



Agriculture, Fisheries and the Rural Economy Debate on 2 November 2017

Summary

On Thursday 2 November 2017, the House of Lords is due to debate a motion moved by the Earl of Lindsay (Conservative) “that this House takes note of the new opportunities and challenges for agriculture, fisheries and the rural economy in the United Kingdom”.

Although relatively smaller than other sectors of the economy, agriculture and fisheries represent important industries in the UK. The Department for Environment, Food and Rural Affairs states that the agri-food sector’s contribution to national Gross Value Added was £110.4 billion in 2015 and that in Q1 2017 it employed 3.9 million people, or 13.1 percent of national employment. In 2016, agriculture (as opposed to the wider agri-food sector) in the UK accounted for 1.35 percent of the workforce. There was strong regional variation, with the figure being 1.02 percent for England, 2.31 percent for Scotland, 3.63 percent for Wales and 5.5 percent for Northern Ireland. In 2016, there were 11,757 fishermen according to figures by the Marine Management Organisation. Of these, 5,306 were based in England, 753 in Wales, 4,823 in Scotland and 875 in Northern Ireland. On the rural economy, DEFRA stated that in 2015/16 there were 537,000 businesses registered in rural areas, accounting for 24 percent of all registered business in England. These employed 3.5 million people, or 13 percent of those employed by registered businesses in England. The UK’s decision to leave the EU will have a significant effect on agriculture and fisheries, and in turn the rural economy. This is in part through the UK’s expected withdrawal from the Common Agricultural Policy and its withdrawal from the Common Fisheries Policy. However, recent House of Lords European Union Committee reports have also examined the potential risks and opportunities associated with a changing trade relationship with the EU and the effect of possible changes to freedom of movement rights. The post withdrawal trade relationship is still uncertain and subject to negotiation. The Government published the second Climate Change Risk Assessment on 18 January 2017. This examined some of the risks and opportunities associated with a changing climate in the UK. This briefing also looks at this issue and how it might relate to agriculture.

This briefing sets out statistics on agriculture, fisheries and the rural economy. It then explores recent commentary on some of the opportunities and challenges for each sector through considering the findings of committee reports. These issues are complex and uncertain and so it is not an exhaustive exploration of these issues. Further reading is provided for each sector discussed.

Table of Contents

1. Selected Economic Indicators

1.1 Agriculture

1.2 Fisheries

1.3 Rural Economy

2. Future Challenges and Opportunities

2.1 UK’s Withdrawal from the EU

2.2 Climate Change

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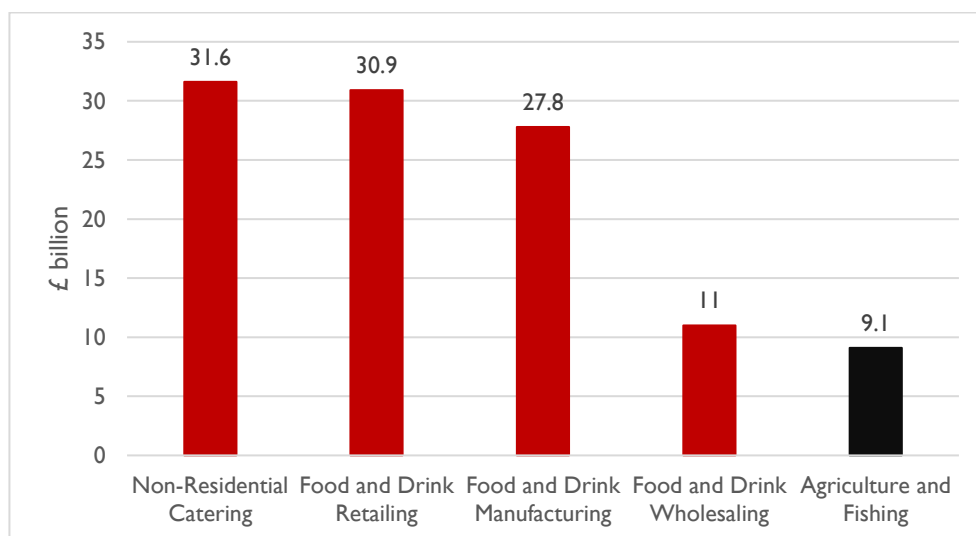
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I. Selected Economic Indicators

