15	Spatial distribution and percentage change in breeding ewe numbers, 2000 to 2008 <sup>1</sup>
Figure 4.2.16	Number of breeding ewes and total sheep, UK, 2000 and 2008
Figure 4.2.17	Total sheep numbers for selected EU member states, 2000 and 2008 (1000 head)
Figure 4.2.18	Trends in sheep population for selected non-EU countries, 2000 to 2007
Figure 4.2.19	Trends in Scottish pig numbers, 2000 to 2008
Figure 4.2.20	Size of Scottish pig herd by region, 2000 and 2008
Figure 4.2.21	UK total pig population, 2000 and 2008
Figure 4.2.22	Total pig population for selected EU member states, 2000 and 2008 (000)
Figure 4.3.1	Trends in the number of people working on Scottish farms, 2000 to 2008
Figure 4.3.2a	Number of people working in Scottish agriculture by region, 2000 and 2008
Figure 4.3.2b	Number of people employed in Scottish agriculture by type of employment and region, 2000 and 2008
Figure 4.3.3	Spatial distribution and percentage change in the number of people working in agriculture, 2000 to 2008
Figure 4.3.4	Trends in UK labour force in agriculture, 2001 to 2008
Figure 4.3.5	Trends in EU agriculture labour force (1000 - annual work units), 2000 to 2008
Figure 5.1.1	Trends in agriculture output and the relative contributions of different sectors, 2000 to 2008 (£ million)

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<sup>1</sup> Parishes categorised as disclosive are those where data has been suppressed to prevent disclosure of individual holdings.

Figure 5.1.2	Total agricultural output at basic prices, (millions)
Figure 5.2.1	Trends in the quantity of cereals produced in Scotland, 2000 to 2008
Figure 5.2.2	Average annual cereals prices, Scotland 2000 to 2008 (£ per tonne)
Figure 5.2.3	Total cereal production for selected EU Member States, 2000 and 2008 (1,000 tonnes)
Figure 5.2.4	Average annual selling price of soft wheat for selected EU member states, 2000 to 2008 (€ per 100kg)
Figure 5.3.1	Trends in Scottish potato production, 2000 – 2008
Figure 5.3.2	Trends in Scottish potato prices, 2000 to 2008
Figure 5.3.3	Selling prices of main crop potatoes, selected EU member states, 2000 and 2008 (€ per 100kg)
Figure 5.3.4	Oilseed rape production and prices, 2000 to 2008
Figure 5.4.1	Trends in Scottish livestock production, 2000 to 2008
Figure 5.4.2	Trends in Scottish prices for livestock products, 2000 to 2008
Figure 5.4.3	Total production of meat: cattle for selected EU member states, 2000 and 2008 (1000t carcass weight)
Figure 5.4.4	Trends in selling prices of calves, selected countries, 2000 to 2008 (€ per 100kg of live weight)
Figure 5.4.5	Production of meat: sheep and goat, selected EU member states, 2000 to 2008 (1000 t carcass weight)
Figure 5.4.6	Trends in selling prices of sheep, selected EU member states, 2000 to 2008 (€ per 100kg)
Figure 5.4.7	Total meat production: pig, selected EU member states, 2000 and 2007 (1000t carcass weight)
Figure 5.4.8	Trends in selling prices of pigs (light), selected EU member states, 2000 to 2008 (€ per 100 kg)
Figure 5.4.9	Milk production (including milk products) and milk prices, 2000 and 2008
Figure 5.4.10	Trends in collection of cows milk, selected EU member states, 2000 to 2008 (1,000 tonnes)
Figure 5.4.11	Trends in selling prices of raw cows' milk, selected EU member states, 2000 to 2008 (€ per 100kg)
Figure 6.1.1	Trends in Total Income from Farming and agriculture support, 2000 to 2008
Figure 6.1.2	Farm Business Income by Farm Type, 2006/07 to 2007/08
Figure 6.1.3	Farm profitability measured as return on assets per EU region, 2006

## 1. INTRODUCTION

1. On 10 June 2009 the Scottish Government announced in the Scottish Parliament the launch of the Inquiry into the Future of Support for Agriculture in Scotland. The remit of the inquiry is to make recommendations to the Scottish Government on how future support for agriculture and rural development can best be tailored to incentivise the delivery of the Scottish Government's purpose of sustainable economic growth.

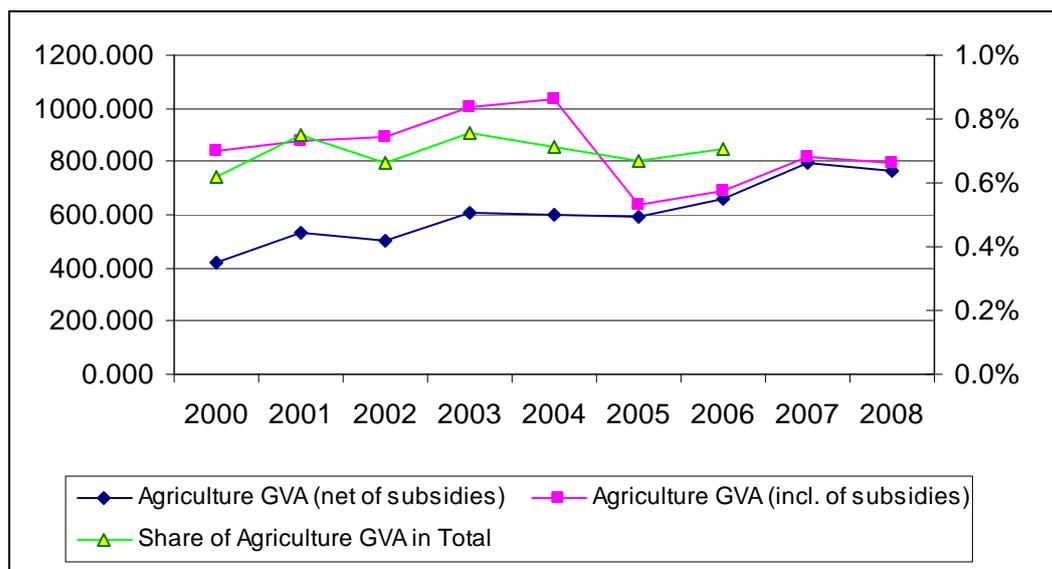
2. In order to provide the Inquiry with an evidence base for recent developments in Scottish agriculture, this paper which has been prepared by Scottish Government Rural and Environment Analytical Services, reviews recent trends in Scottish agriculture and how they compare with other regions of the United Kingdom (UK), other European Union (EU) members states and with non-EU countries. It is one of several reports prepared by the Scottish Government to provide an evidence base for the inquiry into the future of support for agriculture in Scotland.

3. The remainder of the paper proceeds as follows: Section 2 provides brief information on the contribution of Scottish agriculture to the Scottish economy. Section 3 presents developments in EU agricultural policy since the MacSharry reforms in the mid-1990s and how these have affected support for Scottish agriculture. Section 4 presents trends in agricultural land and livestock numbers, whilst Section 5 presents trends in agricultural commodity production and prices. Section 6 ends by summarising trends and other patterns in the profitability of agriculture.

## 2. SCOTTISH AGRICULTURE IN CONTEXT

4. In 2008 the direct contribution of Scottish agriculture to the economy, measured in terms of gross value added (GVA)<sup>2</sup> was around £791.5 million. Figure 2.1.1 below shows trends in agriculture GVA and also its share in the total for the economy. Overall, it shows that agriculture's direct contribution to the Scottish economy is very small – about 0.7% of Scotland's total GVA.

**Figure 2.1.1 Trends in agriculture GVA (millions) and its share in total for the economy, 2000 to 2008**



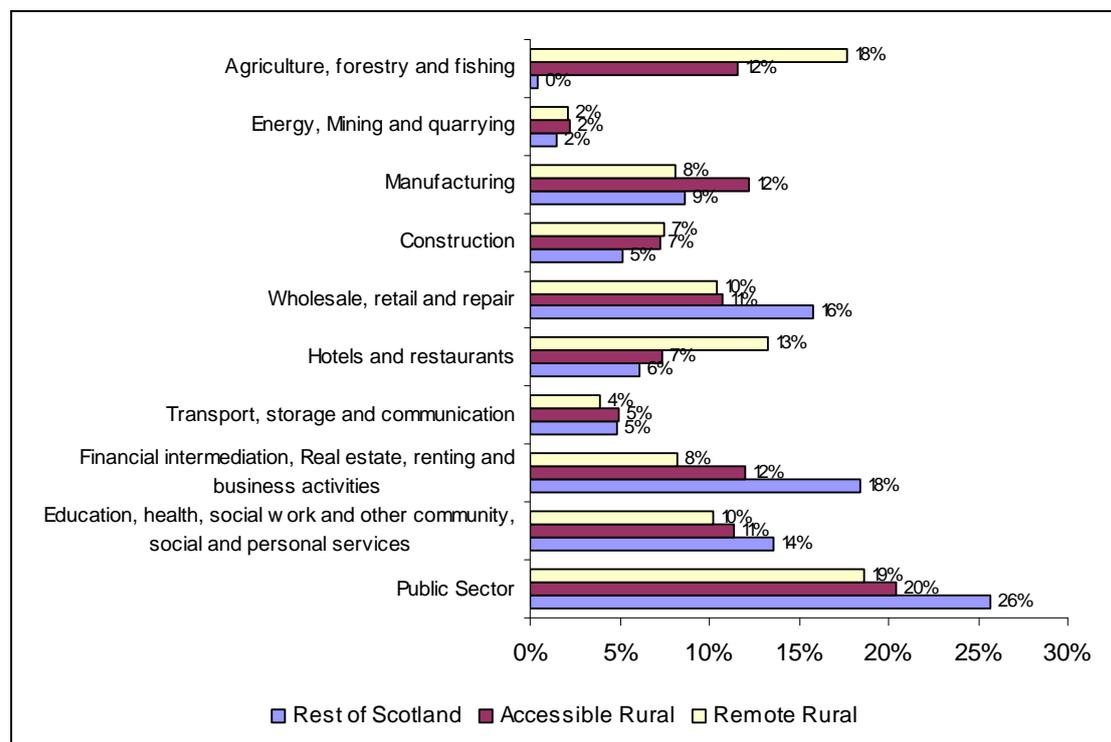
5. In 2008, GVA in Scottish agriculture was slightly lower than it was in 2000 due largely to a somewhat “artificial” drop between 2004 and 2005 following the decoupling of direct farm support. Before 2005, direct support to agriculture was coupled with production and was thus counted as farm output and therefore contributed to agriculture's GVA. Following the implementation of the 2003 CAP reforms which broke the link between production and direct farm support, payments to farmers are no longer accounted for as output and do not contribute to GVA, hence the sharp decline in GVA between 2004 and 2005.

6. The relatively small direct contribution of Scottish agriculture to the economy is also reflected in agriculture's share in total employment. However, the relative importance of agriculture to the Scottish economy varies considerably by geography. Whereas Figure 2.2 below, based on 2008 data, shows that agriculture, forestry and fishing account for 12% of employment in accessible rural areas and 18% of employment in remote rural areas, the contribution of these primary sectors to the rest of Scotland is very small – less than 1%.<sup>3</sup>

<sup>2</sup> Gross Value Added = Gross Output from Agriculture less Gross Inputs

<sup>3</sup> It is important to note the figures presented Figure 2.2 do not account for all self employed workers.

**Figure 2.1.2 Industry size by geographic area, 2008**



Source: Scottish Government, ONS (IDBR), 2008 (Based on Scottish Government Urban Rural Classification)

7. However, while agriculture’s direct contribution to the economy might be small; farming has other important links with other industries and thus makes other indirect contributions to the economy. These wider linkages between agriculture and the rest of the economy through industries supplying farming (suppliers of inputs like feed, fertiliser, pesticides and veterinary services, etc.) and industries using Scottish agriculture produce (the food supply chain – slaughterhouses, meat processing and packaging plants, drink industry, etc) are better illustrated by the sizes of “forward” and “backward” multipliers for agriculture.

8. Previous studies have estimated the cumulative backward industry output multiplier for the different farm types in Scotland to range from 1.65 for cereals to 1.79 for dairy (Schwarz et al. 2006).<sup>4</sup> This implies, for instance, that an increase in the final demand for Scotland’s dairy farms by £1 million would generate an additional output of £0.79 million in industry sectors supplying Scotland’s dairy farms. This compares, for example, to cumulative backward multipliers 1.94 and 1.57 for forestry harvesting and forestry planting respectively.

<sup>4</sup> Schwarz, G., et al. (2006) Less Favoured Area Support Scheme in Scotland: Review of the Evidence and Appraisal of Options for the Scheme post-2010, Report for the Scottish Executive Environment and Rural Affairs Department.

9. The cumulative forward multipliers for the different farm types have been estimated to range from 1.48 for the dairy farm type to 1.62 for the cereal farm type (Schwarz et al. 2006). However, care needs to be taken, particularly when interpreting forward multipliers as they implicitly assume that in the absence of output from Scotland's agriculture, the downstream industry would experience supply constraints that cannot be overcome and therefore would cease to exist. To some extent these industries will be able to substitute output from Scottish agriculture by imports or some restructuring would take place to secure supplies. Thus, the cumulative forward multipliers potentially overstate the importance of the forward economic linkages between Scottish agriculture and other sectors of the economy.

10. Agriculture also contributes more widely to the economy through its impacts on the environment - notably maintenance of landscapes, the continuation of cultural heritage and biodiversity outcomes, agriculture generates by-products that enter into the production functions of other economic activities such as rural tourism and recreation and into the production of new goods and services which have a positive impact on the rural economy. While it is difficult to value in monetary terms the contributions agriculture makes to the wider rural economy through these indirect channels, there is a wide recognition that society places some value on these by-products of farming.

### **3. COMMON AGRICULTURAL POLICY SUPPORT**

#### **3.1 Developments in agriculture policy**

11. Although the main instruments of the Common Agriculture Policy (CAP) remain in place, the policy has transformed significantly over the years changing both the level of support and the balance between market (or price) support and direct payments. Thus to a large extent the current structure of Scottish agriculture and the trends recently observed reflect these policy changes.

12. The MacSharry reforms in the early 1990s represented a major shift in support for agriculture as the European Union came under growing pressure in the Uruguay Round of WTO reforms to reduce the adverse effects of the CAP on the world market. The reforms included significant cuts in the level of market support to all main agriculture commodities, with direct payments per head or per hectare made to farmers to compensate for price cuts. In addition the reforms introduced supply control instruments such as set-aside and limits on headage premium rights for beef and also measures to improve the environmental impacts of farming.

13. In 1999 the European Commission agreed further reforms under Agenda 2000 reforms to cut intervention prices in cereals, beef and dairy sectors. Further CAP reforms were agreed in 2003 – setting up new regime for farm support through the CAP but replacing direct production support (or coupled payments) with the Single Farm Payment that is not linked to production. The 2003 reforms also made more prominent the significance of agri-environment and wider rural development policy within the CAP.

14. The most recent reforms, the CAP Health Check, have been fairly modest – focusing mostly on fine tuning the 2003 reforms. Major changes to CAP policy have included progressive modulation and the phasing out of milk quotas.

#### **3.2 Trends in the level of CAP support for Scottish agriculture**

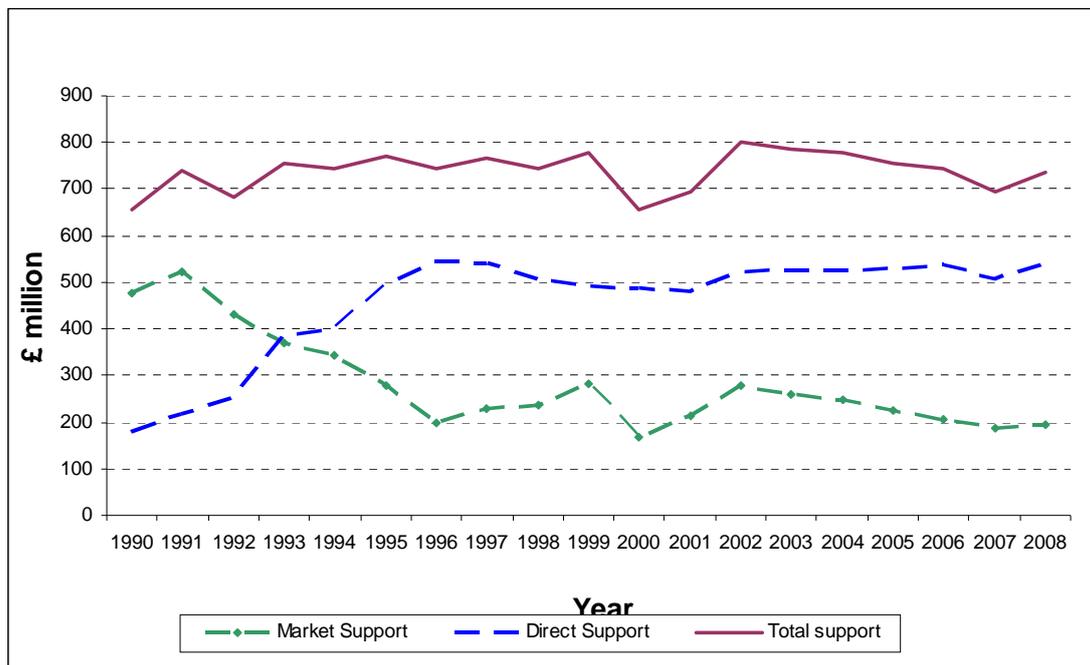
15. Agricultural policies such as import tariffs, export subsidies and various payments to farmers share the common feature that they transfer money to the agricultural sector from taxpayers through direct payments and consumers through higher prices for food. It is through this process that they alter production decisions, incomes, international trade and the environment.

16. One of the measures used to assess the transfer of money to farmers is the Producer Support Estimate (PSE), which measures the annual monetary value of gross transfers from both consumers and taxpayers to agricultural producers. The PSE encompasses two types of support: market support and direct support.

- **Market Support** estimates the monetary value of support to farmers from CAP measures that increase the level of domestic prices for agricultural commodities relative to world prices. This includes measures such as price intervention, import duties and export refunds. The level of market support is estimated by taking the difference between domestic and world prices applied to the quantity of production for each commodity, adjusting for “natural” differences in international prices.
- **Direct Support** is the value of direct payments made to farmers, which in a decoupled world is predominantly the SFP, although other coupled schemes still remain. This support is support to the agriculture industry from the taxpayer (the EU taxpayer in the case of agriculture) rather than the consumer.

17. However, it should be noted that the PSE measure does not include all of the monetary transfers to the agriculture sector. Expenditure based on R&D, infrastructure and marketing adds up to a significant amount of support for agriculture and this is not captured by the PSE measure. The OECD includes these support measures in their Total Support Estimate (TSE) figure, but PSE is more commonly used to compare support levels that impact on competitiveness across countries.

**Figure 3.2.1 Trends in Producer Support Estimates for Scotland, 2000-2008**



18. The level of PSE for Scottish agriculture has risen from £658m in 1990 to £735m in real terms in 2008 (at 2005 prices), having peaked at £802 million in 2002. The lowest recent PSE figures were recorded in 2000 where PSE had fallen to £656m in real terms. Figure 3.2.1 also shows the change in the make-up of the PSE figures over time.

19. Initially market support far outweighed the value of direct support, but since 1993 this position has been reversed. This is a direct effect of the 1992 MacSharry CAP reforms that sought to redirect support away from market support measures and towards direct support for farmers' incomes. Thus, we have moved for Scotland from market support accounting for 72.7 per cent of PSE in 1990 to 26.3 per cent in 2008.

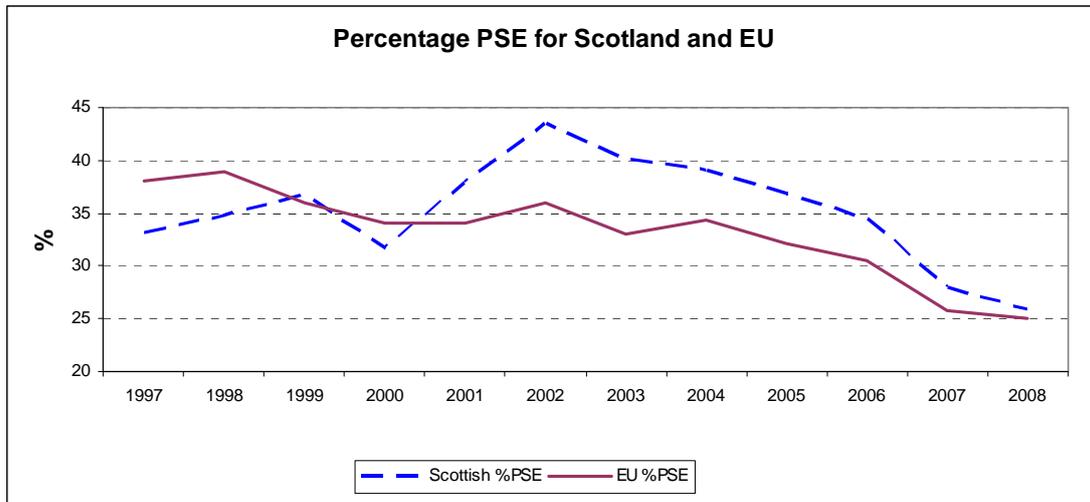
20. Direct support was estimated at £541m in 2008, just under the 1996 peak of £544m for the 1990-2008 period (at 2005 prices). The 2008 value is higher than in 2006, due to a supplementary £40m in LFASS payments made to facilitate the shift in payment dates. The value of the Single Farm Payment has also increased as a result of £:€ exchange rate effects and new payments from the Scotland Rural Development Programme.