I.1 Agriculture

The World Bank has estimated that agriculture's net output was 3.8 percent of the world's gross domestic product (GDP) in 2015.¹ This represents a decline from 8.0 percent in 1995. For the UK, the World Bank estimates this figure at 0.6 percent for 2015. This is a decline from 1.4 percent in 1995.² In 2016, the utilised agricultural area as a proportion of the UK's total area was 71 percent, having generally declined from 75 percent since 1984.³ DEFRA's *Food Statistics Pocketbook 2017* (19 October 2017) provides statistics on the agri-food sector. This includes agriculture and fishing alongside food and drink manufacturing, food and drink wholesaling, food and drink retailing, and non-residential catering.⁴ DEFRA states that the agri-food sector's contribution to national Gross Value Added (GVA) was £110.4 billion in 2015 and that in Q1 2017 it employed 3.9 million people, or 13.1 percent of national employment. Chart 1 shows that agriculture and fishing were the smallest element of the agri-food sector's contribution to GVA in 2015.

Chart 1: Gross Value Added of the UK Agri-Food Sector, 2015



(Source: Department for Environment, Food and Rural Affairs, '[National Statistics: Food Statistics in Your Pocket 2017: Summary](#)', 19 October 2017)

¹ "Agriculture corresponds to ISIC divisions 1–5 and includes forestry, hunting, and fishing, as well as cultivation of crops and livestock production. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. It is calculated without making deductions for depreciation of fabricated assets or depletion and degradation of natural resources" (World Bank, 'Agriculture, [Value Added \(Percent of GDP\)](#)', accessed 20 October 2017).

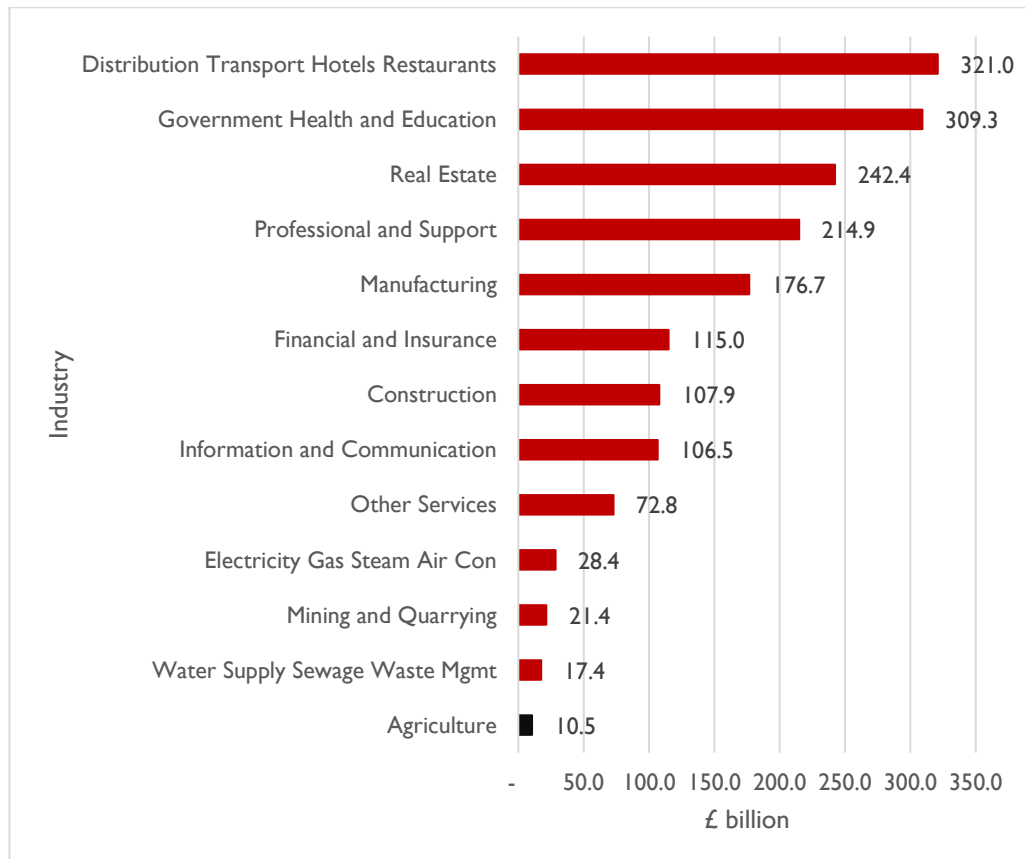
² *ibid.*

³ Department for Environment, Food and Rural Affairs, '[Agriculture in the United Kingdom Data Sets](#)', last updated 17 July 2017, accessed 20 October 2017, chapter 2, table 2.1.

⁴ Department for Environment, Food and Rural Affairs, '[National Statistics: Food Statistics in Your Pocket 2017: Summary](#)', 19 October 2017.

Chart 2 shows agriculture’s gross value added (which includes: Crop and animal production, hunting and related service activities; Forestry and logging; and Fishing and aquaculture) compared with other industries. It indicates that agriculture’s contribution to the UK’s GVA was relatively smaller when compared to other sectors in 2016.

Chart 2: Breakdown of Gross Value Added, by Industry, 2016, United Kingdom



(Source: Office for National Statistics, ‘[UK GDP\(O\) Low Level Aggregates](#)’, 25 October 2017)

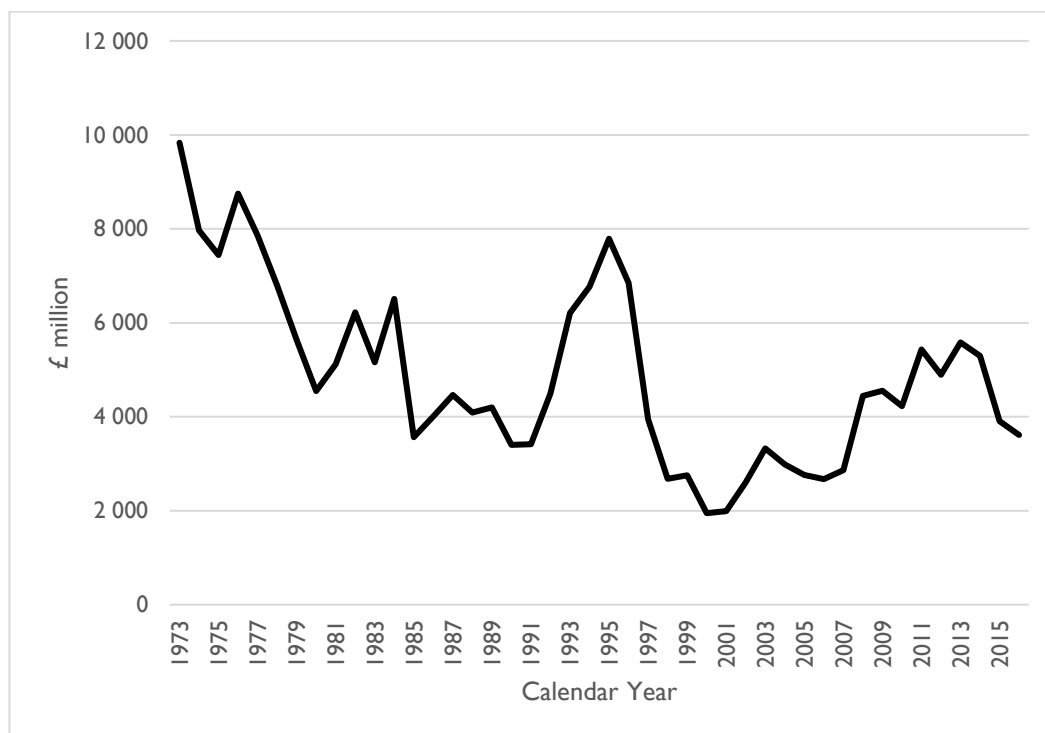
DEFRA publishes data on the aggregate income of the UK agricultural sector, known as Total Income from Farming (TIFF). DEFRA describes this as a measure of the performance of the whole agricultural industry.⁵ TIFF is income generated by production within the agriculture industry including subsidies and represents business profits and remuneration for work done by owners and other unpaid workers. Chart 3 (overleaf) shows that between 1973 and 1991 there was significant decline in the TIFF followed by a steep increase in the early 1990s, before falling again to a low in the year 2000. Since then, TIFF has generally increased to a recent high in 2013, before declining again. Variations in the TIFF are a complex interaction

⁵ Department for Environment, Environment and Rural Affairs, ‘[Total Income from Farming in the United Kingdom: First Estimate for 2016](#)’, 25 May 2017.