21. Direct payments consisted of SFP, LFASS, Environmentally Sensitive Area Payments, Agri-Environment Schemes, SBCS, Older Cattle Disposal Scheme, Animal diseases compensation, Protein and Energy Crop Premia, Countryside Premium scheme and Farm Woodland schemes. However, it has to be recognised that the PSE is a gross estimate, which implies that potential costs to farmers as a result of policies making these payments are not deducted. This is particularly important for agri-environment schemes where in principle there is no surplus for the farmer, thus the PSE potentially overestimates the true value of direct income support in this area.

### **3.3 Comparison to EU**

22. The Percentage PSE expresses the share of transfers to agricultural producers in the total value of gross farm receipts. It is the share of PSE in total gross farm receipts (at farm-gate prices). It provides a way of comparing the extent of producer dependency on transfers across countries. Figure 3.3.1 below shows the trend of the Scottish Percentage PSE against that of the EU since 1997, the first year for which figures are available.

**Figure 3.3.1 Trends in percentage Producer Support Estimate, 1997 – 2008**



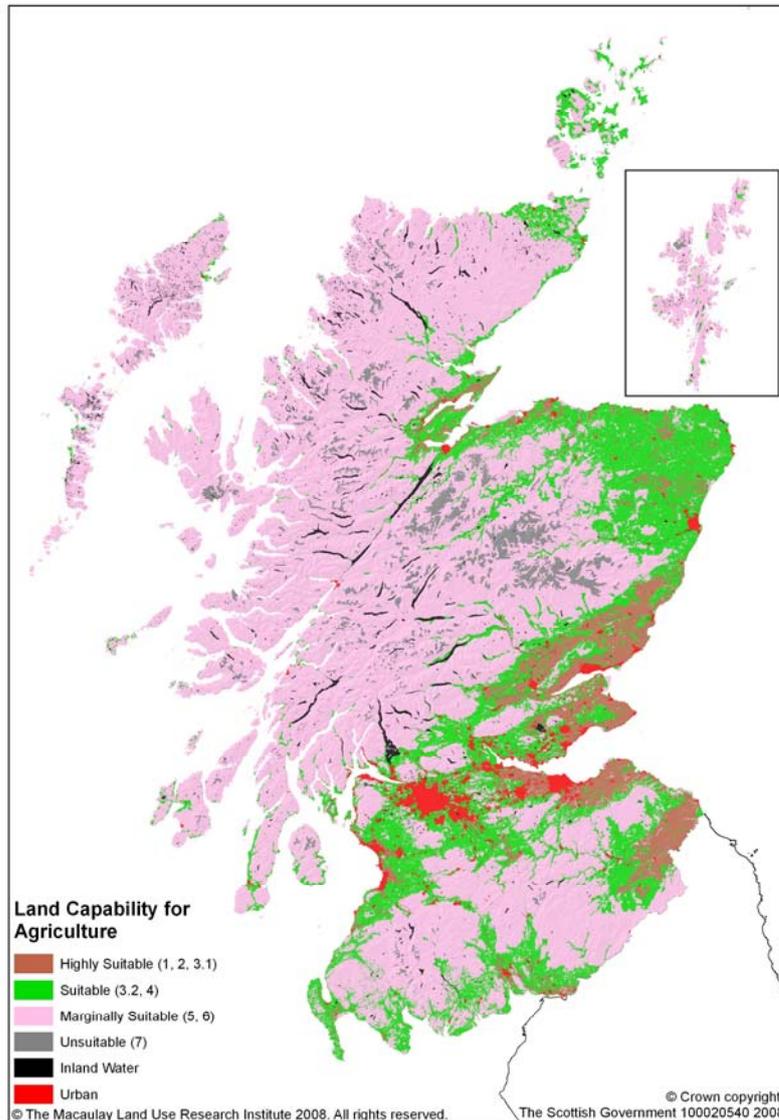
23. In 2008 the Percentage PSE for Scotland was 26 per cent, just one percentage point above the EU estimate of 25 per cent. Hence some 74 per cent of gross farm receipts is derived from the market without any support. The difference between the Scottish and EU Percentage PSE has narrowed in recent years, with the Scottish Percentage PSE falling steadily from a peak of 42.7 per cent in 2002.

## 4. STRUCTURE OF THE AGRICULTURE INDUSTRY

### 4.1 Agricultural Land Use

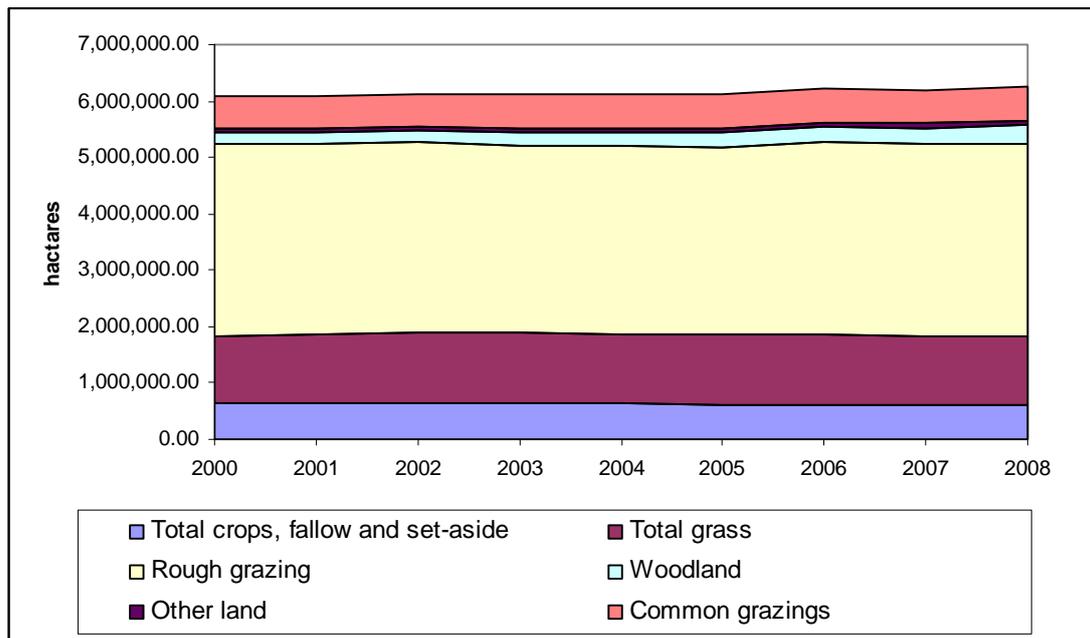
24. In 2008 Scottish agriculture accounted for around 6.2 million hectares. The June Agricultural and Horticultural Census data suggests this is a slight increase (2.6%) in total agricultural land (arable, grass, rough grazing, farm woodland and common grazing) between 2000 and 2008.

**Figure 4.1.1 Land Capability for Agriculture**



25. Reflecting the quality of Scotland's agricultural land, the dominant agricultural land use is rough grazing (including common grazing), which accounts for around 65% of all agricultural land. In fact, as much as 85% of Scotland's agriculture is classed as less favoured area – reflecting the permanent physical disadvantages it faces for agriculture production. Figure 4.1.1 above shows the variation in agriculture potential across Scotland.

**Figure 4.1.2 Trends in agricultural land use in Scotland, 2000 – 2008**



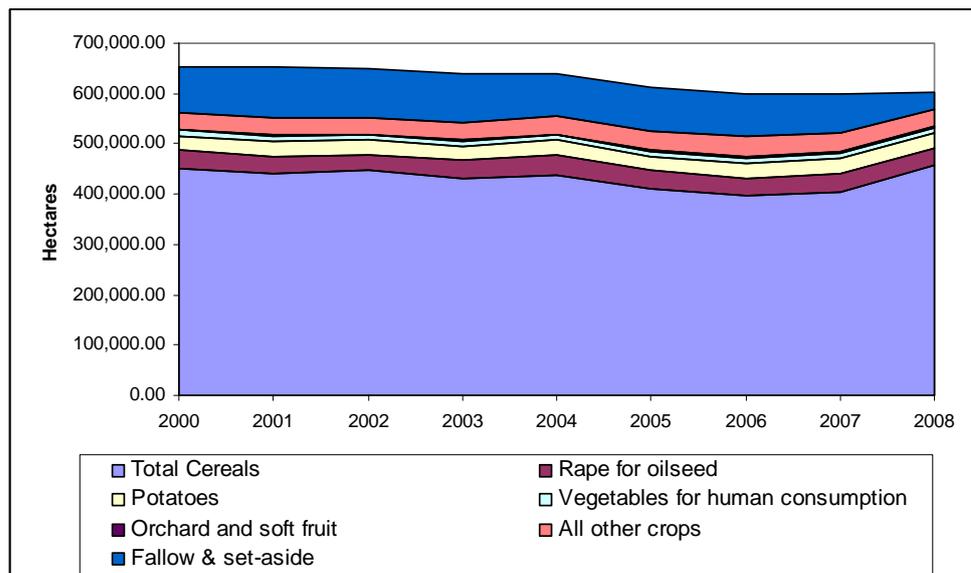
Source: Economic Report on Scottish Agriculture, Various

26. Over the period from 2000 to 2008 there has been a slight increase in the area of rough grazing – by 1% for sole right rough grazing and 2% for common grazing. While the long term trend for area under managed grass (i.e. total grass in Figure 4.1.2 – the second dominant land use) has been positive (3% increase between 2000 and 2008), there was a notable decline between 2007 and 2008, partly reflecting the sharp increase in cereal prices which expanded total cultivated area.

27. Over the period from 2000 to 2008, the long term trend for area under arable activity (total arable crops including fallow and set-aside but excluding grass under 5 years) has been negative. The total area under arable activity has declined by 8% - from 651,700 ha in 2000 to 602,400 ha in 2008.

28. Over the same period, there has been a sustained increase in agricultural area under woodland cover, from around 200,600 ha in 2000 to 317,341 ha in 2008. Most of the increase is attributed to grant support for farm woodland creation.

**Figure 4.1.3 Trends in arable land use in Scotland, 2000 – 2008**

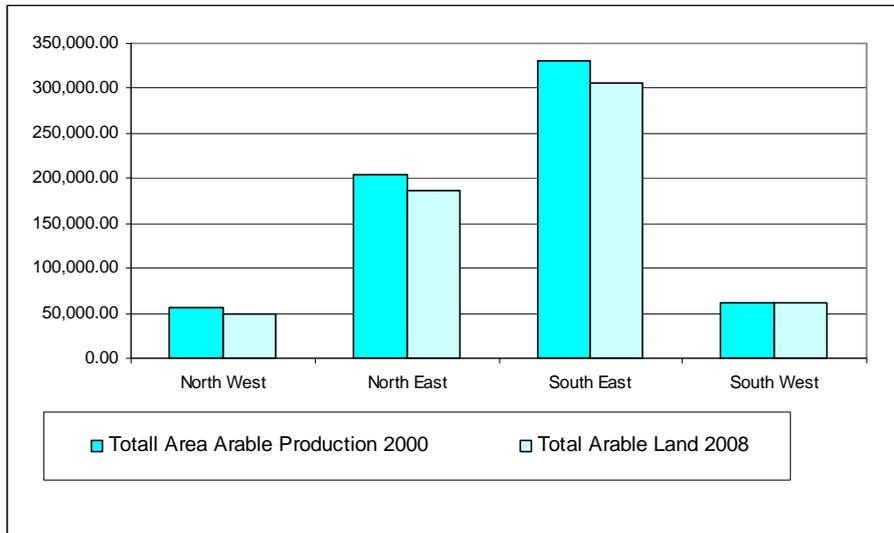


Source: Economic Report on Scottish Agriculture, Various

29. While total area under arable crops has declined, the trends have been somewhat different across commodity sectors. The total area under cereals has increased by around 1.5% - but there has been significant fluctuations over the period from 2000 to 2008. There was a general decline between 2000 and 2006, followed by a sharp recovery in 2007 and 2008 – driven largely by the strong cereal prices and subsequent ending of set-aside policy.

30. Although very small, the total area under vegetables for human consumption has increased significantly (by 13.8%) since 2000 – from around 10,800 ha in 2000 to around 12,300 ha in 2008. While the area under soft fruit is still below the 2000 levels, it has recovered significantly since 2003.

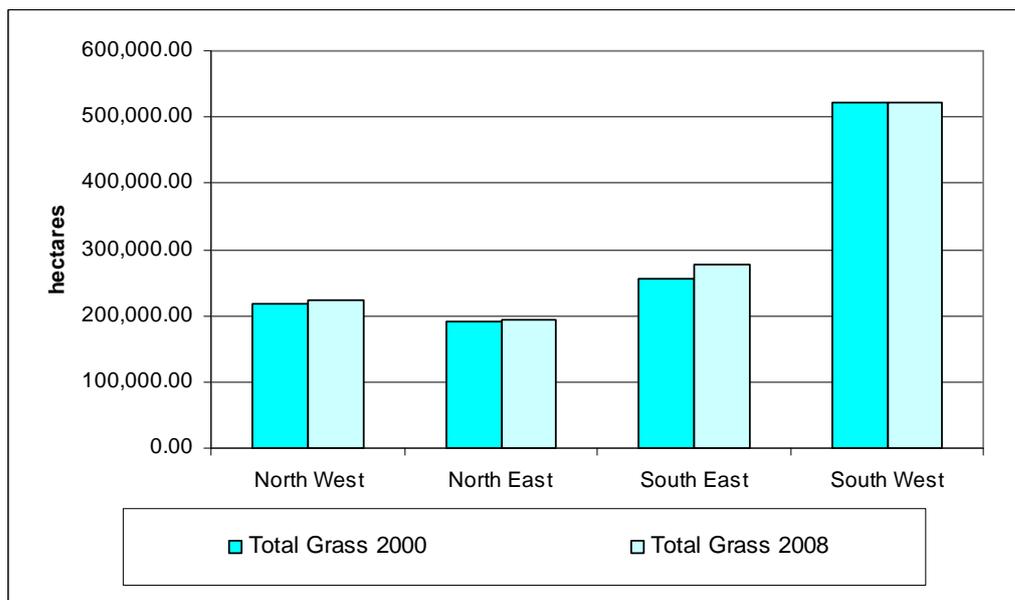
**Figure 4.1.4 Regional Trends in area cultivated for arable production, Scotland, 2000 to 2008**



Source: Economic Report on Scottish Agriculture, Various

31. Although total area under arable activity has declined, there have been significant variations across regions. The sharpest fall in area under arable activity has been in the North West of Scotland where the total arable area (excluding grass under 5 years) has dropped by 13% between 2000 and 2008. It is important to note, however, that in the North West arable farming is a relatively minor land use activity. In the North East and South East where arable farming is mostly concentrated, total arable land has declined by around 8%. While, there has not been a notable change in the South West, like the North West, arable activity tends to be only a minor agricultural land use.

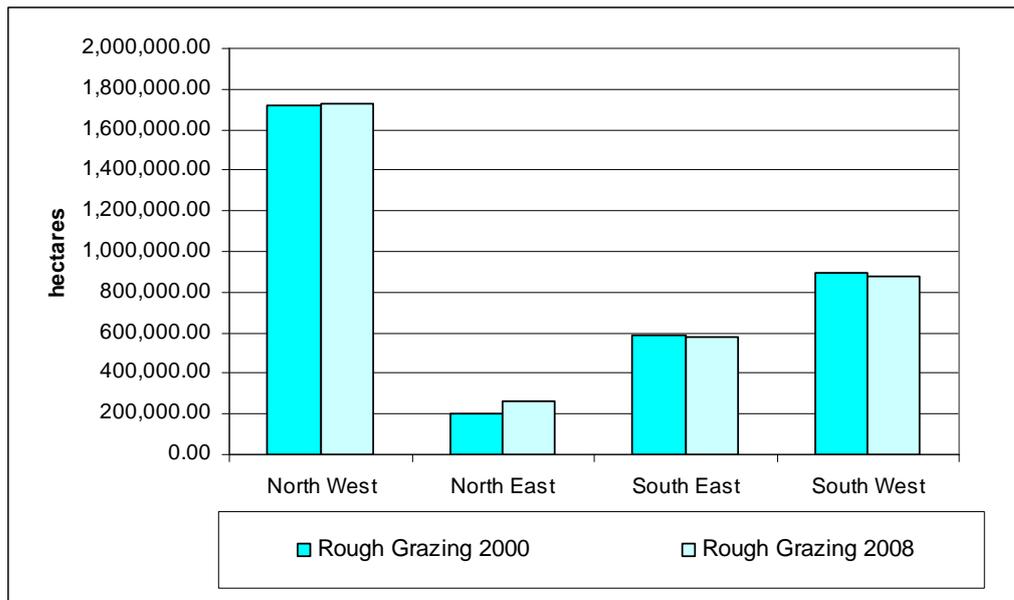
**Figure 4.1.5 Regional trends in area under grass, Scotland, 2000 to 2008**



Source: Economic Report on Scottish Agriculture, Various

32. There are also regional variations in changes in area under managed grassland. While total area under managed grass has increased across all regions, the most notable increases have been in the South East where total area increased by some 8.6%, followed by North West and North East. The area has remained more or less the same in the South West.

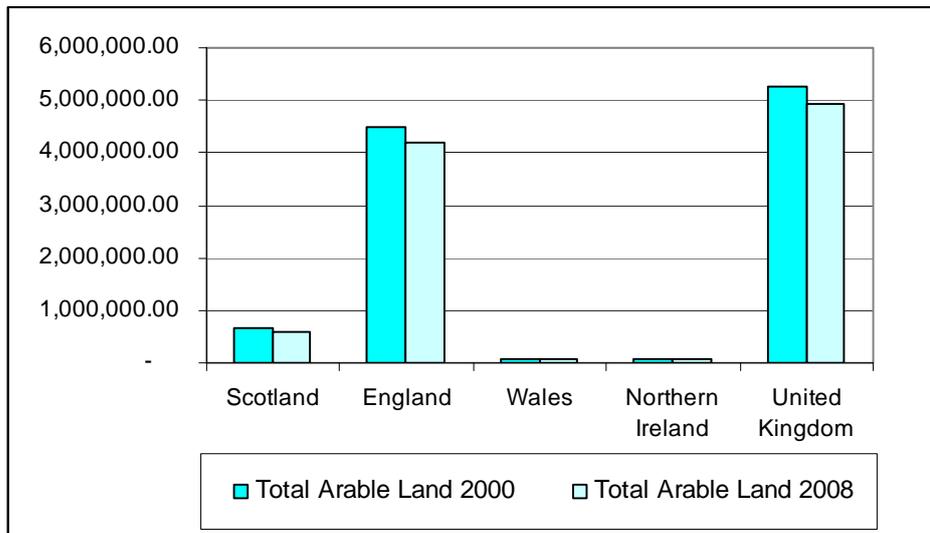
**Figure 4.1.6 Regional trends in area under rough grazings, Scotland, 2000 to 2008**



Source: Economic Report on Scottish Agriculture, Various

33. Over the years 2000 to 2008, the area of rough grazing has remained more-or-less the same in the North West. It has declined by around 1% in the South East and 2% in the South West, but has increased quite significantly – by around 26% in the North East. Given the significant decline in area under arable crops in the North East, the figures appear to suggest some change in the structure of agriculture in some part of this region – in favour of extensive grazing activity.

**Figure 4.1.7 Total Arable Planted with Arable Crops by United Kingdom Regions, 2000 to 2008**



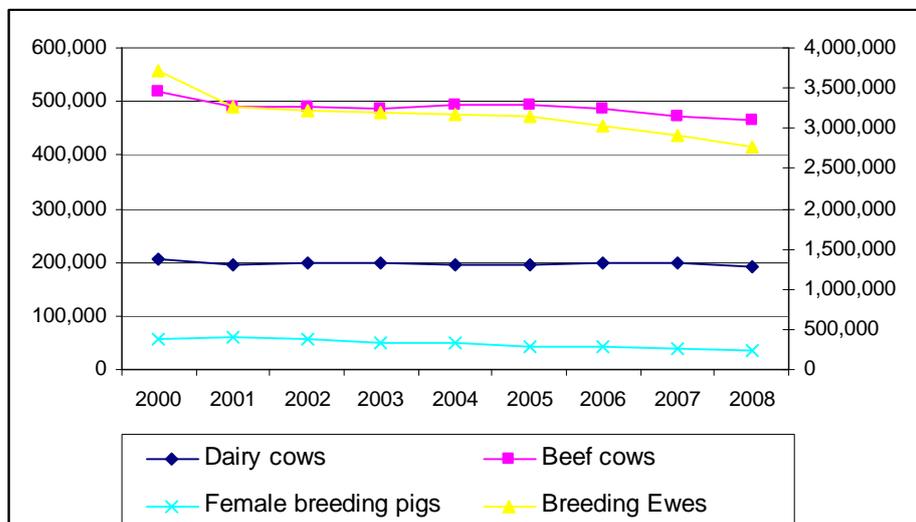
Source: Economic Report on Scottish Agriculture, Various

34. At the UK level, the general trend has been one of declining areas under arable production. The total UK arable area has declined by 6%. The trends, however, vary across different regions of the UK. Whereas total arable land has declined in Scotland and England, by 8% and 7% - respectively between 2000 and 2008, it has increased in Northern Ireland and Wales by some 5%.