between the value of crops and livestock, combined with the costs of products such as fertilisers:

In 2016 Total Income from Farming fell by £225 million to £3,610 million, a 5.9 percent decrease on 2015. The key contributors to the change were the falls in the value of wheat by £426 million, milk by £395 million and oilseed rape by £170 million. In contrast these were somewhat offset by an increase in direct payments of £309 million, potatoes by £171 million combined with reductions in fertiliser costs of £250 million and animal feed costs of £204 million.⁶

Chart 3: Total Income from Farming (at real prices), 1973 to 2016, United Kingdom



(Source: Department for Environment, Food and Rural Affairs, [‘Total Income From Farming in the UK’](#), 25 May 2017)

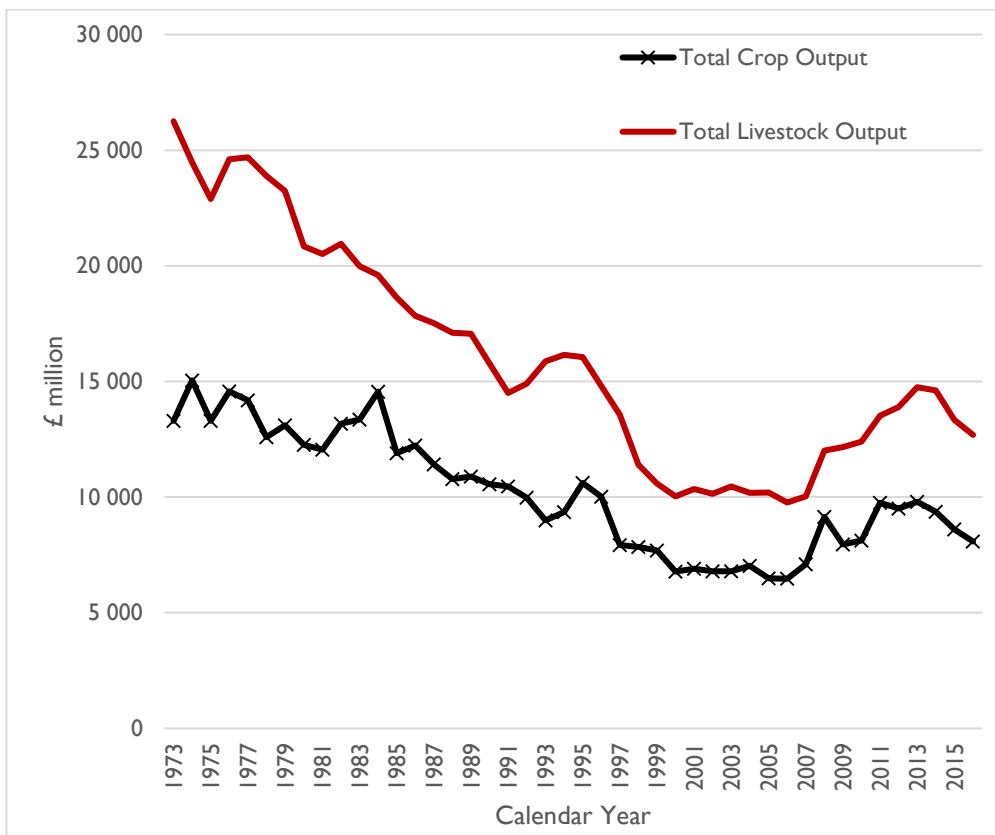
Total output of crops and livestock have also seen variation over time. These values are susceptible to changes in weather patterns and factors that affect yields. DEFRA explains that the value of milk decreased by £395 million (a factor in total output of livestock) between 2015 and 2016, The Department stated that a combination of “poorer grass quality due to variable weather conditions and dairy farmers attempting to reduce key costs such as the use of supplementary feeds left production 3.2 percent lower than 2015”.⁷ Similarly DEFRA explained that cereal harvests had

⁶ Department for Environment, [Food and Rural Affairs. Total Income from Farming in the United Kingdom: First Estimate for 2016](#), 25 May 2017, p 5.

⁷ *ibid*, p 6.

decreased to more typical levels following “record highs” in 2015 and “despite strengthening prices in the latter part of the year, lower prices for the year as a whole drove values down”.⁸ Additionally, DEFRA stated that the decreased value of the pound against the euro in 2016 had increased the value of direct payments to UK farmers. As a result, the net value of support payments paid under the Basic Payment Scheme was 18 percent higher in 2016 than 2015.⁹

Chart 4: Total Output of Crops and Livestock (at real prices), 1973 to 2016, United Kingdom



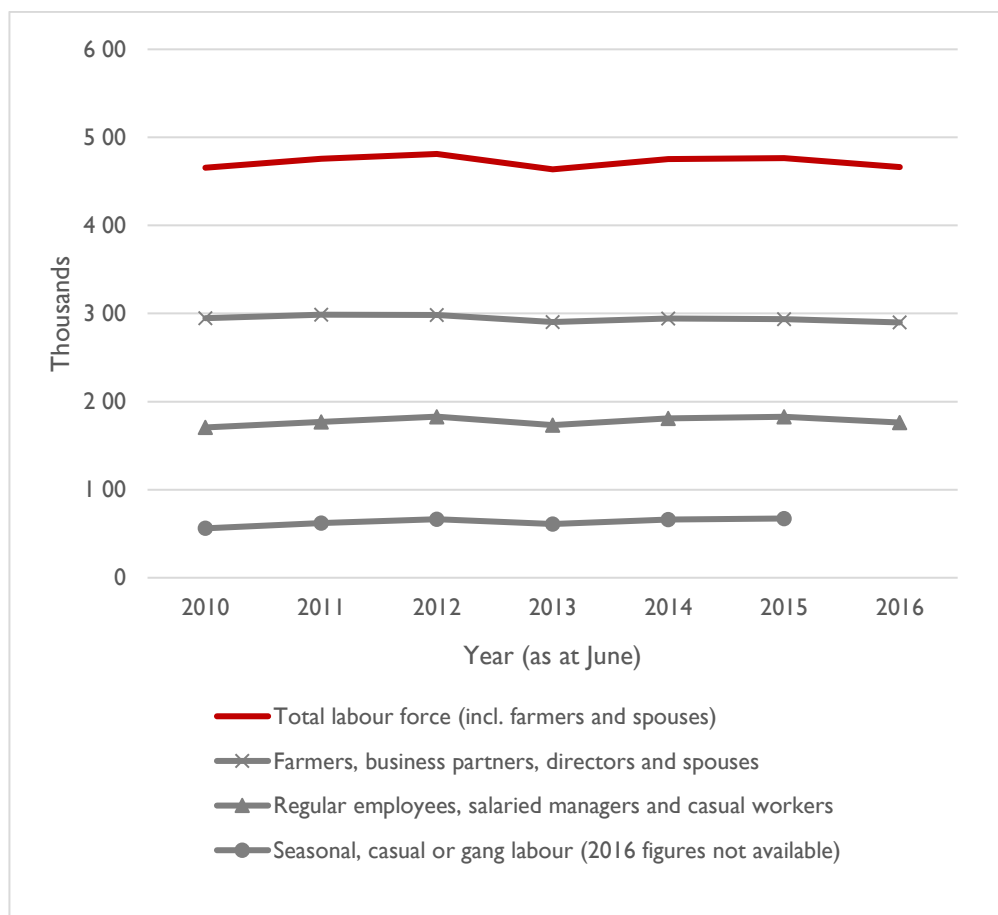
(Source: Department for Environment, Food and Rural Affairs, [‘Total Income From Farming in the UK’](#), 25 May 2017)

Chart 5 (overleaf) shows that the size of the labour force on commercial holdings has remained relatively stable between 2010 and 2016. The chart shows the total labour force and broken down by category, including farmers, regular employees and seasonal labour.

⁸ Department for Environment, [Food and Rural Affairs. Total Income from Farming in the United Kingdom: First Estimate for 2016](#), 25 May 2017, p 5.

⁹ *ibid*, p 2.