#### 4.2 Livestock numbers

35. The general trend in Scotland's livestock sectors has been one of declining animal numbers. The June Agricultural Census shows that between 2000 and 2008, the number of dairy cows declined by 7%, the number of beef cows by 10%, breeding ewe numbers by 25% and female breeding pigs by 36%.

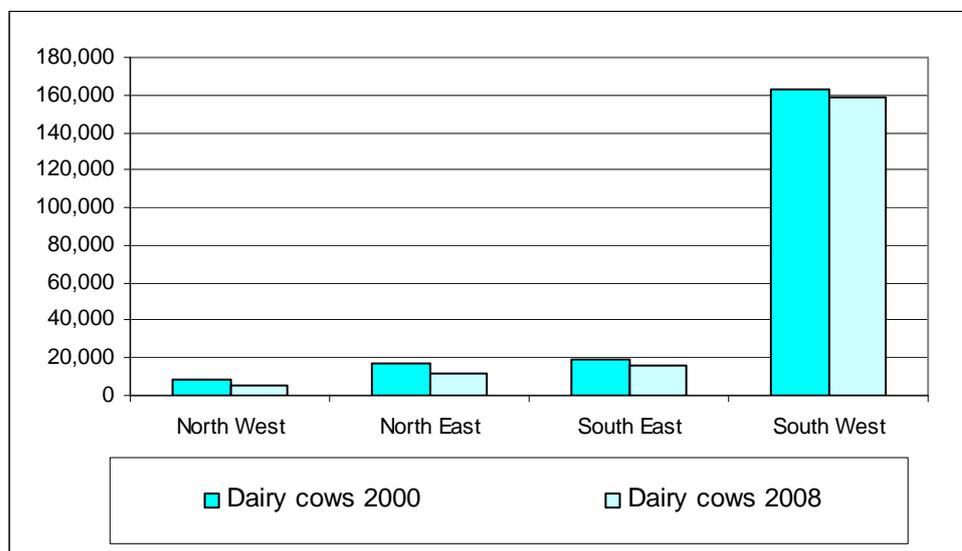
**Figure 4.2.1 Trends in breeding livestock, Scotland, 2000 to 2008**



Source: Economic Report on Scottish Agriculture, Various  
*Dairy Sector*

36. In 2008 there were around 192,300 dairy cows in Scotland – 7% fewer than the total number in 2000. Between this period, dairy cows numbers have been declining across all regions – with the largest declines observed in the North West (-32%), followed by North East (-31%), South East (-14%) and South West (-3%). While these figures show fairly sharp declines in dairy cow numbers in the North East, North West and South East, it is important to note that these regions only account for a very small proportion of Scotland's dairy farming, thus these figures serve to illustrate further concentration of dairy farming in the South West. For example, in 2000 the South West accounted for 79% of Scotland's dairy cows and this increased to 83% in 2008.

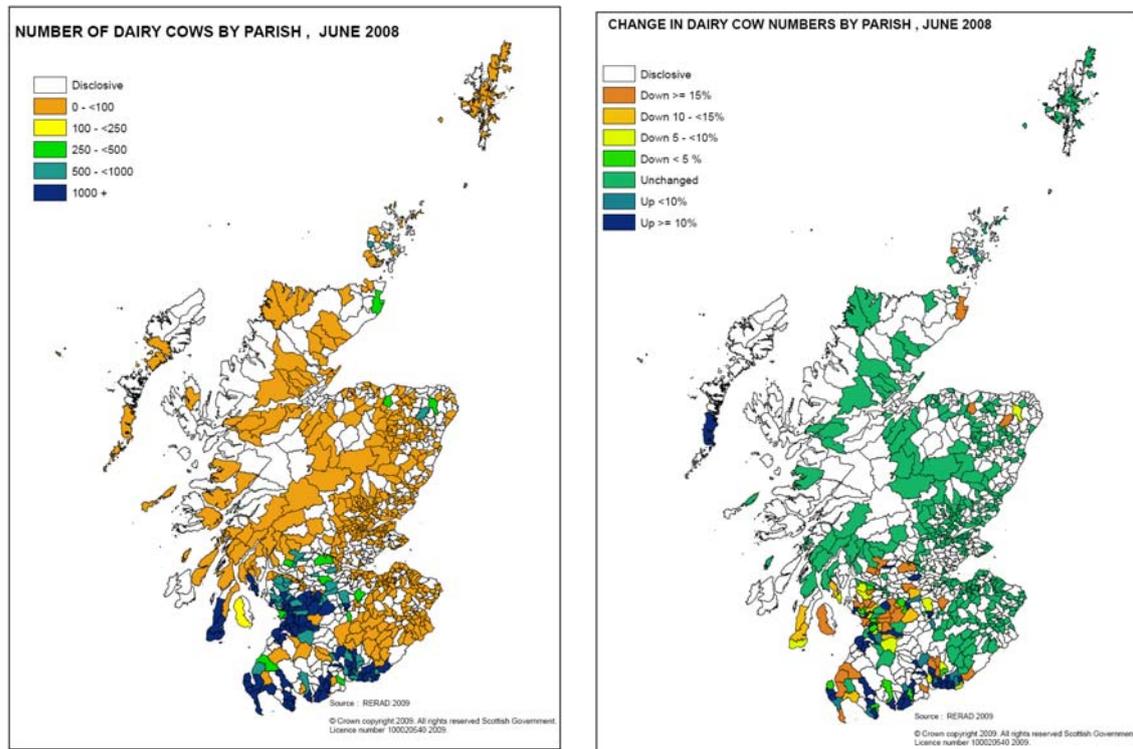
**Figure 4.2.2 Regional Trends in Scottish Dairy Cows, Scotland, 2000 to 2008**



Source: Economic Report on Scottish Agriculture, Various

37. Below Figure 4.2.3 shows a more detailed spatial distribution of dairy cows in Scotland. It highlights the concentration of dairy farming in parishes in the South West of Scotland. It also shows that while the number of dairy cows has remained more or less unchanged across most of Scotland, there appears to be significant variations in trends in those regions where there is a significant concentration of dairy farming – with some parishes having seen increases in dairy cow numbers above 10% and some similar percentage declines.

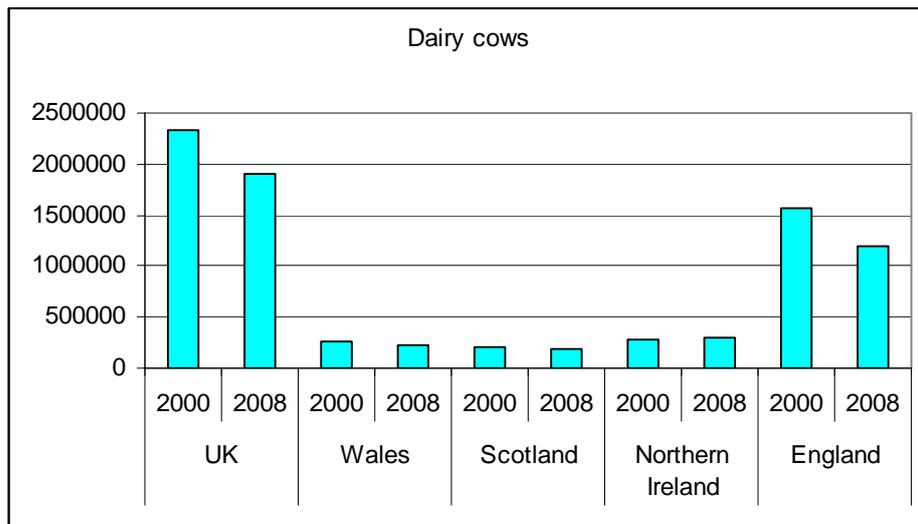
**Figure 4.2.3 Spatial distribution and percentage change in dairy cow numbers, Scotland, 2000 to 2008<sup>5</sup>**



38. The trend in dairy cow numbers for the period 2000-08 in Scotland has not been very different when compared to changes observed at UK level. At the UK level, dairy cow numbers have dropped by some 18% - in fact greater than the decline in Scotland. This is evidence that dairy cow numbers have been declining relatively faster in other regions of the UK. In fact, with the exception of Northern Ireland which has experienced a small increase (2%) in dairy cow numbers, dairy cow numbers have declined by 24% in England and by 15% in Wales.

<sup>5</sup> Parishes categorised as dispositive are those where data has been suppressed to prevent disclosure of individual holdings.

**Figure 4.2.4 Number of dairy cows , UK, 2000 and 2008**

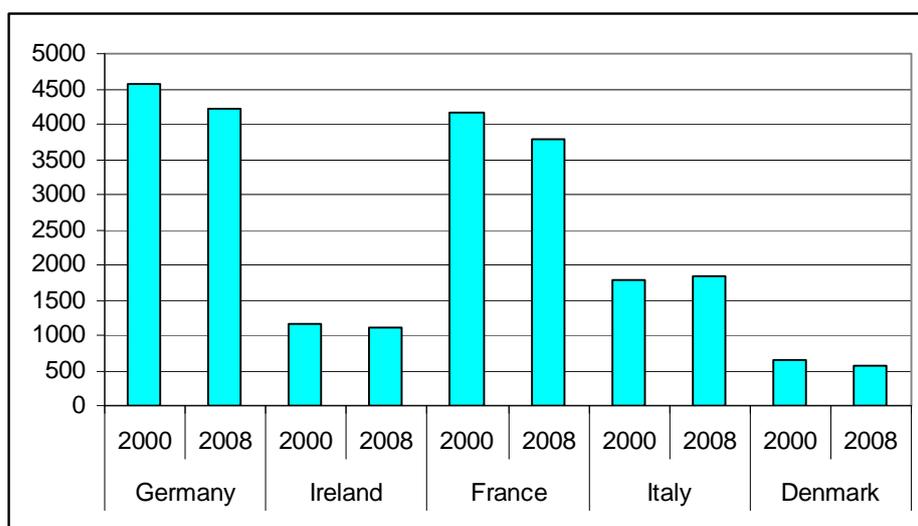


Source: Economic Report on Scottish Agriculture

39. Across the EU the general trend has also been of declining dairy cow numbers. For instance, in Germany dairy cow numbers were 7% less in 2008 when compared to 2000, in Ireland they were 4% less, France 9% and Denmark 12%. Amongst the new Member States, the general trend has also been one of declining dairy cow numbers. For example, between 2000 and 2008 dairy cow numbers fell by 23% in Estonia and 10% in Poland.

40. However, over this period, some countries like Italy have seen a slight increase in dairy cows. As will be seen in the Section 5 which discusses output figures, the decline in dairy cow numbers has been part of a structural change within the sector, which has been balanced by rising average milk yields per cow.

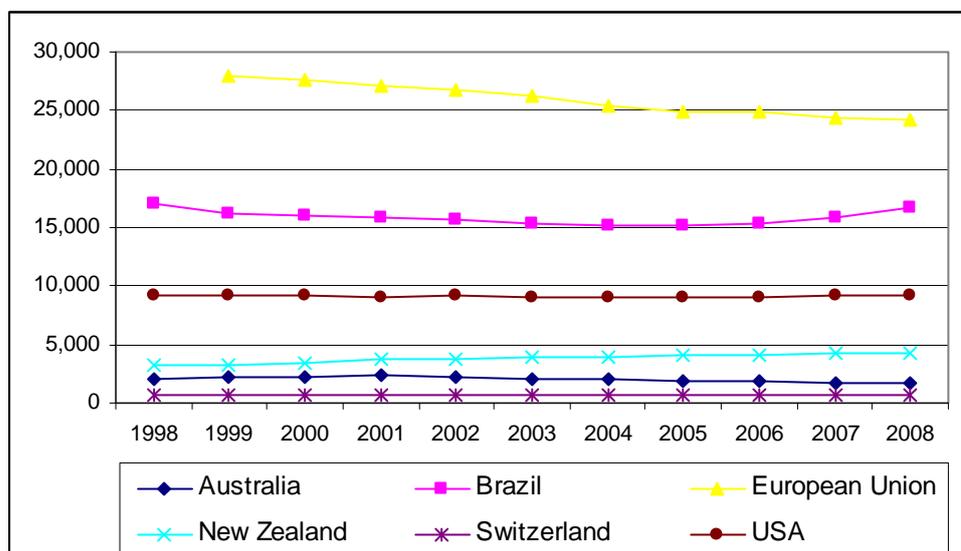
**Figure 4.2.5 Number of dairy cows for selected EU member states, 2000 and 2008 (1000 head)**



Source: EUROSTAT

41. Outwith the EU, however, the trend in dairy cow numbers in some of the world's main dairy commodity producing countries has been mixed. While dairy cow numbers have declined in countries like Australia, recent trends in New Zealand and Brazil have been positive.

**Figure 4.2.6 Trends in dairy cow numbers (beginning stock) for EU and selected non-EU countries, 2000 to 2008 (thousand head)**

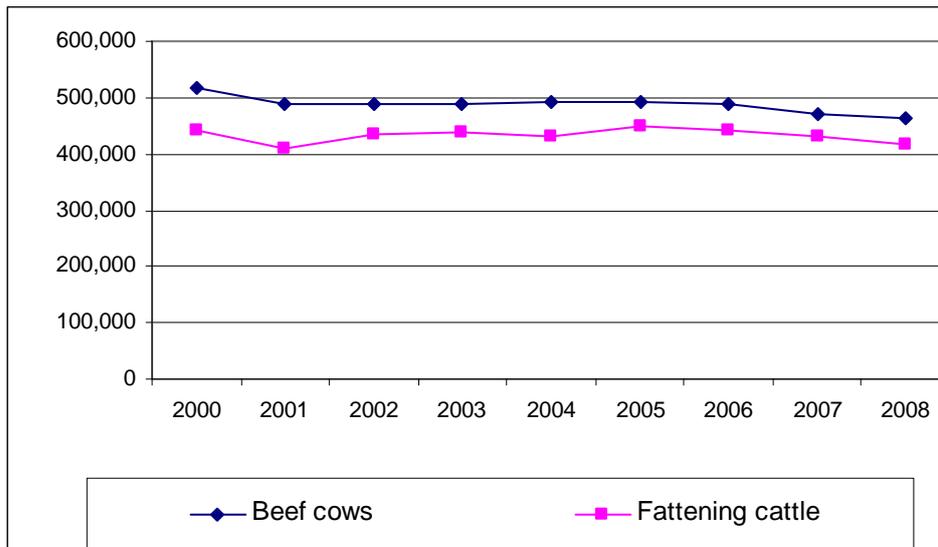


Source: <http://www.fapri.iastate.edu/tools/outlook.aspx>

### Beef

42. In 2008, there were 465,175 beef cows in Scotland – 10% less when compared to the year 2000. Over the same period, the number of fattening cattle has also dropped, but to a lesser extent when compared to beef cows. While this may suggest an improvement in productivity (calving rates) of Scotland's beef cow herd, the number of beef cattle under one year, a proxy for the number calves born in Scotland has declined by around 11%.

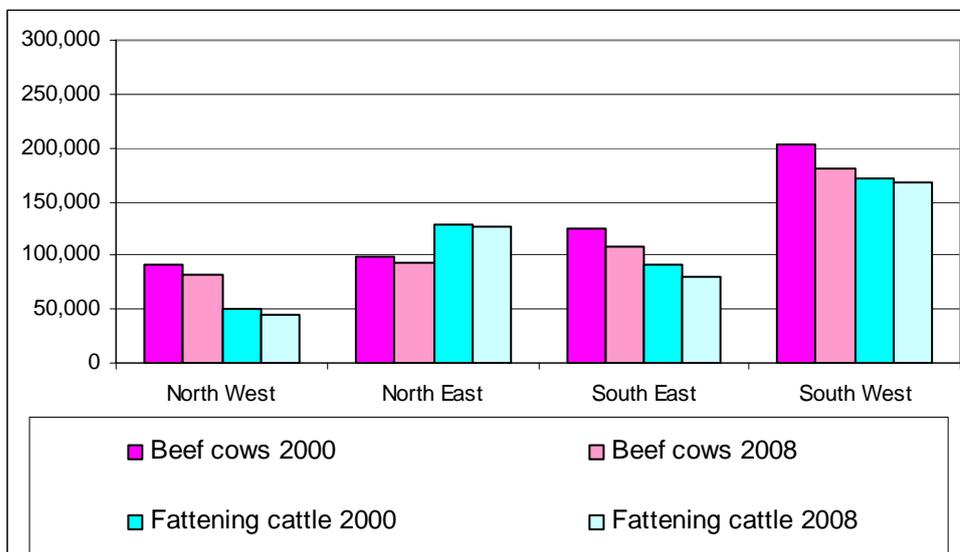
**Figure 4.2.7 Trends in Scottish beef cattle herd, 2000 to 2008**



Source: Economic Report on Scottish Agriculture, Various

43. At a regional level, the number of beef cows and fattening cattle has been falling across all regions. The fall in beef cow numbers has been largest in the South East (-12%), followed by the South West (-11%), North West (-9%) and North East (-6%).

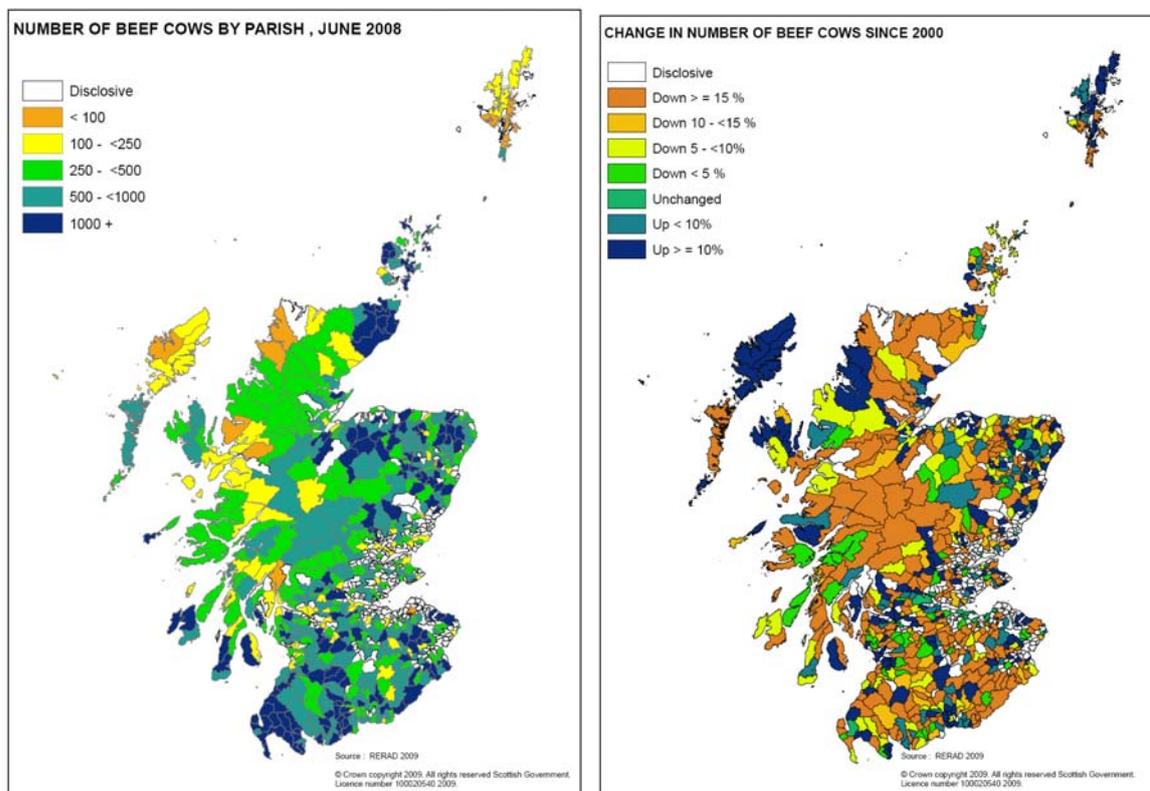
**Figure 4.2.8 Regional trends in Scottish beef cattle numbers, 2000 to 2008**



Source: Economic Report on Scottish Agriculture, various

44. The decline in fattening cattle has been lower in the North East and South West (-2% for both) and higher in North West and South East (-10% and 12%, respectively). This reflects, to a very large extent, the relative potential of the different regions in beef production. Specifically, the relatively better quality agricultural land for cattle production in the North East and South West when compared to especially the North West.

**Figure 4.2.9 Spatial distribution and percentage change in beef cow numbers, 2000 to 2008<sup>6</sup>**

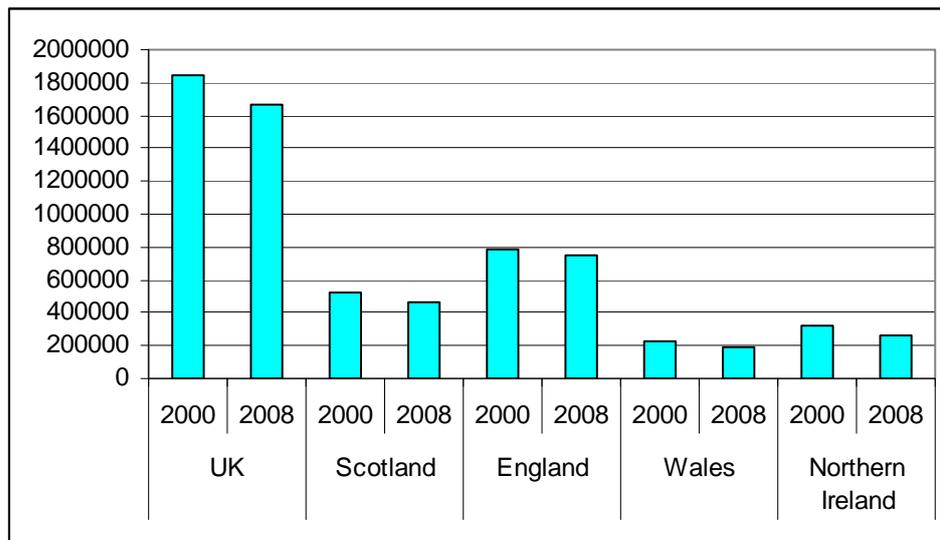


45. Figure 4.2.9 above shows a more detailed picture of spatial changes in beef cow numbers in Scotland. With the exception of a few parishes the general trend has been of declining beef cow numbers especially in the Highlands, although of course these are areas with relatively few beef cows in 2000. In the lowland there appears to be significant increases in beef cow numbers. These trends are broadly consistent with most projections made before the implementation of the 2003 CAP reforms – that Scotland was likely to observe a shift of cattle production in favour of areas that were best capable of providing feed.

46. The trends in Scotland's beef cow numbers have not been very different from those observed at a UK level. At a UK level beef cow numbers have dropped by around 9% (not significantly different from the figure for Scotland – 10%). In fact the decline in beef cow numbers in Scotland is much lower when compared to Wales and Northern Ireland – both having experienced a 16% drop in beef cow numbers. At a UK level the decline in beef cow numbers was lowest in England (-4%).

<sup>6</sup> Parishes categorised as disclosive are those where data has been suppressed to prevent disclosure of individual holdings.

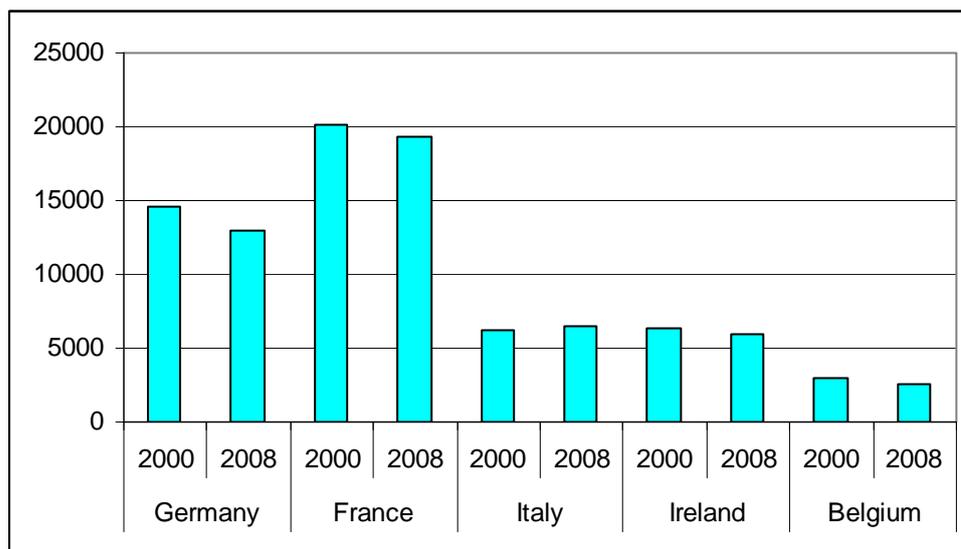
**Figure 4.2.10 Number of beef cows, UK, 2000 and 2008**



Source: Economic Report on Scottish Agriculture, Various

47. While the general trend at an EU level has been of declining beef cow numbers, there appears to be significant variations across the EU15. In countries like Germany, France, Ireland and Belgium cattle numbers have dropped significantly (-11%, -4%, -6% and -15%, respectively). However, in France cattle numbers have been increasing in the three years since 2005. Italy has also seen an increase in cattle numbers of around 4% since 2000.

**Figure 4.2.11 Number of cattle, selected EU member states, 2000 and 2008 (1,000 head)**

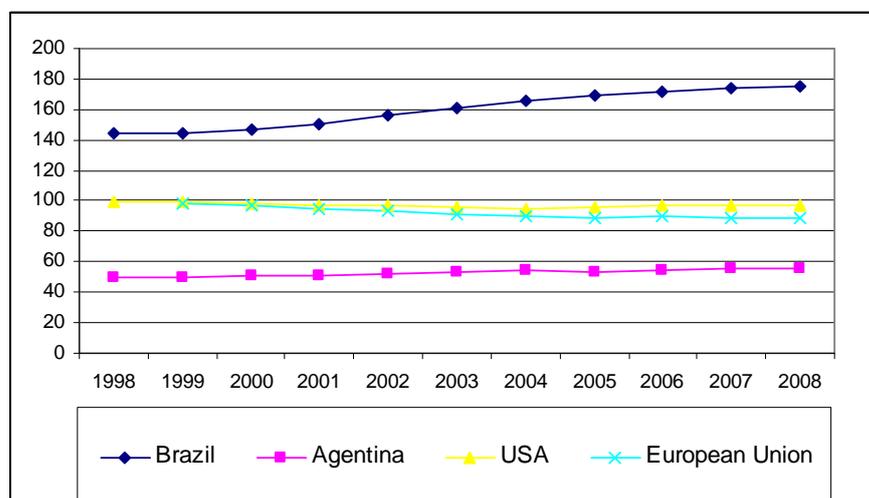


Source: EUROSTAT

48. Some of the new member States appear to have seen some increases in cattle numbers. For example, in Lithuania the total number of cattle has increased by 3% over the 8 years from 2000 to 2008, Croatia by 6% and Latvia by 4%. In Poland, however, cattle numbers have declined by 3%,

Slovenia by 4% and Romania 7%. However, in most of these countries beef production tends to be very small when compared to the EU15.

**Figure 4.2.12 Trends in cattle numbers (beginning stocks, cattle and calves) for EU and selected non-EU countries, 2000 to 2008 (million heads)**



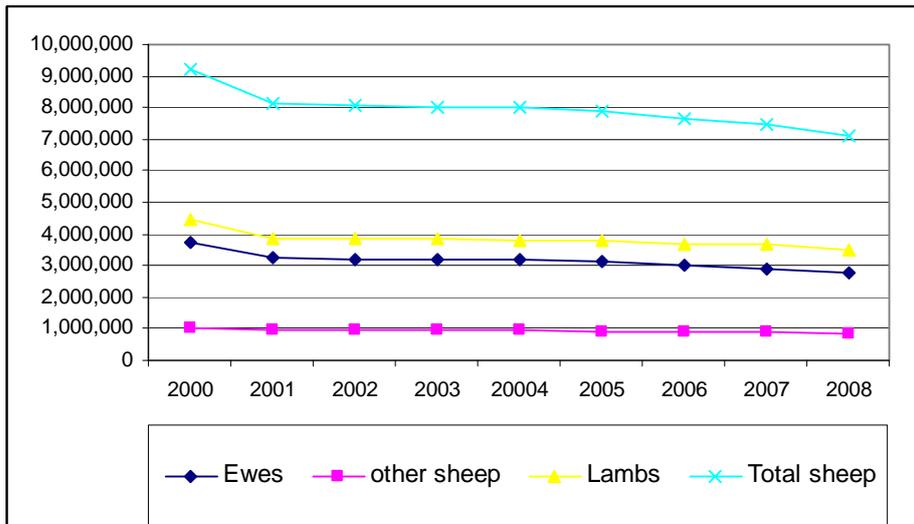
Source: <http://www.fapri.iastate.edu/tools/outlook.aspx>

49. While the general trend in most EU countries has been negative, the patterns have been more variable across the world. Over the period from 1998 to 2008 the USA has more or less maintained its beef cattle herd. On the other extreme there are countries like Brazil and Argentina that have seen significant growth in their beef cow herds.

### Sheep

50. Amongst the grazing livestock sectors, the Scottish sheep sector has seen the largest decline in numbers since 2000. Between 2000 and 2008, the size of Scotland's sheep flock shrunk by 23%.

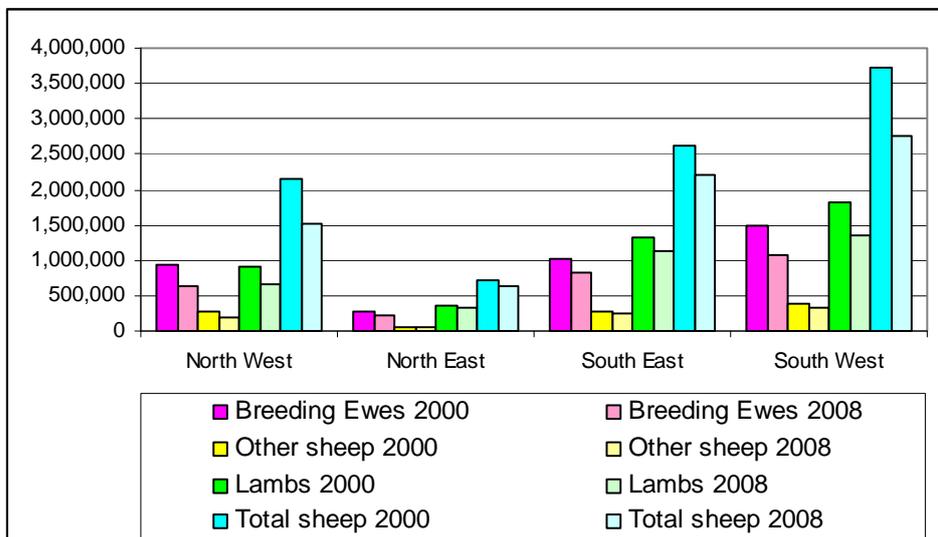
**Figure 4.2.13 Trends in Scottish sheep flock, 2000 to 2008**



Source: Economic Report for Scottish Agriculture, Various.

51. Breeding ewe numbers fell by 25% and lamb numbers by a smaller percentage (-22%), which partly reflects some improvement in productivity in the sheep farm sector partly due to the least productive ewes coming out of production as the industry restructures in response to the end of headage payments.

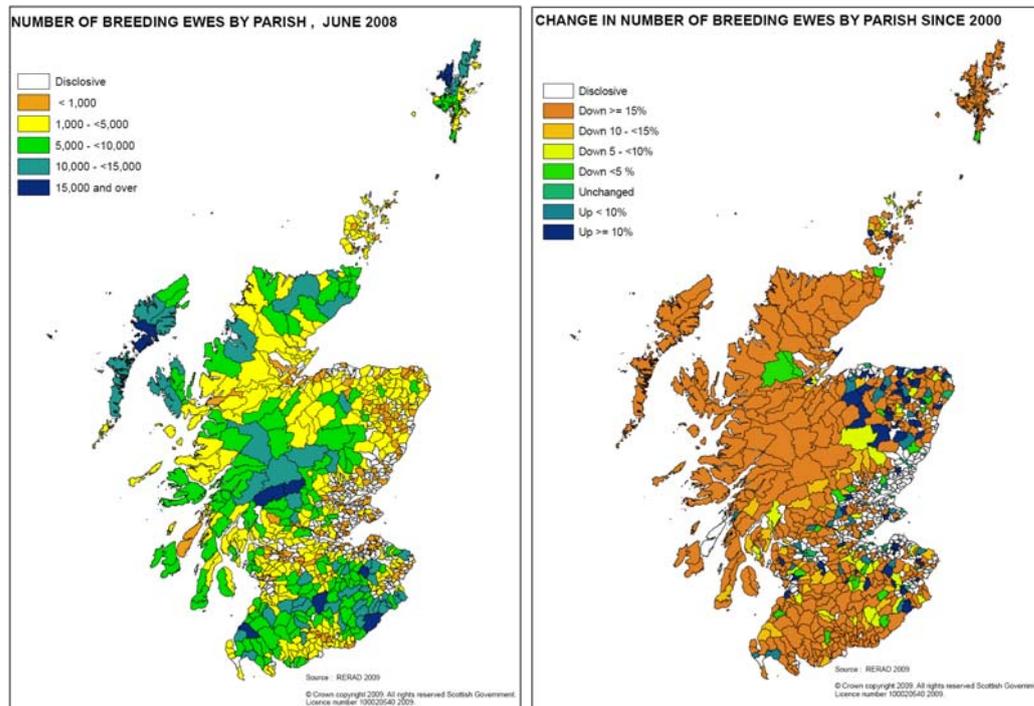
**Figure 4.2.14 Size of Scottish sheep flock by region, 2000 and 2008**



Source: Economic Report on Scottish Agriculture, Various

52. The decline in sheep numbers has also been variable across Scotland. Specifically, the decline in sheep numbers has mostly been concentrated in the west of Scotland. Between 2000 and 2008 breeding ewe numbers have dropped by 32% in the North West and 27% in the South West. This compares to a 14% and 19% decline in the North East and South East, respectively.

**Figure 4.2.15 Spatial distribution and percentage change in breeding ewe numbers, 2000 to 2008<sup>7</sup>**

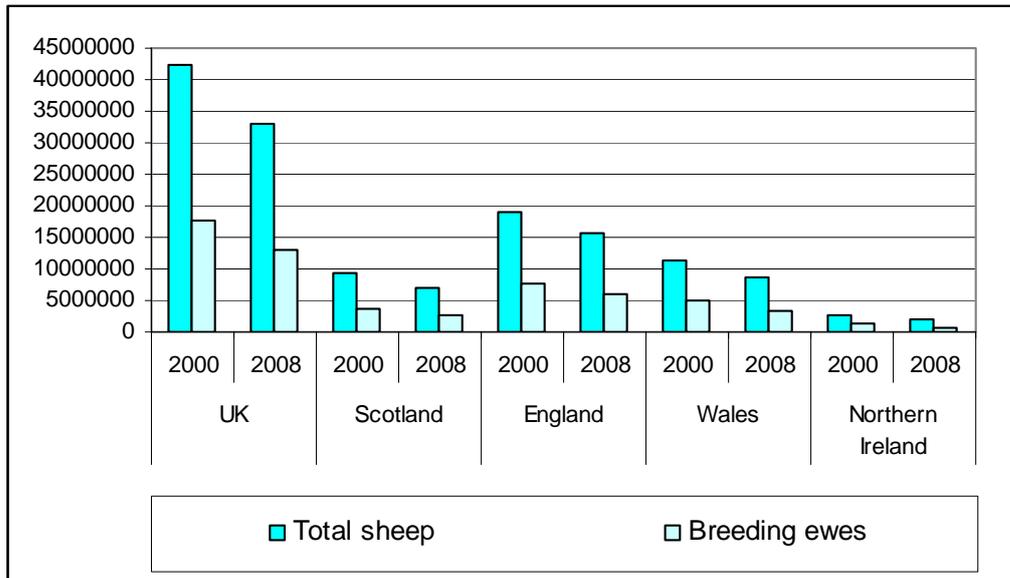


53. Figure 4.2.15 shows that with the exception of a handful of parishes in the North East and South East of Scotland where breeding ewe numbers have increased by more than 10% since 2000, breeding ewe numbers have been declining across all of Scotland. Further, the decline has been mostly concentrated in the west including the islands of Shetland and Western Isles where declines in excess of 15% have been observed.

54. However, across almost all of the regions the decline in the number of lambs has been smaller than the decline in breeding ewe numbers – probably early evidence of some restructuring taking place to improve productivity in the Scottish sheep sector.

<sup>7</sup> Parishes categorised as dispositive are those where data has been suppressed to prevent disclosure of individual holdings.

**Figure 4.2.16 Number of breeding ewes and total sheep, UK, 2000 and 2008**

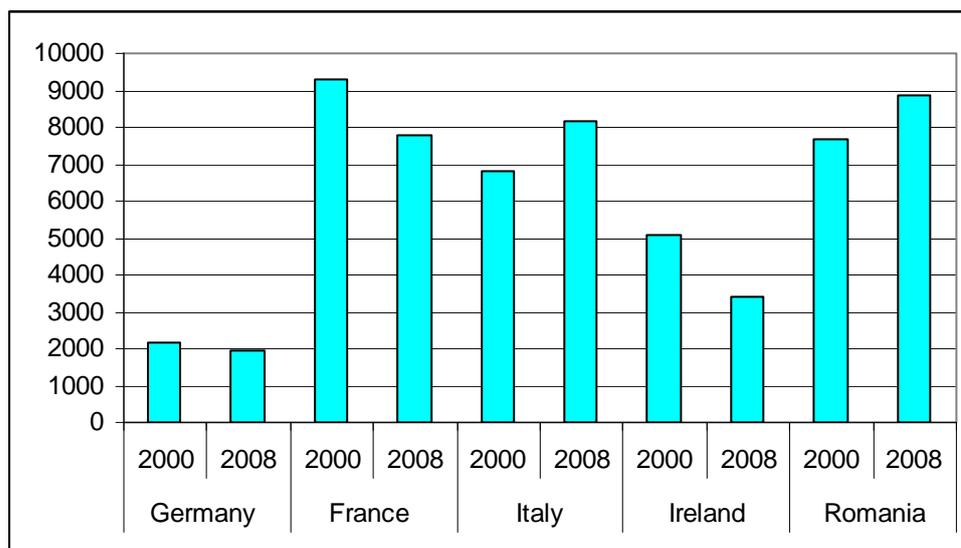


Source: Economic Report on Scottish Agriculture, Various

55. When compared to the rest of the UK, the decline in breeding ewe numbers in Scotland has not been that different from England, Wales or Northern Ireland. In 2008 breeding ewes in the UK were 27% fewer when compared to 2000. This comprises of a 25% decline in ewe numbers in England, 31% decline in Wales, 30% in Northern Ireland and 25% in Scotland.

56. The decline in total sheep numbers follows a similar pattern, although the data suggest that average lambing rates may have improved faster in England and Wales – i.e. the decline in total sheep appears to be relatively smaller when compared to the decline in breeding ewes.

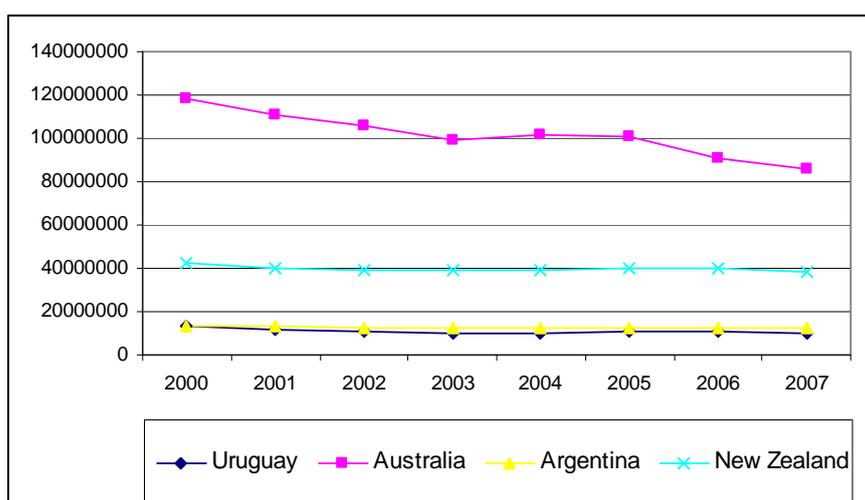
**Figure 4.2.17 Total sheep numbers for selected EU member states, 2000 and 2008 (1000 head)**



Source: EUROSTAT

57. At the EU level the general pattern has also been of declining sheep numbers. For example there were 11% fewer sheep in Germany in 2008 when compared to 2000, in France – 16% and in Ireland – 32%. However, other member states have seen some increase in sheep numbers – notably Italy where total sheep numbers have increased by 20% over this period and Romania by 16%.