Chart 5: Agricultural Labour Force on Commercial Holdings as at June, 2010 to 2016, United Kingdom

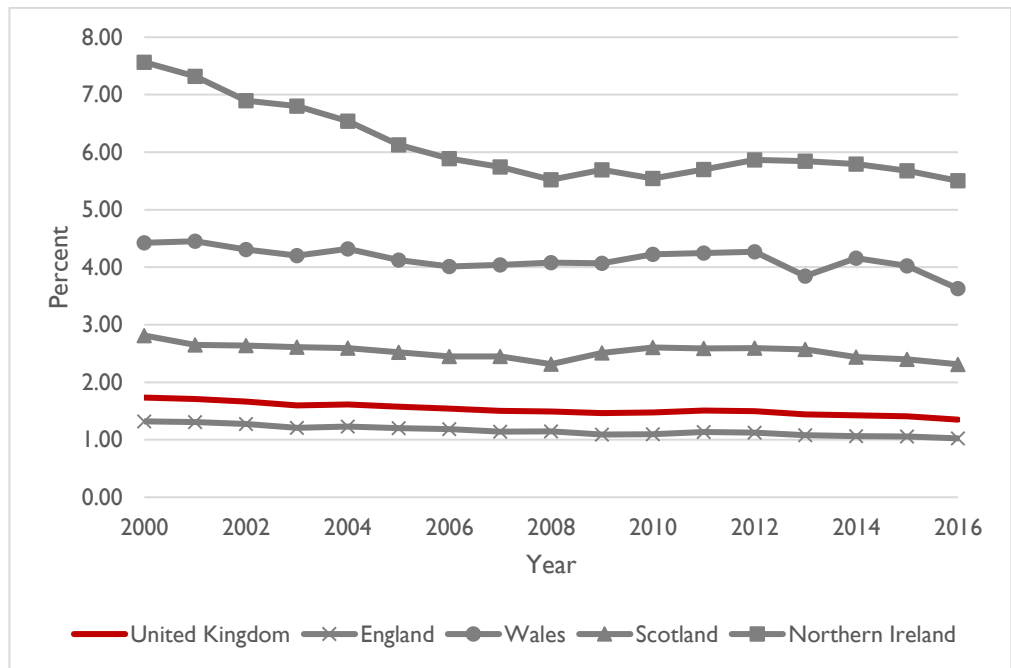


(Source: Department for Environment, Food and Rural Affairs, '[Agriculture in the United Kingdom Data Sets](#)', last updated 17 July 2017, accessed 20 October 2017, chapter two, table 2.5)

Overall, agriculture accounts for 1.35 percent of the workforce in the UK.¹⁰ However, this figure hides a larger variation between the nations of the UK. Of the home nations, Northern Ireland has the highest percentage of employed persons working in agriculture and England has the lowest. All the home nations have seen a decrease in agriculture's share of employment since 2000. This is set out in the following chart:

¹⁰ Department for Environment, Food and Rural Affairs, Department of Agriculture, Environment and Rural Affairs (Northern Ireland), Department for Rural Affairs and Heritage (Wales), and Rural and Environment Science and Analytical Services (Scotland), [Agriculture in the United Kingdom 2016](#), 25 May 2017, p 21.

Chart 6: Agriculture’s Share of Total Regional Employment, 2000 to 2016 (2016 Figures Provisional)¹¹



(Source: Department for Environment, Food and Rural Affairs, ‘[Agriculture in the United Kingdom Data Sets](#)’, last updated 17 July 2017, accessed 20 October 2017, chapter 3, table 3.2)

1.2 Fisheries

The Marine Management Organisation (MMO) publishes annual sea fisheries statistics for the UK.¹² In 2016, UK vessels landed 701 thousand tonnes of sea fish (including shellfish) into the UK and abroad, with a value of £936 million.¹³ In 2015, fishing contributed £604 million to the UK’s GDP.¹⁴

Chart 7 demonstrates a decline in the number of fishermen in recent years. It also shows the variation between the nations of the UK. Of these, 5,306 fishermen were based in England, 753 in Wales, 4,823 in Scotland and 875 in

¹¹ Estimates for England are based on employment on ‘commercial holdings’ only “The term ‘commercial’ covers all English holdings which have more than 5 hectares of agricultural land, 1 hectare of orchards, 0.5 hectares of vegetables or 0.1 hectares of protected crops, or more than 10 cattle, 50 pigs, 20 sheep, 20 goats, or 1,000 poultry. These thresholds are specified in the EU Farm Structure Survey Regulation EC 1166/2008” (Department for Environment, Food and Rural Affairs, Department of Agriculture, Environment and Rural Affairs (Northern Ireland), Department for Rural Affairs and Heritage (Wales), and Rural and Environment Science and Analytical Services (Scotland), [Agriculture in the United Kingdom 2016](#), 25 May 2017, p 13).