**Figure 4.2.18 Trends in sheep population for selected non-EU countries, 2000 to 2007**



Source: FAOSTAT

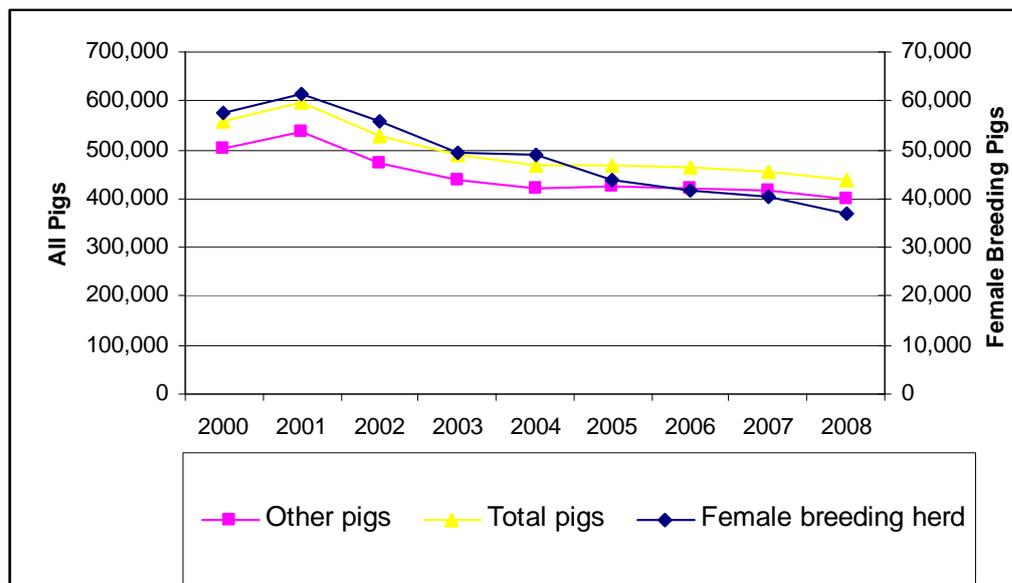
58. Across the world the trend has been of declining sheep numbers for most of the larger sheep producing countries (see Figure 4.2.18). Over the period from 2000 to 2008, Australia has seen a 23% decline in its sheep population, Uruguay – a 22% decline, New Zealand – 9% and Argentina – 8%. Thus

trends in sheep numbers in Scotland and the UK are not very different when compared to the rest of the world.

### Pigs

59. Similar to the sheep and beef cattle sectors, the Scottish pig farm sector has seen significant decline in pig numbers since 2000. Between 2000 and 2008, Scotland's female breeding pig population dropped by 36% and the total pig population was around 22% lower. Figure 4.2.19 below shows trends in aggregate pig numbers.

**Figure 4.2.19 Trends in Scottish pig numbers, 2000 to 2008**



Source: Economic Report on Scottish Agriculture, Various

60. At a regional level, Scotland's pig production is largely concentrated in the North East. In 2008, the North East of Scotland accounted for around 64% of Scotland's female breeding pig population and 66% of Scotland's total pig population. In terms of trends, the female breeding pig population has declined by 33% in the North East, by 52% in the South East and 24% in the North West. While the South West has seen an increase in the number of female breeding pigs, it is important to note that it accounts for only 7% of Scotland's breeding pig herd.

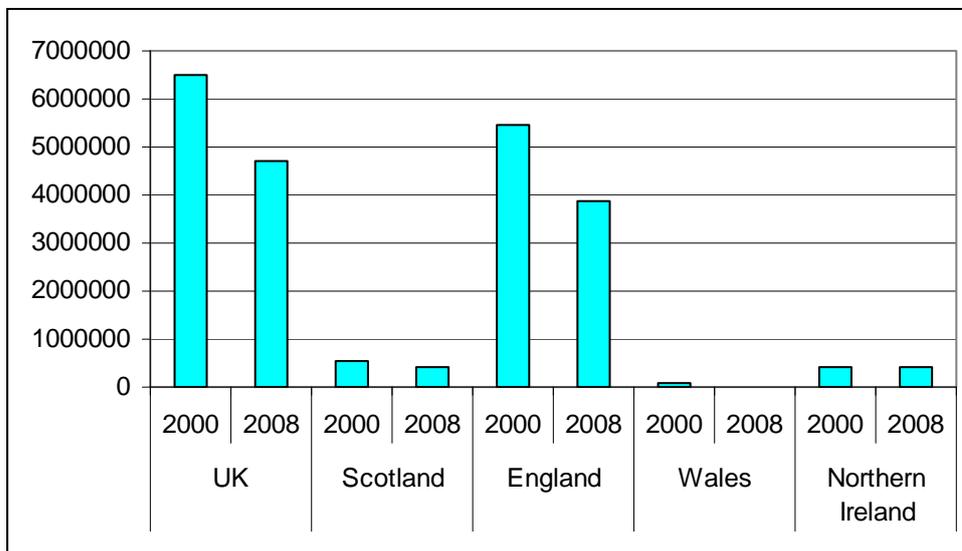
**Figure 4.2.20 Size of Scottish pig herd by region, 2000 and 2008**



Source: Economic Report on Scottish Agriculture, Various

61. For the total pig population, there has been some slight increases in the North West and South West, but this is dwarfed by the sharp declines in the North East and South East where Scotland's pig production tends to be relatively more concentrated.

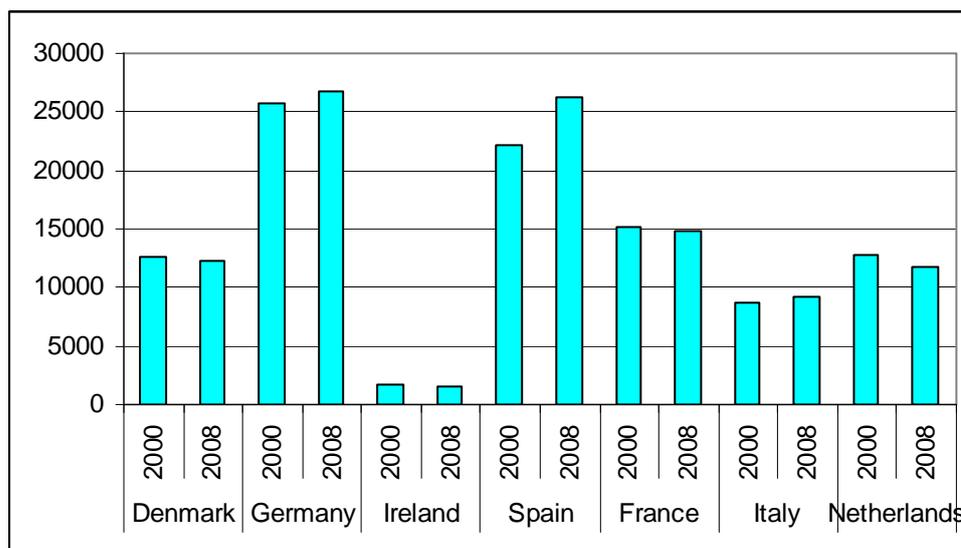
**Figure 4.2.21 UK total pig population, 2000 and 2008**



Source: Economic Report on Scottish Agriculture, Various

62. At the UK level, the trend has also been of declining pig numbers. Between 2000 and 2008 the UK total pig population fell by 27%, which is higher than the rate of decline in Scotland (21%). Over the same period the total pig population in England fell by 29% and in Wales by as much as 69%. Within the UK, Northern Ireland had the lowest decline in pig numbers – 3% between 2000 and 2008.

**Figure 4.2.22 Total pig population for selected EU member states, 2000 and 2008 (000)**



Source: EUROSTAT

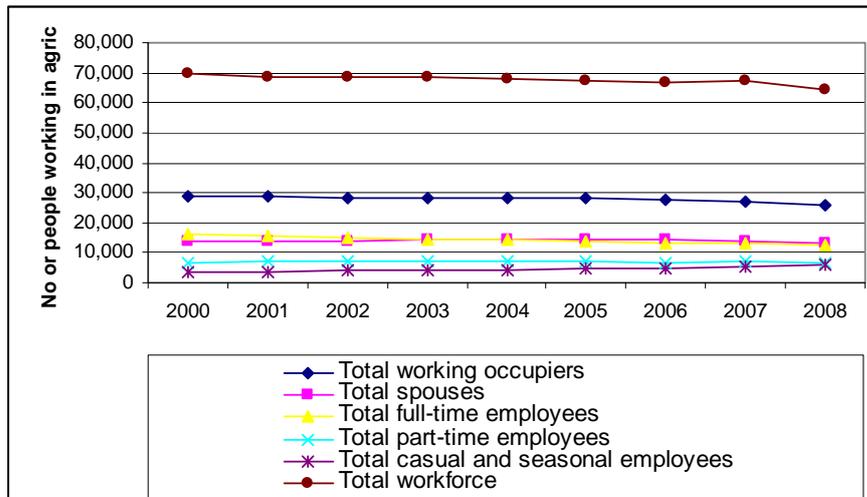
63. Across the EU, the trend in the pig population has been very variable – with some Member States seeing significant decline and other significant increases. For example, while the pig population has fallen in Denmark (-4%), Ireland (-7%), France (-2%) and the Netherlands (-8%), it has increased in Germany (4%), Spain (19%) and Italy (7%).

### 4.3 Employment in agriculture

64. In 2008 there were around 64,000 people working on Scotland's farms, which represents a decline of 7% when compared to 2000. The decline in the number of people working on farms is observed across all categories of farm employment, with the exception of the casual and seasonal workers category which has seen an increase in numbers by 62%.

65. Between 2000 and 2008, the total number of working occupiers has declined by 10% and the number of spouses of working occupiers by 3%. Both the total numbers of full-time and part-time employees have declined – by 22% and 5%, respectively. Only the category for casual and seasonal employees has increased sharply – by 62% in 2008 relative to 2000, possibly reflecting some restructuring of employment in farming.

**Figure 4.3.1 Trends in the number of people working on Scottish farms, 2000 to 2008**



Source: Economic Report on Scottish Agriculture, Various

66. In Scotland, at a regional level, there appears to be no major differences in the trends for the number of working occupiers and spouses working on the farm. The largest decline in the number of working occupiers has been in the North West (-12%), followed by the North East and South East (-10%) and South West (-9%). However, while in the North West the total number of occupiers has declined the total number of spouses working on the farm has increased by 3%. In all the other regions, however, the number of spouses working on farms has declined.

**Figure 4.3.2a Number of people working in Scottish agriculture by region, 2000 and 2008**



Source: Economic Report on Scottish Agriculture, Various

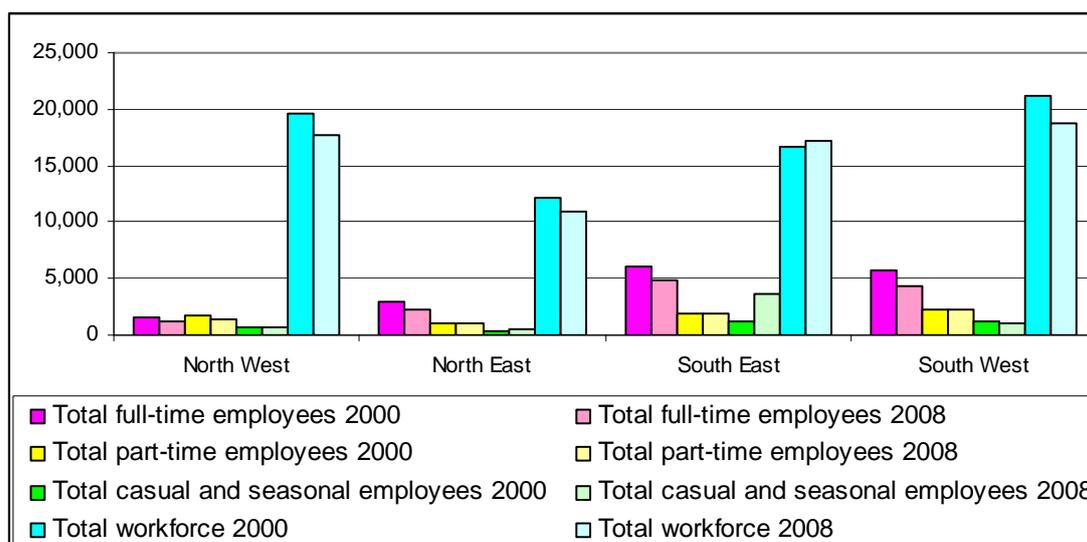
67. At a Scottish regional level there has not been any significant differences in the trends for total full time employment – the decline ranges from 19% in

the South East to 24% in the North West (see Figure 4.3.2b). There are, however, significant variations in the total number of people in part-time farm employment. The total number of part-time workers in the North West fell by 17%, by 2% in the North East and by 1% in the South East. The number of part-time farm employees has remained more or less the same in the South West.

68. While the national trends shows an increase in the total number of casual and seasonal workers, there are significant differences across Scottish regions. The total number of casual and seasonal workers increased by 180% in the South East and by 37% in the North East. However, it declined by 14% in the South West and by 3% in the North West. It is important to note, however, that the casual and seasonal employee category still represents a very small proportion of people working in agriculture.

69. In terms of total people working on farms, only the South East has seen an increase (of 3%); the total number of people working on farms has declined by 10% in the North West and North East and by 12% in the South West.

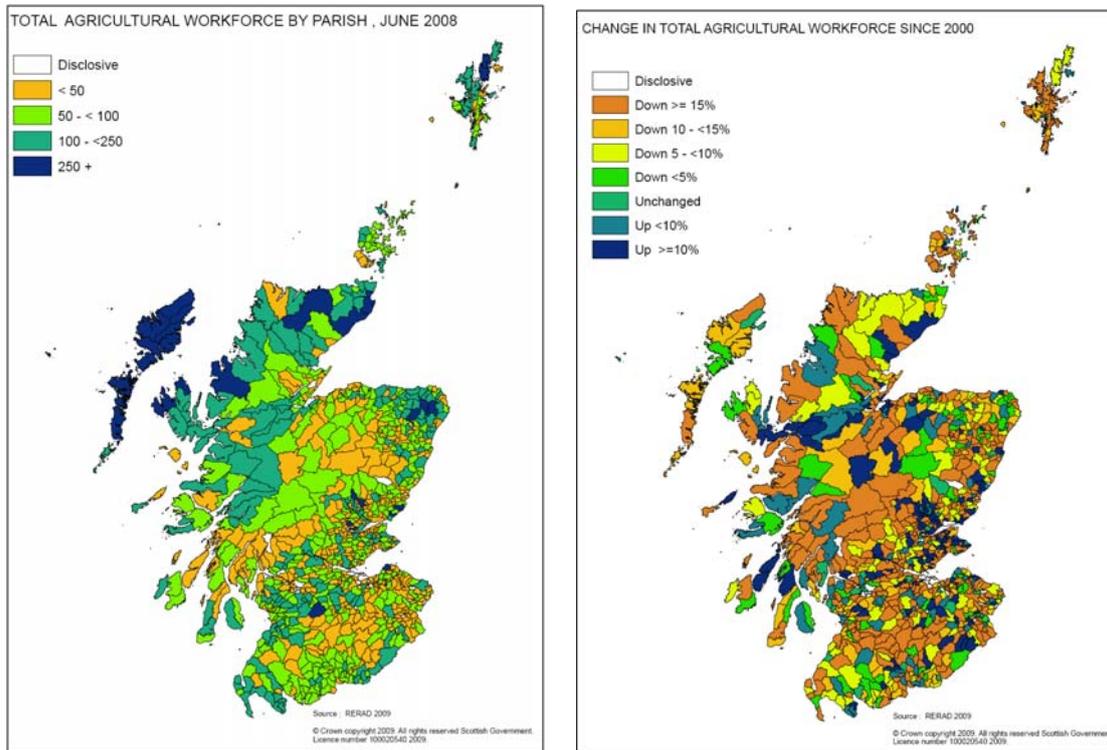
**Figure 4.3.2b Number of people employed in Scottish agriculture by type of employment and region, 2000 and 2008**



Source: Economic Report on Scottish Agriculture, Various

70. Figure 4.3.3 show changes in the number of people working in agriculture at parish level. It shows the number of people working in agriculture (in terms of head count) in Scotland are mostly concentrated to the Highlands, Western Isles, Shetland and parts of Orkney. However, in these areas employment in agriculture is mostly on a part-time basis reflecting the very small scale or crofting-type nature of farming in these areas.

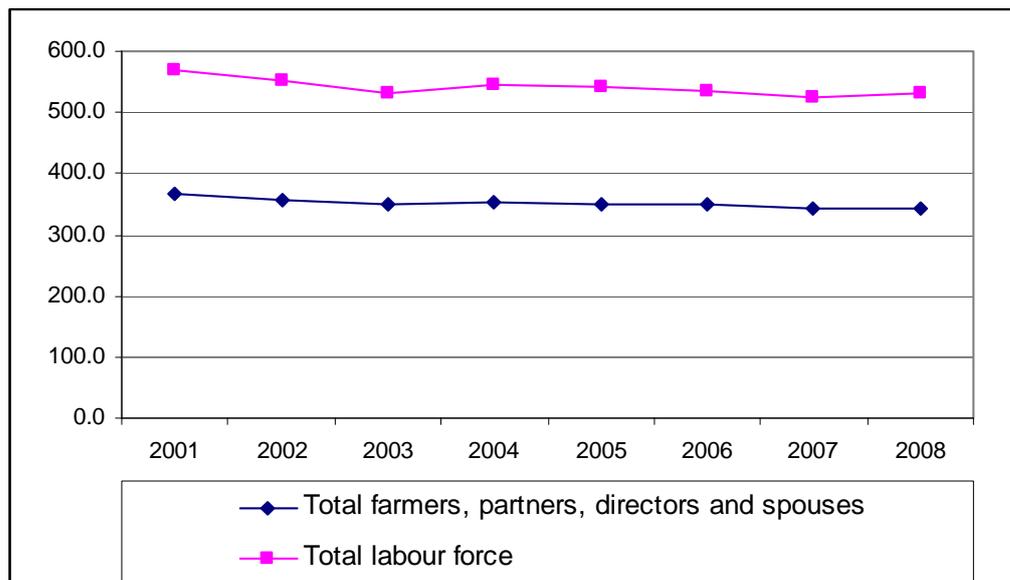
**Figure 4.3.3 Spatial distribution and percentage change in the number of people working in agriculture, 2000 to 2008**



71. The general trend across most parishes has been of declining agricultural workers – especially in parishes around the Southern Uplands, Grampians, North West Highlands and the Islands. There have also been pockets where total agriculture work force has increased – notably the south west of Inverness, the area around Dundee and Perthshire.

72. There is also significant concentration of agricultural workforce in areas around Aberdeenshire, the Central Belt, Dumfries and Galloway and parts of the borders – although in these areas this reflects largely the intensity of farming.

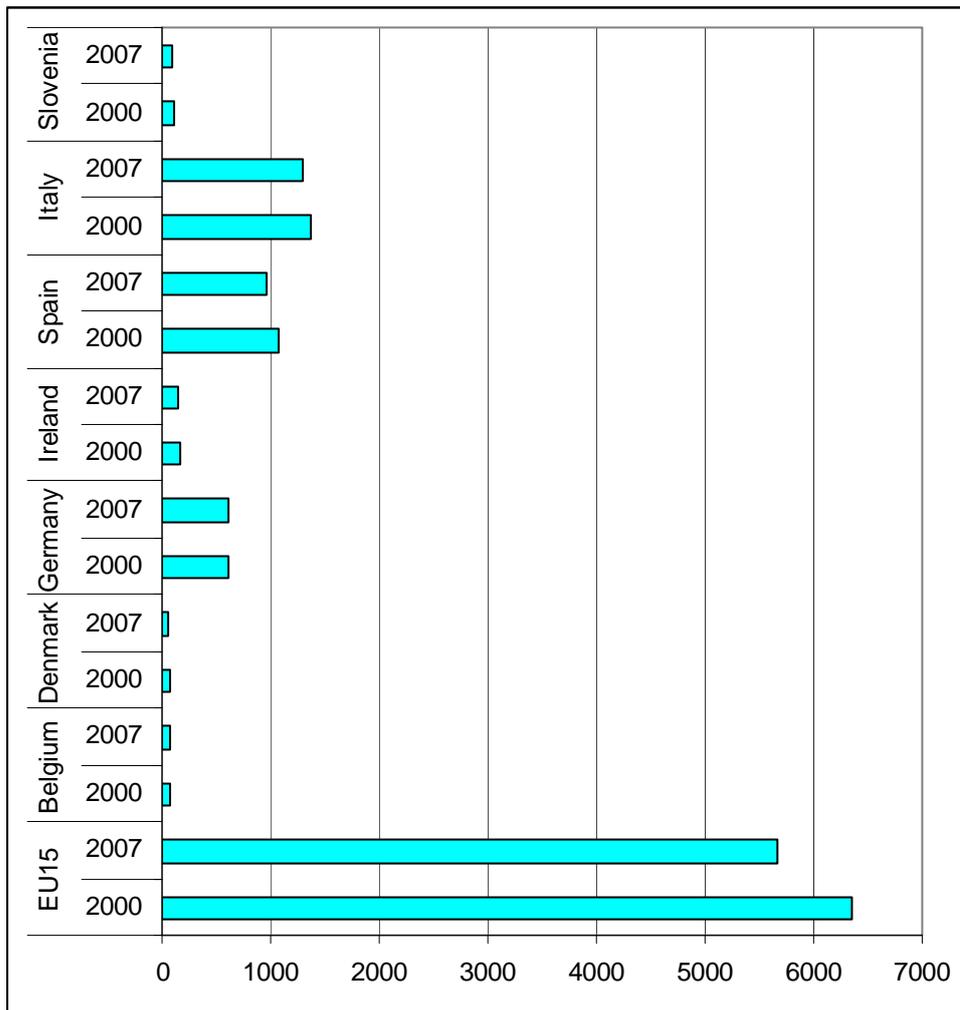
**Figure 4.3.4 Trends in UK labour force in agriculture, 2001 to 2008**



Source: Agriculture in the United Kingdom, 2008

73. At the UK level agriculture labour force has also been declining over the years. Over the period from 2001 to 2008 the total number of working occupiers (total farmers, partners, directors and spouses) fell by around 6% and the total number of people working on farms (i.e. including employees) fell by 7%. Thus the trend in the total number of people working in agriculture in Scotland, does not appear to be very different when compared to the rest of the UK.

**Figure 4.3.5 Trends in EU agriculture labour force (1000 - annual work units), 2000 to 2008**



Source: EUROSTAT

74. Agriculture employment data is available at the EU level for annual labour units – rather the actual number of people working in agriculture. This indicator of agricultural labour force also shows a decline in the employment on farms across the EU.

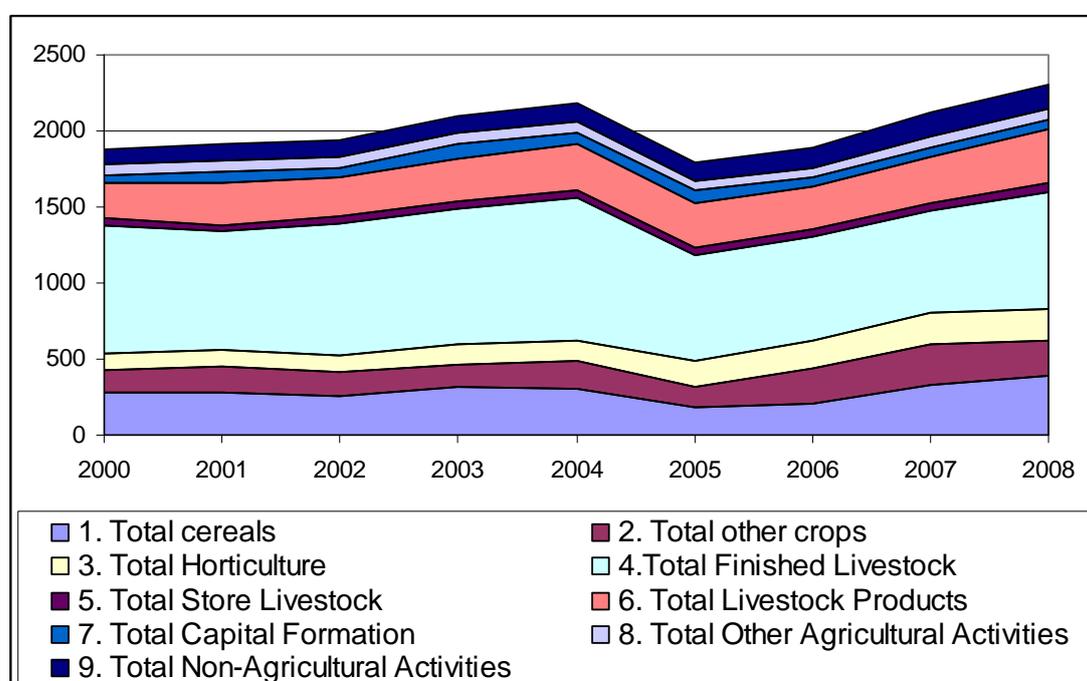
75. For the EU15 total agriculture work units have declined by 10% between 2000 and 2007, however, there is still significant variation across member states. For example, over this period agriculture employment fell by 16% and 12% in Denmark and Ireland, respectively. This compares to a 22% drop in Slovenia, 4% drop in Italy, and 1% drop in Germany.

## 5. TRENDS IN AGRICULTURAL COMMODITY PRODUCTION

### 5.1 Value of output

76. Over the period from 2000 to 2008, the output<sup>8</sup> from Scotland's agriculture has increased by 23% (from £1.9 billion to £2.3 billion). This is despite a sharp fall in output in 2005 following the implementation of the 2003 CAP reforms. As seen in Section 2.1 this decline in output is somewhat artificial – a result of the decoupling from production of direct farm support and hence the exclusion of farm payments from measures of farm output. Between 2004 and 2005 there was a 27% fall in finished livestock output, 39% fall in cereals output and a 24% fall in the output of other crops.

**Figure 5.1.1 Trends in agriculture output and the relative contributions of different sectors, 2000 to 2008 (£ million)**

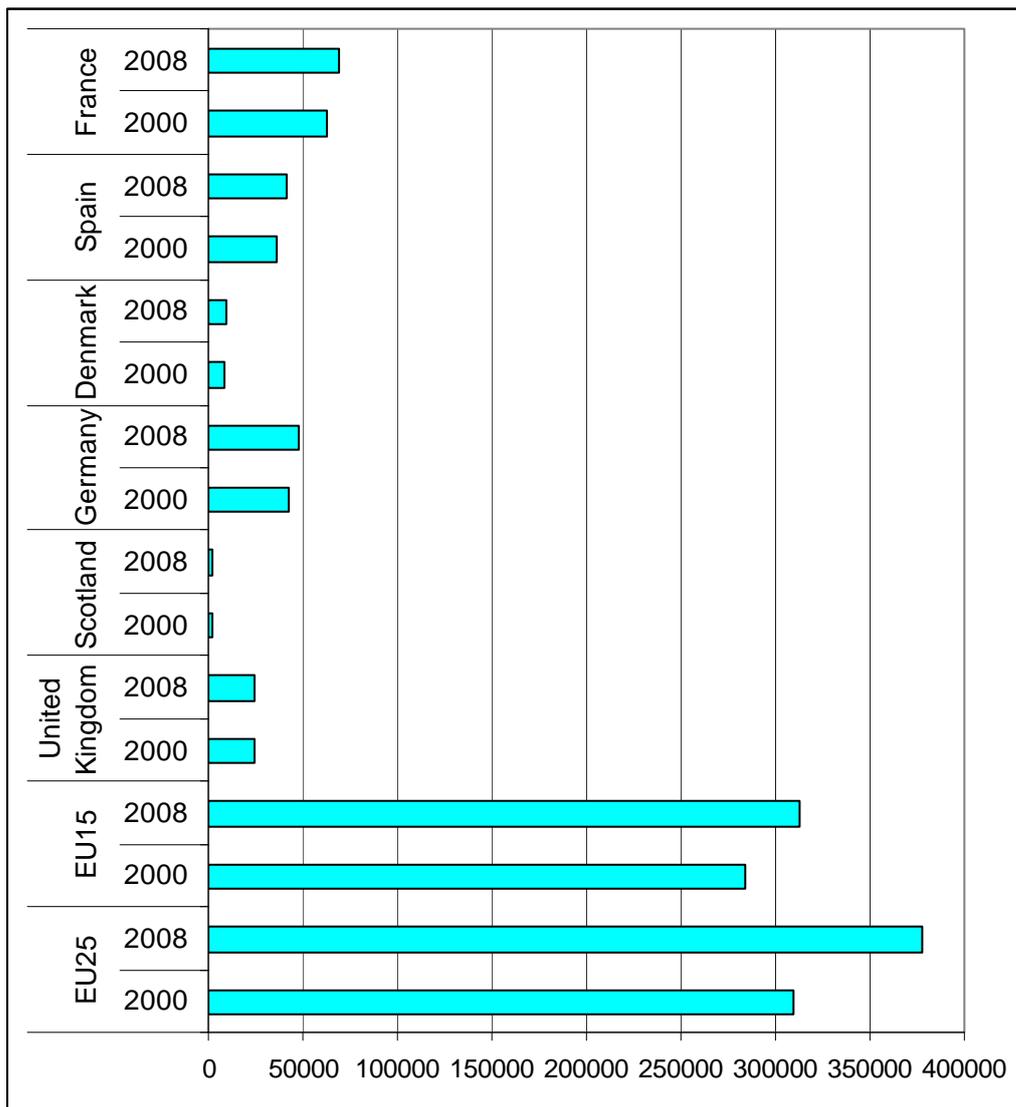


Source: Economic Report on Scottish Agriculture, Various

77. In fact, over this period the value of the output of all agricultural commodities – including total livestock output – has increased once the impact of the change in the definition of agricultural output following the 2003 CAP reforms is accounted for.

<sup>8</sup> NB, this is gross output from agriculture and not gross value added which deducts for gross inputs.

**Figure 5.1.2 Total agricultural output at basic prices, (millions)**

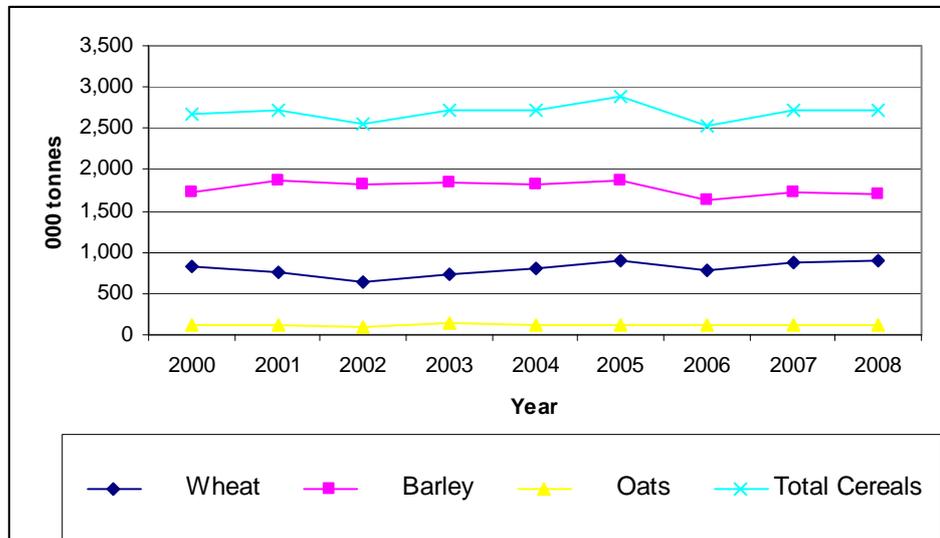


Source: EUROSTAT

78. When compared to other EU Members States, the output of agricultural output (at basic prices) appears to have risen relatively slower in the UK since 2000. Specifically, relative to 2000, the output of agricultural goods in the UK has increased only by 2%. This compares to 10% for the EU15, 21% for the EU25, 13% for Germany, 14% for Denmark and 15% for Germany.

## 5.2 Cereals production and prices

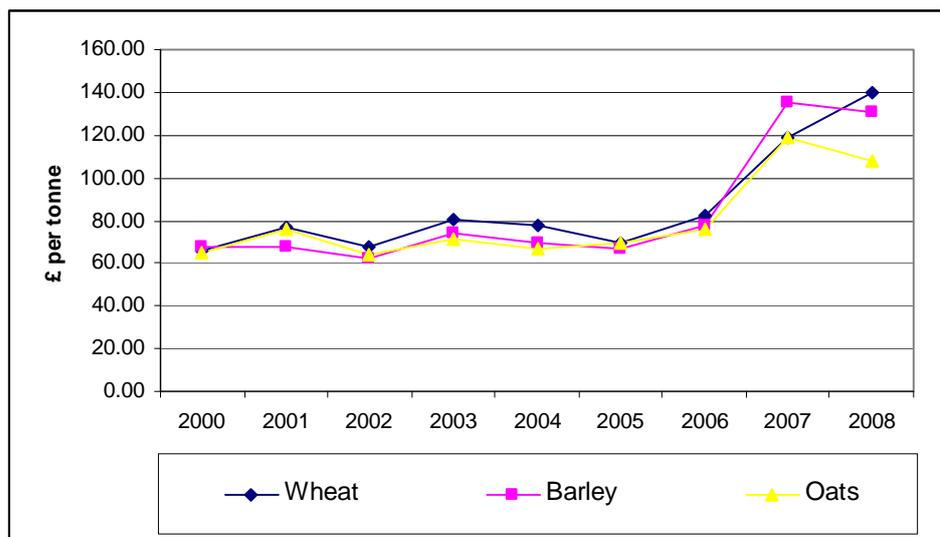
**Figure 5.2.1 Trends in the quantity of cereals produced in Scotland, 2000 to 2008**



Source: Economic Report on Scottish Agriculture, Various

79. While the value of cereals output shows a significant increase over this period, the quantity of cereals produced has only increased slightly – by 2%. In fact, relative to 2000 only the quantity of wheat and oats has increased (by 9% and 1%, respectively); the quantity of barley which makes up the bulk of cereals production has declined by 2% - partly linked to the decline in livestock numbers. Figure 5.2.1 above shows production trends for the key cereal commodities between 2000 and 2008.

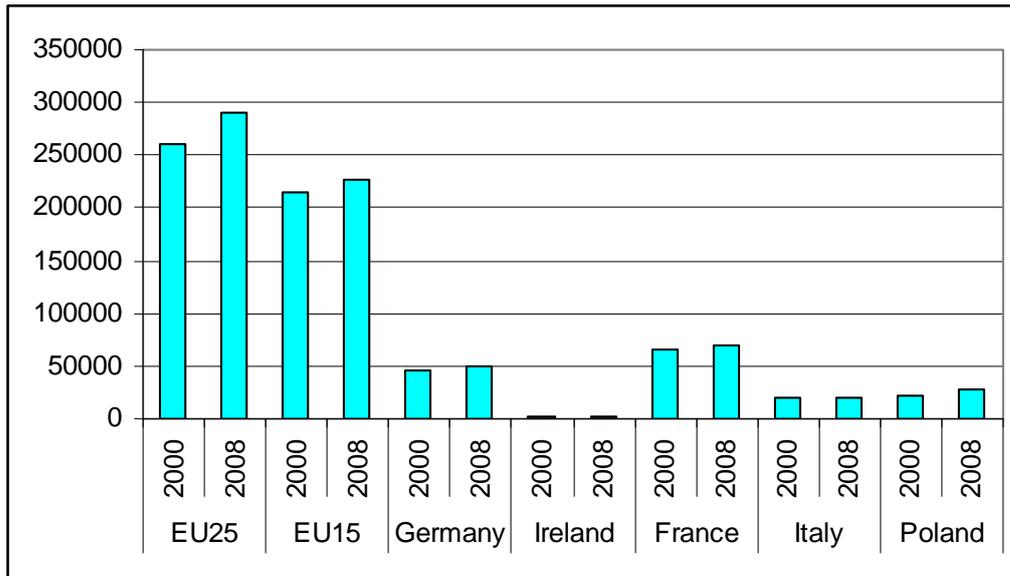
**Figure 5.2.2 Average annual cereals prices, Scotland 2000 to 2008 (£ per tonne)**



Source: Economic Report on Scottish Agriculture, Various

80. The trends in the value of cereal production in Figure 5.1.1 suggest that the increase in the value of output between 2000 and 2008 is largely a result of price increases. Figure 5.2.2 above shows trends in the average annual prices of wheat, barley and oats over this period. Over this period, the average annual price for wheat and barley roughly doubled and the price of oats was up by two thirds – largely due to sharp increases in global commodity prices since 2006.

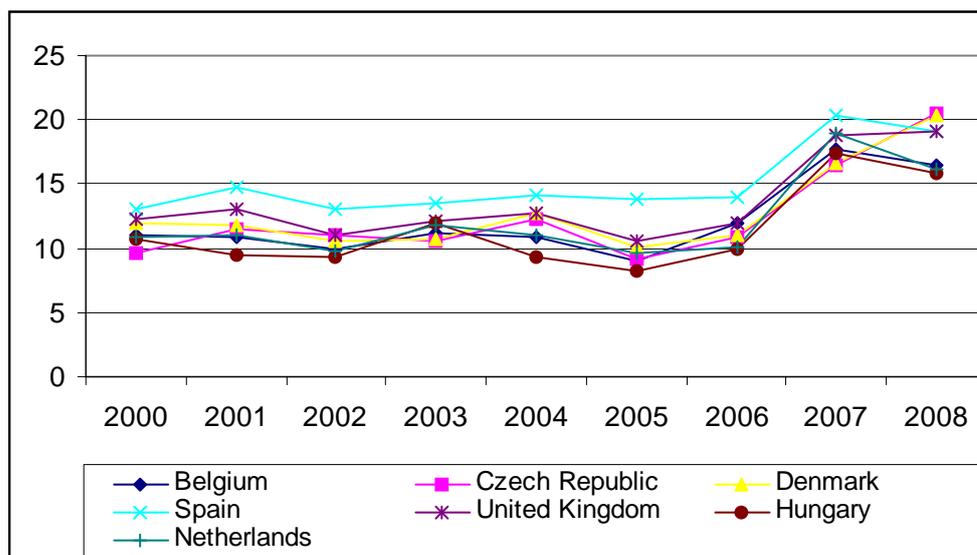
**Figure 5.2.3 Total cereal production for selected EU Member States, 2000 and 2008 (1,000 tonnes)**



Source: EUROSTAT

81. At an EU level, the general trend for cereal output between 2000 and 2008 has been positive. At the EU25 and EU15 levels cereal production has increased by 12% and 6% respectively. At the level of individual member states, cereals production (tonnage) in Germany has increased by 11%, Ireland by 10%, France by 7%, Italy by 5% and Poland 23%.

**Figure 5.2.4 Average annual selling price of soft wheat for selected EU member states, 2000 to 2008 (€per 100kg)**



Source: EUROSTAT

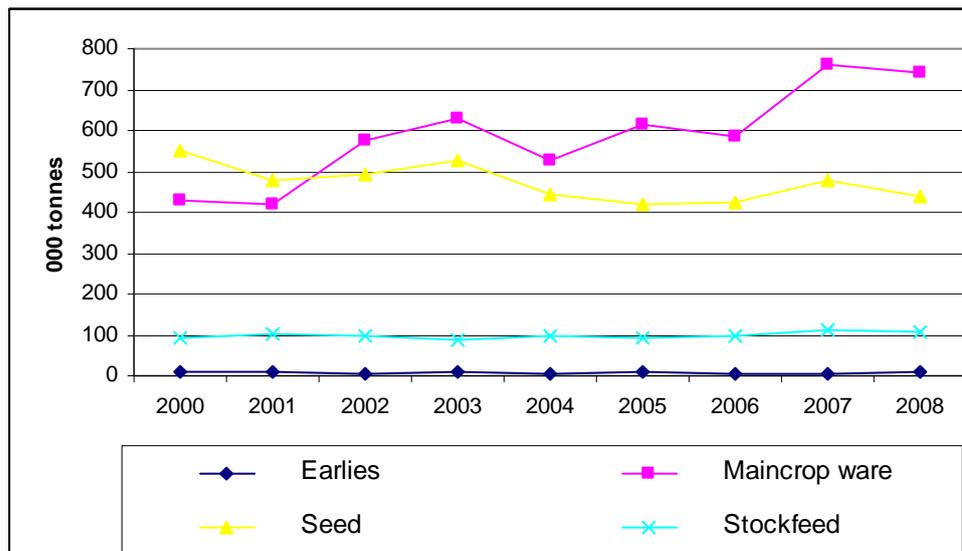
82. The trends in cereal prices among other EU Member States have been similar to that in Scotland or the UK – a positive trend following the sharp increase in prices on global markets. For example, in 2008 selling prices of soft wheat in Belgium were 49% higher relative to 2000, and in the Czech Republic they were over 114% higher.

### 5.3 Other crops production and prices

#### Potatoes

83. Between 2000 and 2008, Scotland's total potato production has increased by 19% (from 1.1 million tonnes to 1.3 million tonnes). The increase in output arises from a 72% increase in the output of ware potatoes (the main crop which comprises 57% of total potato output) and a 15% increase in the output of potatoes going into stock feed. Production of seed potatoes – which accounts for 34% of total potato output - has declined by 21%. The production of early potatoes has also decreased by 36%, although the latter represents less than 1% of total potato production.

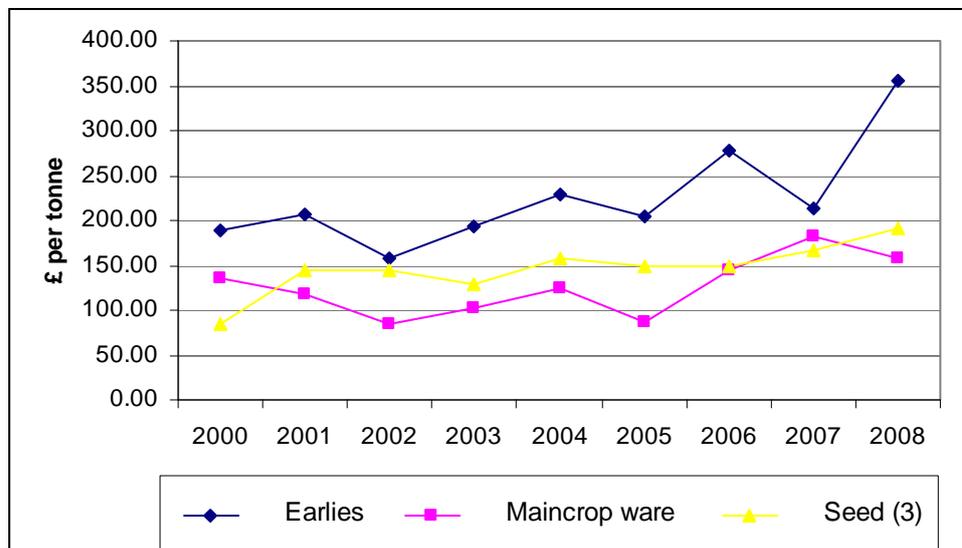
**Figure 5.3.1 Trends in Scottish potato production, 2000 – 2008**



Source: Economic Report on Scottish Agriculture, Various

84. The general trend for potato prices has been a positive one for all potato types. Relative to 2000 the price of early potatoes has increased by 89%, the price of ware potatoes by 16% and the price of seed potatoes by 126%.