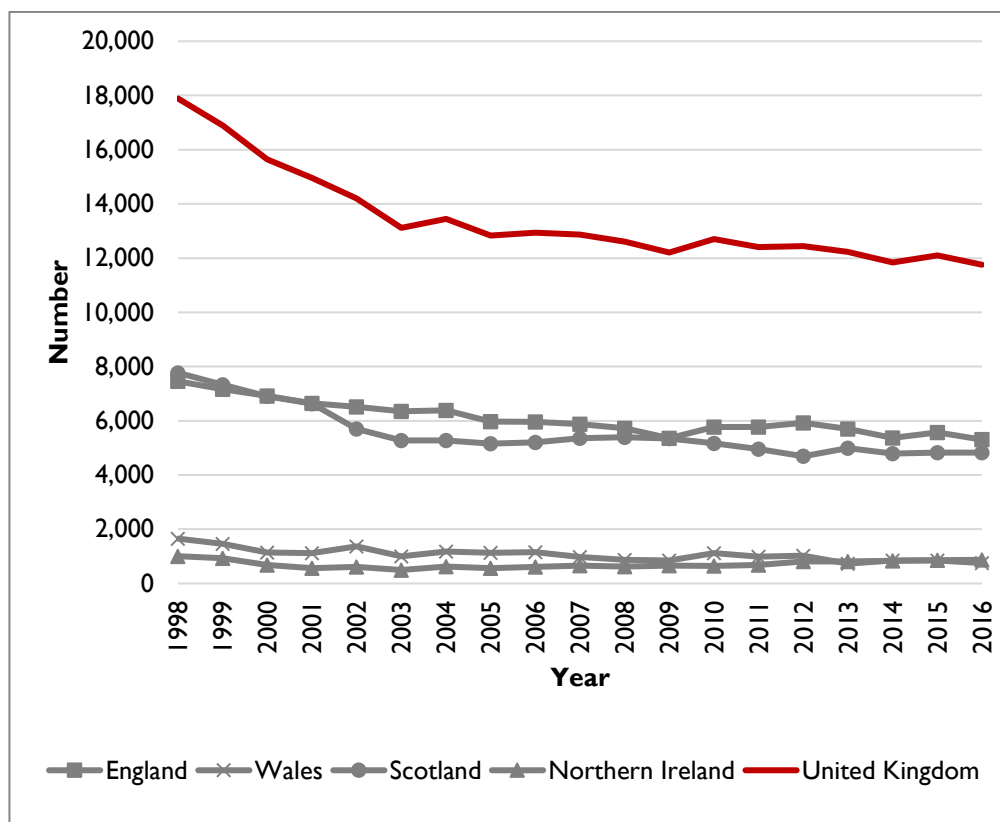
¹² Marine Management Organisation, ‘[UK Sea Fisheries Annual Statistics](#)’, accessed 20 October 2017.

¹³ Marine Management Organisation, [UK Sea Fisheries Statistics 2016](#), 28 September 2017, p 2.

¹⁴ House of Commons Library, [Brexit: What Next for UK Fisheries](#), 4 July 2017, p 3.

Northern Ireland. The MMO explains that the share of part-time fishermen over the years has been fairly constant, accounting for 19 percent of the total in 2016 compared with 20 per cent a decade ago.¹⁵

Chart 7: Number of Fisherman, 1998 to 2016



(Source: Marine Management Organisation, [‘UK Sea Fisheries Annual Statistics Report 2016: Chapter 2: Structure and activity of the UK fishing industry’](#), 28 September 2017, table 2.6a)

The MMO states that the size of the UK’s fishing fleet has fallen by 29 percent since 1996, alongside decreases in fleet capacity (32 percent) and power (in kW, by 27 percent) over the same period. The MMO explains that alongside an “underlying downward trend” in fleet size associated with decreased fishing opportunities, a number of decommissioning exercises, aimed at improving sustainability in the industry, have been completed:

UK fisheries administrations have operated decommissioning exercises in 2001–2002, 2003, 2007 and 2008–2009. The decommissioning exercises aimed to withdraw some capacity and effort from UK fisheries to help ensure a sustainable future, and to allow vessel

¹⁵ Marine Management Organisation, [UK Sea Fisheries Statistics 2016](#), 28 September 2017, p 1.