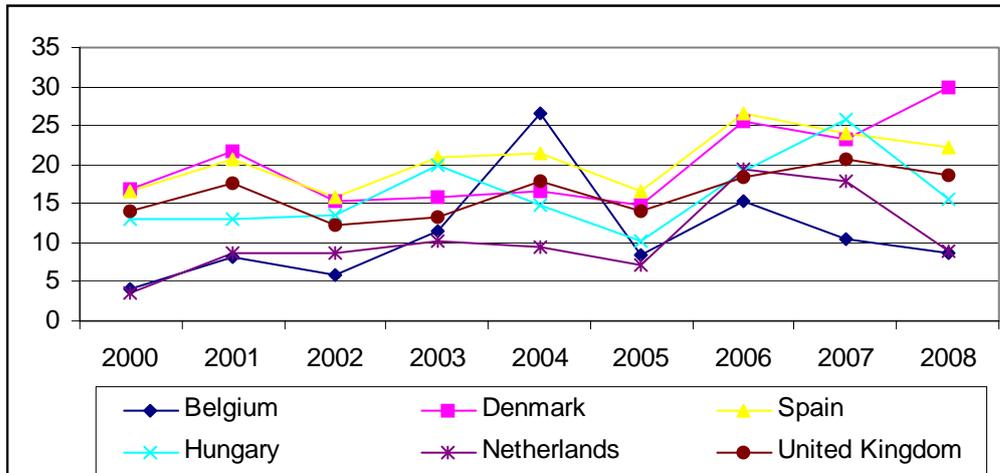
**Figure 5.3.2 Trends in Scottish potato prices, 2000 to 2008**



Source: Economic Report on Scottish Agriculture, Various

85. At an EU level potato prices have also been rising across almost all of the Member States and in some cases the percentage increases are much higher than the trends seen in Scotland. Figure 5.3.3 below shows trends in main crop (ware) potato prices for selected EU member states. For example, in Belgium the price of main crop potatoes was 112% higher in 2008 when compared to 2000, in Denmark 78%, Hungary 19%, Spain 33%, Netherlands 157% and United Kingdom 32%.

**Figure 5.3.3 Selling prices of main crop potatoes, selected EU member states, 2000 and 2008 (€ per 100kg)**

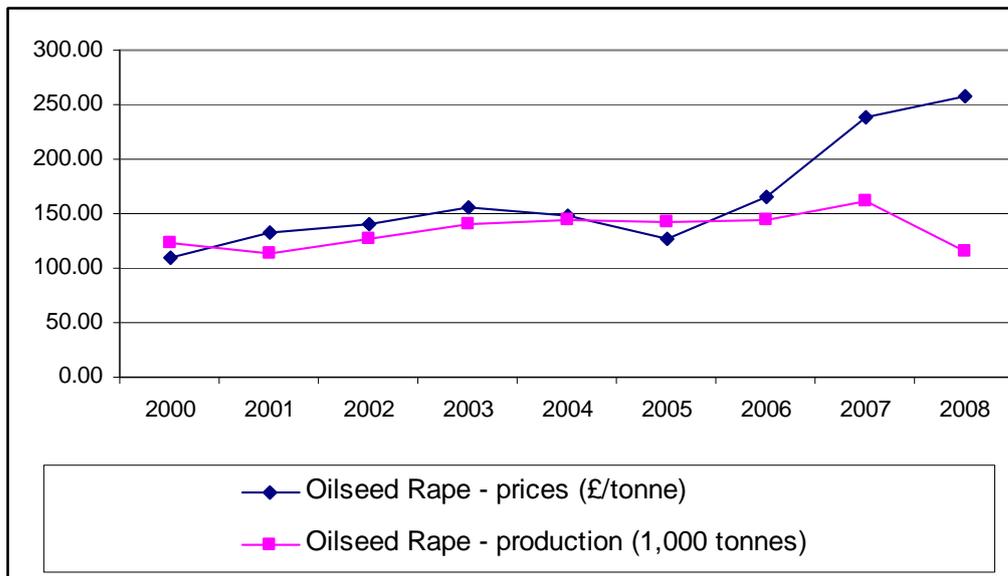


Source: EUROSTAT

### Oilseed rape

86. Between 2000 and 2008 Scottish production of oilseed rape has declined by around 6% (from around 123,000 tonnes to around 115,000 tonnes) – largely due to the decline in area planted with the crop. Over the same period, however, the price of oilseed rape has increased from an average of around £110 per tonne to £258 per tonne.

**Figure 5.3.4 Oilseed rape production and prices, 2000 to 2008**



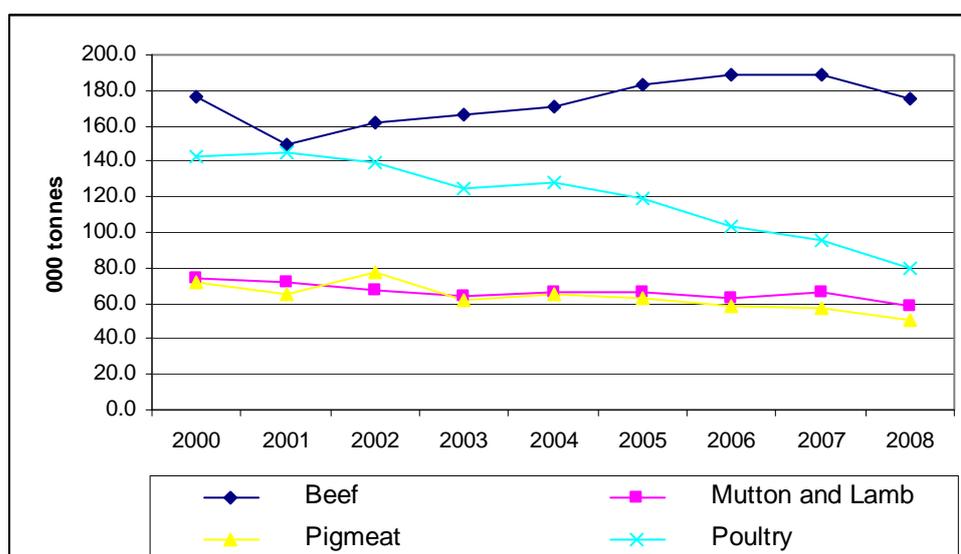
Source: Economic Report on Scottish Agriculture, Various

## 5.4 Livestock products

87. The trends in livestock production in Scotland between 2000 and 2008 have been negative across all the key meat sectors – beef, sheep, pig and poultry. The largest drops in production have been in the pig and poultry sectors, both of which have not been supported by the CAP – thus the data purely reflect market trends for these sectors. Between 2000 and 2008, pigmeat and poultry meat production has declined by 30% and 44%, respectively.

88. In the sheep sector, production of lamb and mutton has dropped by 21% to 58,700 tonnes (dressed carcass weight of finished Scottish sheep). Considering that breeding ewe numbers have dropped by as much as 25%, these figures suggest some increase in the average yield per ewe – to some extent reflecting the fact that decline in ewe numbers has been concentrated in the least productive areas.

**Figure 5.4.1 Trends in Scottish livestock production, 2000 to 2008**



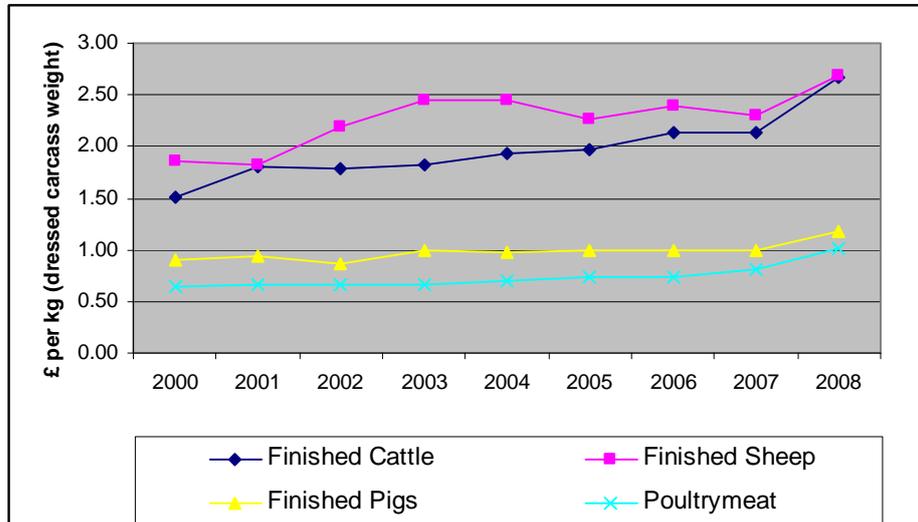
Source: Economic Report on Scottish Agriculture, Various

89. In the beef sector, production of meat in Scotland has more or less remained unchanged over the period from 2000; it has only dropped by 1%. This is despite a 10% drop in the size of the beef suckler cow herd. While these figures also suggest an increase in yields in the beef sector, it is important to note these figures also include imported cattle from other parts of the UK that are slaughtered in Scotland.

90. The trend in beef production may also reflect the increase in the number of cattle being slaughtered from the breeding herd (notably heifers) and hence the decline in the size of the suckler cow herd. The period from 2000 to 2008 also coincides with the end of the Over Thirty Months Scheme, which would have increased the availability in Scotland of food grade cattle available for slaughter. These factors suggest that care needs to be taken when looking at

the relationship between beef production in Scotland and the size the suckler cow herd.

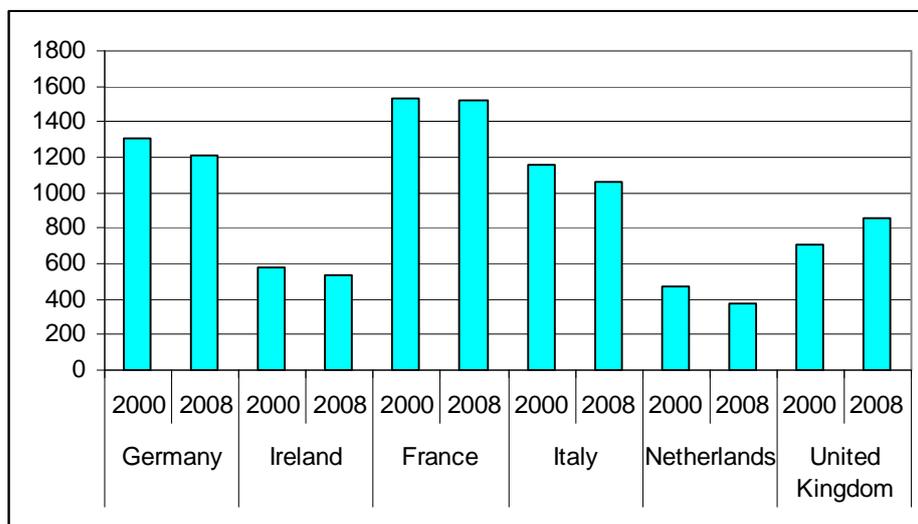
**Figure 5.4.2 Trends in Scottish prices for livestock products, 2000 to 2008**



Source: Economic Report on Scottish Agriculture, Various

91. Over the period from 2000 to 2008 Scottish livestock prices have been rising across all the key commodity sectors. Beef prices rose steadily between 2001 and 2003 before dropping slightly. There was a further increase in beef prices following the lifting of the ban imposed on UK beef exports following cases of BSE in 1996. The last year has seen, an even steeper increase in prices – partly reflecting the weakening of the pound against the euro but also the tightening of beef production due to falling cattle numbers and the ban on Brazilian beef imports due to traceability concerns.

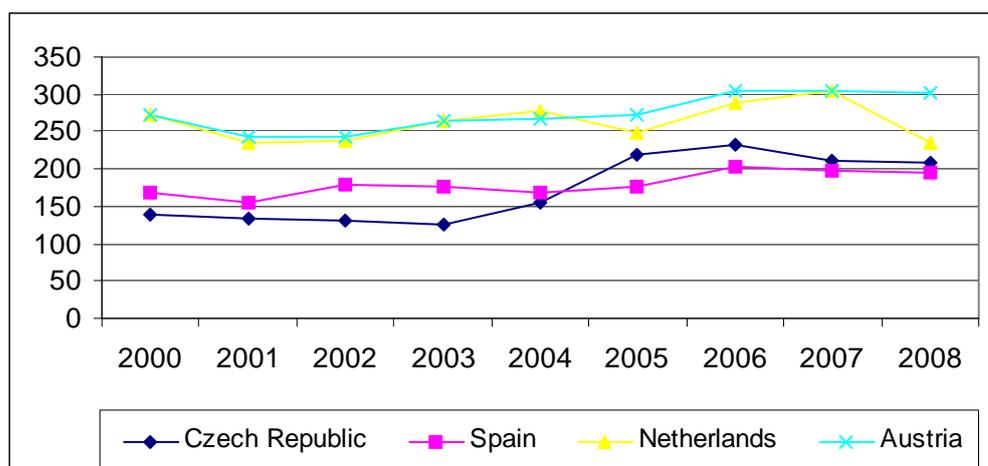
**Figure 5.4.3 Total production of meat: cattle for selected EU member states, 2000 and 2008 (1000t carcass weight)**



Source: EUROSTAT

92. At an EU level, the UK is one of very few Member States where beef production has increased over the period from 2000 to 2008 (i.e. by 22%). Partly, this is due to the end of the Over Thirty Months Scheme which increased the availability in UK of food grade cattle available for slaughter. In most of the beef producing EU member states production has been falling. For example, in the Netherlands gross beef production fell by 20%, in Germany by 7%, in Ireland by 7%, Italy by 8% and France by 1%.

**Figure 5.4.4 Trends in selling prices of calves, selected countries, 2000 to 2008 (€per 100kg of live weight)**

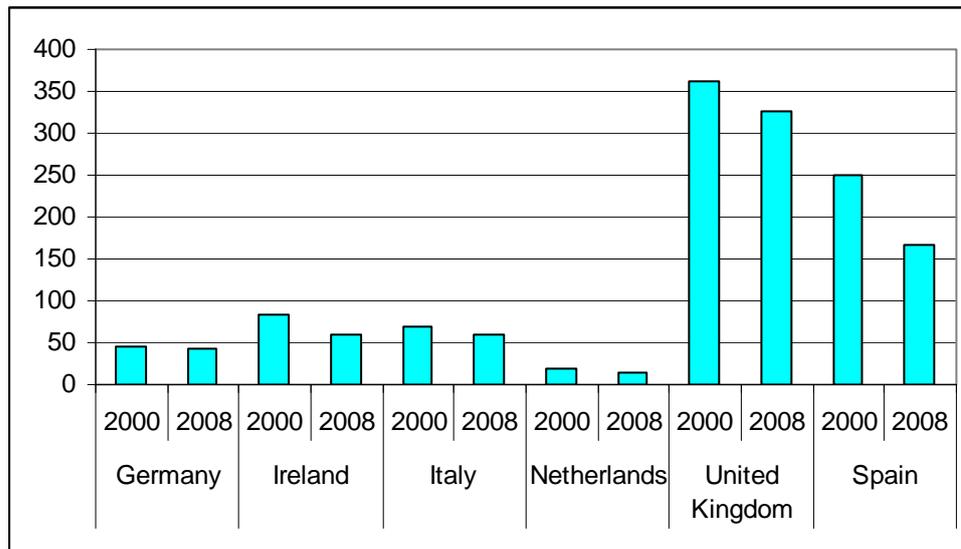


Source: EUROSTAT

93. The general trend in EU prices of calves over this period has been positive. For example, for some of the Member States for which complete data is available – Czech Republic, Spain and Austria beef prices have risen by 34%, 13% and 10%, respectively. In Netherlands, however, prices of calves were lower in 2008 when compared to 2000, largely a result of a fall in prices between 2007 and 2008. The rising prices partly reflects the contraction in production and ultimately supply within the EU, especially if taken along with the fall in Brazilian beef imports due to an EU ban over traceability issues.

94. In the sheep sector, the trend in Scotland has been very similar to that on the continent. Across the EU, sheepmeat (including goatmeat) production has been falling. One of the largest declines in production has been in Spain and Ireland where sheepmeat production in 2008 was 34% and 29% less, respectively, when compared to 2000. In Italy production was 14% less, the Netherlands 20% and Germany 3%. This compares to a 10% fall for the UK.

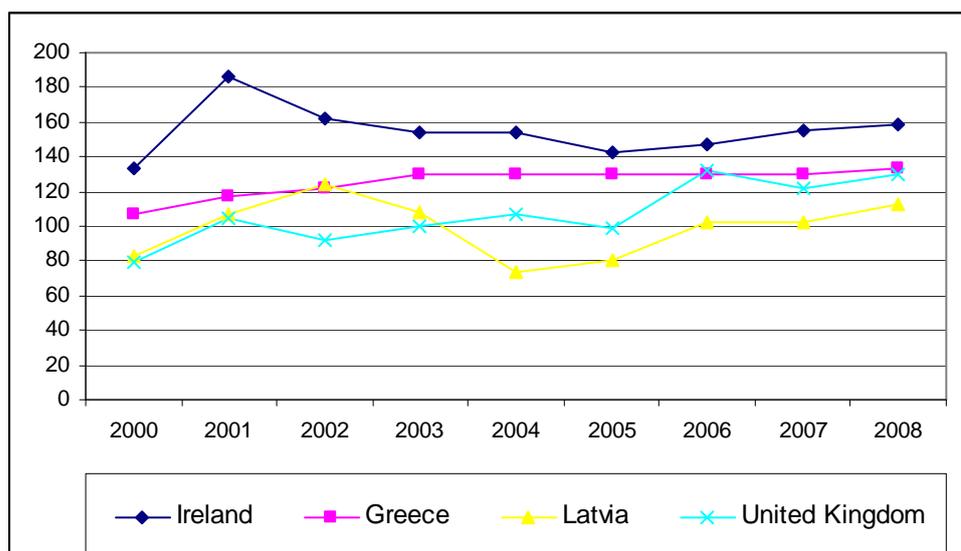
**Figure 5.4.5 Production of meat: sheep and goat, selected EU Member States, 2000 to 2008 (1000 t carcass weight)**



Source: EUROSTAT

95. While production has been falling, the trend in sheepmeat prices has been a positive one across most of the EU. For example, in Ireland sheep prices have increased by around 19% between 2000 and 2008, in Greece by 24% and the United Kingdom by 65%. In Ireland, however, prices are around 15% lower than they were at the peak in 2001.

**Figure 5.4.6 Trends in selling prices of sheep, selected EU member states, 2000 to 2008 (€ per 100kg)**

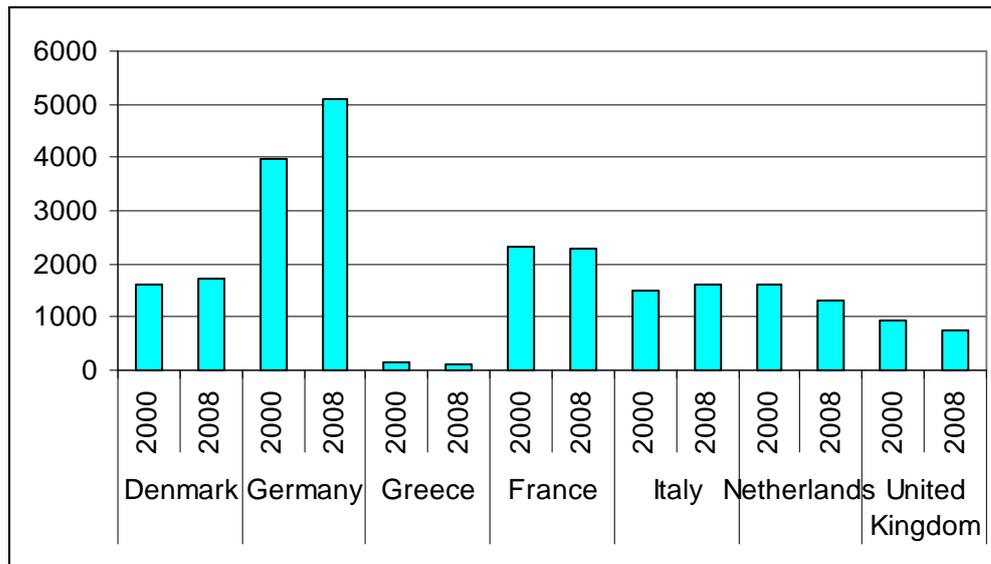


Source: EUROSTAT

96. With the exception of Greece and Ireland where prices of fattening lambs rose by 22% and 18% respectively, the increases in prices in the older member states over this period have largely been moderate. In Spain and the UK they have risen by 9%, the Netherlands 1.3% and Denmark by 0.1%.

97. While Scotland's pigmeat production has seen a sustained decline since 2000, the picture at an EU level is very much mixed – with production having increased in some member states while declining in others. For example, in Denmark pigmeat production has increased by 5%, in Germany by 28% and Italy by 8%. In France pigmeat production has declined by 2%, in Greece by 16%, the Netherlands 19% and the United Kingdom 20%.

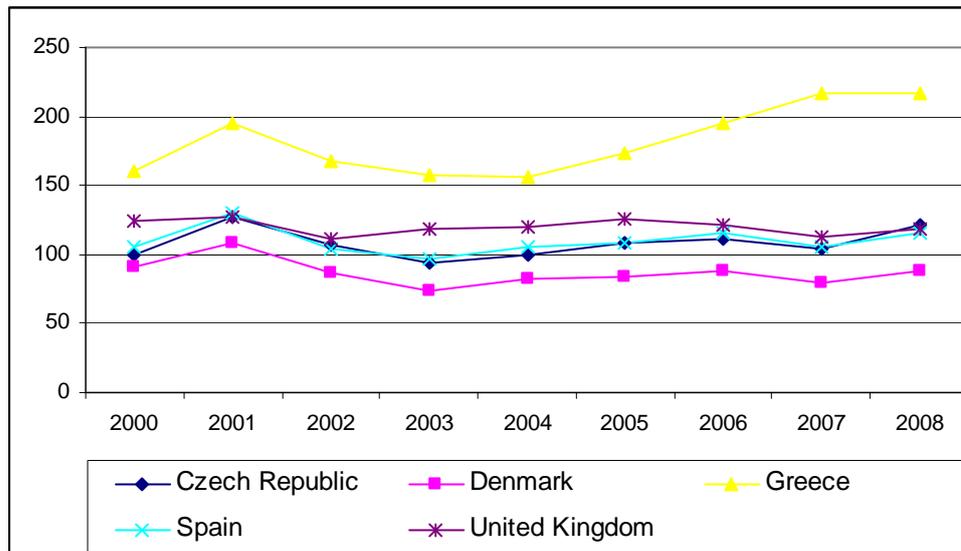
**Figure 5.4.7 Total meat production:pig, selected EU Member States, 2000 and 2007 (1000t carcass weight)**



Source: EUROSTAT

98. The EU trends in pigmeat prices have been mixed, with some member states having lower prices in 2008 when compared to 2000 and others higher prices. For example, Figure 5.4.8 shows that pig prices in the United Kingdom and Denmark were lower in 2008 relative to 2000, while in the Czech Republic, Greece and Spain they were significantly higher. It is important, however, to note the fluctuation in EU pigmeat prices over this period more-or-less follows a similar pattern for the member states represented in Figure 5.4.8 – the typical pig market cycle.

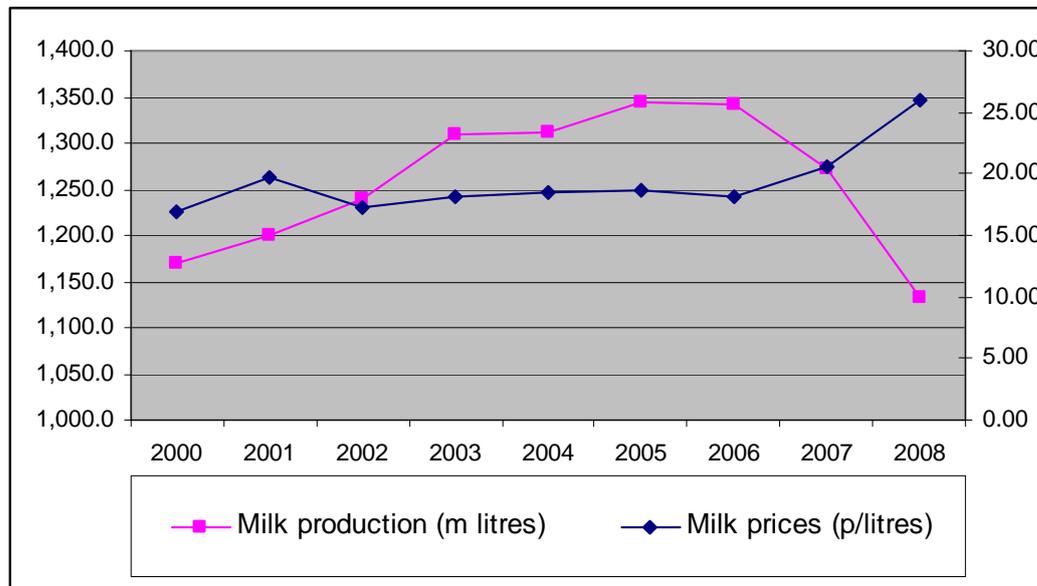
**Figure 5.4.8 Trends in selling prices of pigs (light), selected EU member states, 2000 to 2008 (€ per 100 kg)**



Source: EUROSTAT

99. While in 2008 Scotland's dairy (milk and milk products) farm production was only 3% lower relative to 2000, it has declined by 16% relative to the peak output of 2005 – with the steepest annual decline (-10%) over this period occurring between 2007 and 2008.

**Figure 5.4.9 Milk production (including milk products) and milk prices, 2000 and 2008**

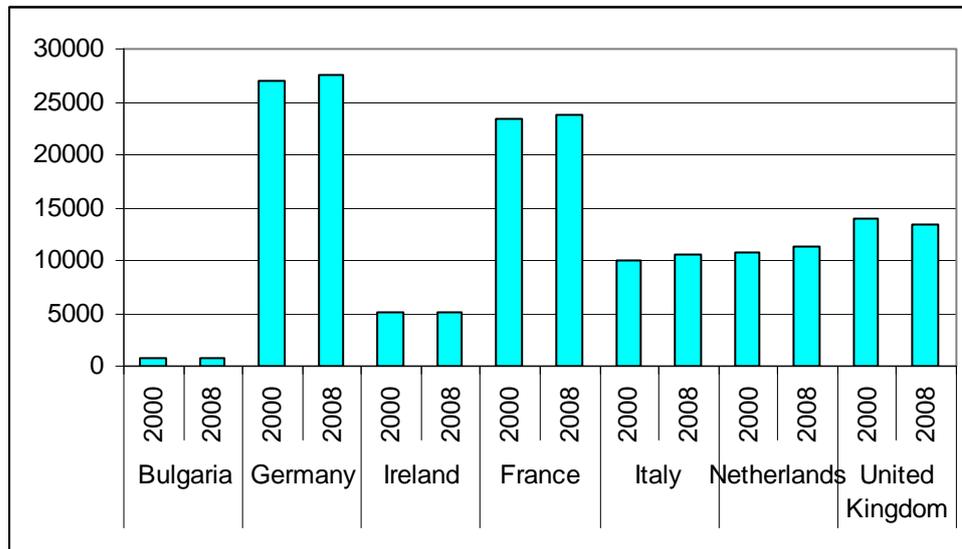


Source: Economic Report on Scottish Agriculture, Various

100. While production has declined, prices have risen by around 52% between 2000 and 2008, with a fairly steep rise occurring between 2006 and 2008 due to global increases of prices of dairy commodities as a result of

short term lack of availability in some of the main suppliers of dairy commodities on the world market. Despite the strong rise in prices, production did not respond positively due to the sharp rise in input costs (feed, fuel and fertiliser) over this period.

**Figure 5.4.10 Trends in collection of cows milk, selected EU member states, 2000 to 2008 (1,000 tonnes)**

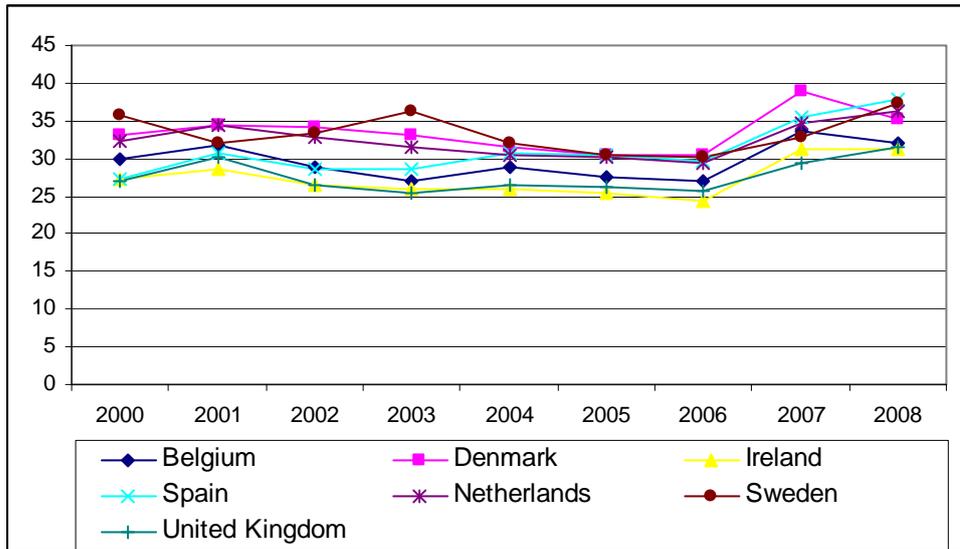


Source: EUROSTAT

101. At the EU level the general trend has been of rising milk production, especially amongst the older member states. For example, between 2000 and 2008 gross milk production in Germany and France rose by 2%, Italy by 4% and the Netherlands by 5%. However, the Republic of Ireland saw a decline of 1% and the UK a decline of 4%, and in the UK production has largely been below quota over this period.

102. Until 2006, the general trend in the EU dairy market had been of falling milk prices. However, 2007 prices across most member states were significantly higher when compared to 2000. For example, in Belgium 2008 prices were 7% higher relative to 2000, in Denmark 6% higher, Ireland 14%, Spain 39% and the Netherlands 13%. Again, these increases reflect the sharp increase in prices seen on the world market between 2006 and 2008. And for some of the EU member states in Figure 5.4.11 prices in 2008 were in fact lower than 2007, partly reflecting the short term nature of some of the drivers for the sharp increases in milk prices between 2006 and 2007.

**Figure 5.4.11 Trends in selling prices of raw cows' milk, selected EU member states, 2000 to 2008 (€per 100kg)**



Source: EUROSTAT

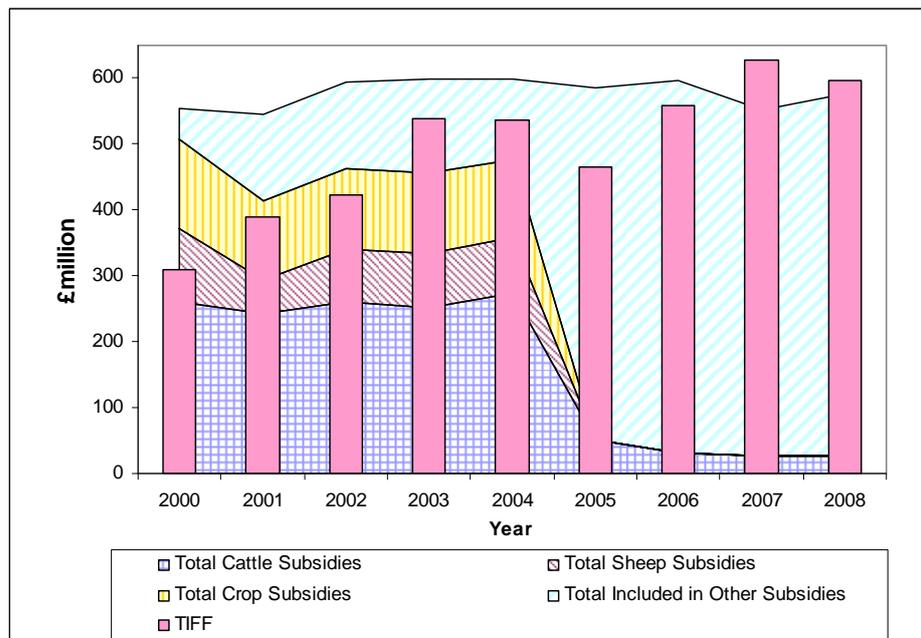
## 6. PROFITABILITY AND FARM INCOMES

103. A standard aggregate measure of profitability in agriculture in Scotland is Total Income from Farming (TIFF). It measures business profits plus income to workers with an entrepreneurial interest in agriculture. In 2008 Scotland's TIFF was estimated at £629.6 million having increased 161% from £241.1 million in 2000 (see Figure 5.1.1).

104. Compared to the mid 1990s aggregate farm incomes remain relatively low. The fall from 1995-98 was primarily due to a strong pound, weak world commodity prices and the impact of BSE (Bovine Spongiform Encephalopathy) and then Foot and Mouth Disease. Since 1998, in real terms, Total Income from Farming ( TIFF) has recovered to two-thirds of the 1995 peak.

105. While Scotland's TIFF is positive, suggesting the industry is overall profitable, Figure 6.1.1 shows the extent to which the industry is heavily dependent on subsidies and other support payments. For example, in 2008, total subsidies and support payment to Scottish agriculture amounted to £578.2 million or 92% of TIFF. This is however an improvement when compared to say the year 2000 when TIFF was estimated at £241.1 million and total subsidies and support payments amounted to £456.8 million or 189% of TIFF.

**Figure 6.1.1 Trends in Total Income from Farming and agriculture support, 2000 to 2008**

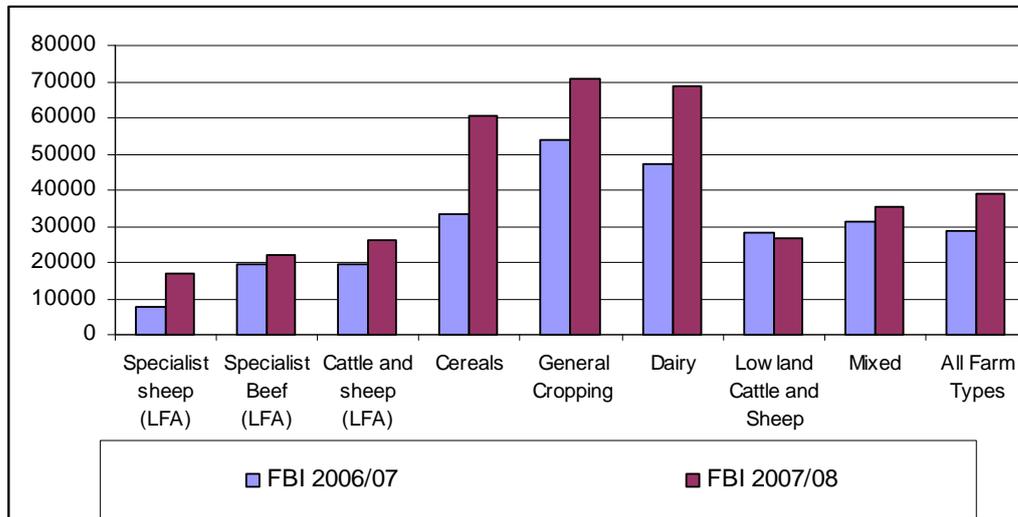


Source: Scottish Agriculture Output, Input and Income Statistics

106. At the farm business level, profitability varies significantly by farm type. Figure 6.1.2 below shows variations in farm business income, a measure of returns to the farm business which includes income from diversified activities,

includes net interest payments and treats farm tenure as is. It shows variation in farm business income by farm type. Particularly, farm business income tends to be very low for the LFA farm types (specialist beef, specialist sheep and cattle and sheep) – especially when compared to cereals, general cropping and dairy.

**Figure 6.1.2 Farm Business Income by Farm Type, 2006/07 to 2007/08**



Source: Scottish Government, Farm Income Estimates, 2009

107. A striking feature of Scottish agriculture (already seen from Figure 6.1.1) is the extent to which the industry is dependent on support payments and subsidies. Table 6.1.1 below, however, shows that this dependency on subsidies varies considerably by farm type. For example, whereas the cereal, general cropping and dairy farms will derive, on average, between 46% to 59% of the farm business income from support payments and subsidies, for the LFA farm types support payments and subsidies account for as much as between 184% and 211% to farm business income. This shows, without support payments and subsidies, a significant part of Scottish agriculture, especially the ruminant livestock sector, would not be viable.

**Table 6.1.1 Farm Business Income and Subsidy Payments per Farm by Farm Type, 2007/08**

	2007/08		
	Farm Business Income (£)	Subsidy & Payments (£)	Subsidy as % of Farm Business Income
Specialist sheep (LFA)	16,905	31,165	184%
Specialist Beef (LFA)	22,241	46,642	210%
Cattle and sheep (LFA)	26,243	55,463	211%
Cereals	60,478	35,661	59%
General Cropping	70,518	37,568	53%
Dairy	68,532	31,450	46%
Lowland Cattle and Sheep	26,441	37,044	140%
Mixed	35,229	45,042	128%
All Farm Types	39,219	41,182	105%

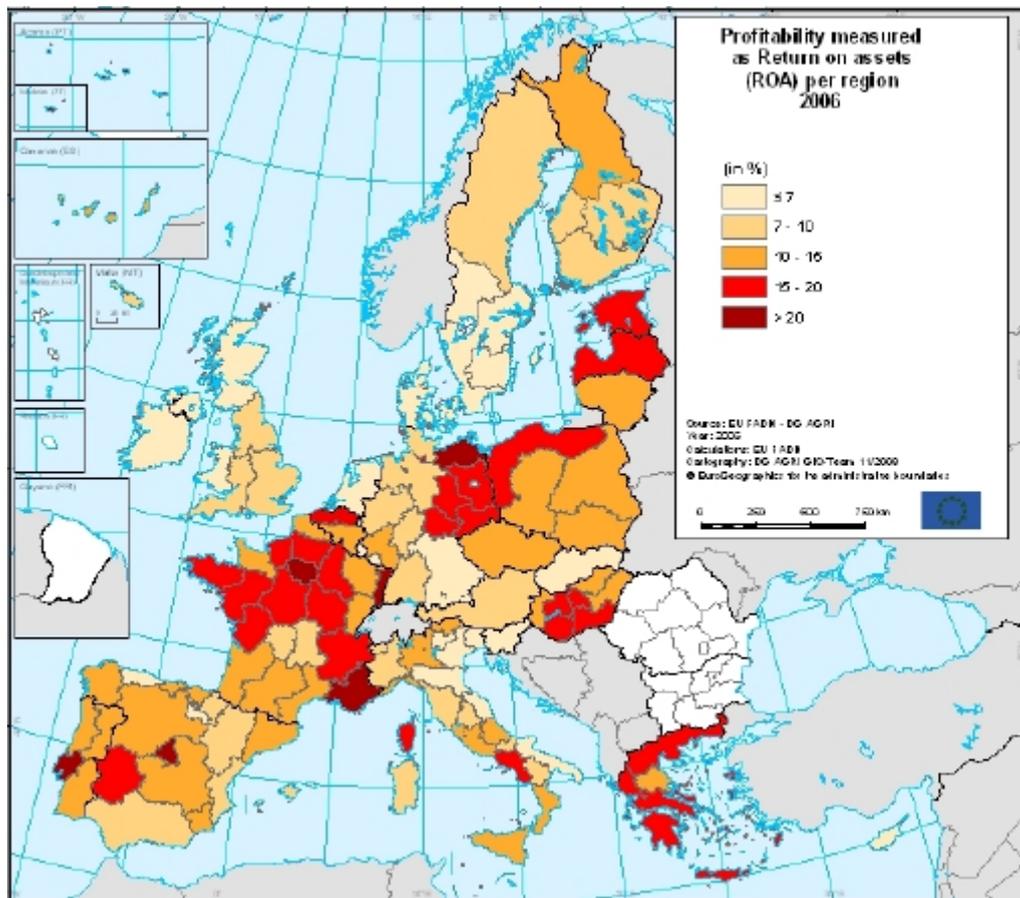
Source: Scottish Government, Farm Income Estimates, 2009 and Farm Incomes in Scotland 2009

108. Another indicator of profitability published by the European Commission is “return on assets” and this measures how profitable a company’s assets are in generating revenue.<sup>9</sup> Based on return on assets, the profitability of farm businesses in Scotland (along with Wales and Northern Ireland) – estimated below 7% - is amongst the lowest in the UK and across the EU (see Figure 6.1.3 below). Estimated at between 7% and 10%, return on assets in England is highest for the UK.

109. In other regions of the EU profitability (as measured by return on assets) rises above 20% in parts of France, Germany and Portugal. For much of Europe it ranges between 10% and 20%. Examples include returns on assets of 15% to 20% for parts of France, Germany and Poland; and 10% to 15% for the majority of Poland and also parts of Italy and Spain.

<sup>9</sup> [http://ec.europa.eu/agriculture/analysis/fadn/reports/report\\_2006.pdf](http://ec.europa.eu/agriculture/analysis/fadn/reports/report_2006.pdf)

**Figure 6.1.3 Farm profitability measured as return on assets per EU region, 2006**



Source: European Commission, DG Agriculture