owners to take a business decision on whether to remain in the fishery under the terms of fishery management plans.¹⁶

1.3 Rural Economy

England

DEFRA publishes statistics on the rural and urban population of England categorised on the basis of the proportion of the resident population living in rural areas or rural hub towns.¹⁷ Hub towns are built-up areas with a population of 10,000 to 30,000. According to the 2011 Census, a fifth of the population of England, 20.9 percent, lived in local authorities defined as predominantly rural areas, while two thirds, 66.1 percent, lived in predominantly urban areas.¹⁸

Data published by DEFRA demonstrate the contribution to England's GVA by area:

- Predominantly rural areas contributed an estimated £237 billion to England's total economy in terms of gross value added (GVA), constituting 16.5 percent of total GVA.¹⁹
- Predominantly urban areas, excluding London, contributed 45.1 percent of GVA, or £646 billion.²⁰
- London contributed a 26.4 percent share of GVA in England, or £378 billion.²¹
- Urban areas with a significant rural area contributed 11.9 percent, or £171 billion.²²

DEFRA also publishes an extensive 'Statistical Digest of Rural England' on a rolling basis.²³ The most recent edition was published in August 2017.²⁴ It covers a wide range of subjects, including the rural population, economy, housing, education and skills, health and crime. On the rural economy,

¹⁶ Marine Management Organisation, [UK Sea Fisheries Statistics 2016](#), 28 September 2017, p 10.

¹⁷ Government Statistics Services, [The 2011 Rural-Urban Classification for Local Authority Districts in England](#), January 2017.

¹⁸ *ibid*, p 1.

¹⁹ Department for Environment, Food and Rural Affairs, [Productivity Measured by Gross Value Added](#), 22 December 2016, p 1. Predominantly rural areas are classified by DEFRA as being those with at least half of their population living in rural settlements or large market towns.

²⁰ *ibid*, p 1.

²¹ *ibid*.

²² *ibid*.

²³ Department for Environment, Food and Rural Affairs, ['Statistical Digest of Rural England'](#), accessed 24 October 2017.

²⁴ Department for Environment, Food and Rural Affairs, [Statistical Digest of Rural England: August 2017 Edition](#), 31 August 2017.

DEFRA state that in 2015/16 there were 537,000 businesses registered in rural areas, accounting for 24 percent of all registered business in England.²⁵ These employed 3.5 million people, or 13 percent of those employed by registered businesses in England.²⁶ The number of registered businesses per head of population is higher in predominantly rural areas (430 per 10,000 population in 2015) than in predominantly urban areas (excluding London) (360 per 10,000 population).²⁷ DEFRA states that “the more ‘rural’ an area is, the higher the number of registered businesses per head of population”.²⁸ The nature of such businesses also varies between rural and urban locations:

‘Agriculture, forestry and fishing’ accounts for 3.9 percent of the local units of registered businesses in England, but they are dominant sectors in rural hamlets and rural villages. In rural hamlets and isolated dwellings in a sparse setting, more than half the registered businesses are in these industries. ‘Agriculture, forestry and fishing’ accounts for 15.3 percent of the local units of registered businesses in rural areas overall (32.2 percent in rural areas in a sparse setting). Other dominant sectors in rural areas are: ‘Professional, scientific and technical services’ (14.9 percent of businesses), ‘Wholesale and retail trade, repair of motor vehicles’ (13.2 percent) and ‘Construction’ (11.3 percent).²⁹

Wales

According to the 2011 census, 67.2 percent of the population of Wales lived in urban areas, while 32.8 percent lived in rural areas.³⁰ The proportion of economically active people aged 16 to 74 who were unemployed in rural areas of Wales was 5.3 percent, compared to 7.2 percent in urban areas of Wales.³¹

In 2015, the agricultural, forestry and fishing industry was estimated to have produced £373 million, or 0.7 percent of the total GVA of Wales.³² Within Wales, the area where agriculture, forestry and fishing formed the largest proportion of local area GVA was Powys, where the sector produced

²⁵ Department for Environment, Food and Rural Affairs, [Statistical Digest of Rural England: August 2017 Edition](#), 31 August 2017, p 51.

²⁶ *ibid.*

²⁷ *ibid.*

²⁸ *ibid.*, p 55.

²⁹ Department for Environment, Food and Rural Affairs, [Statistical Digest of Rural England: August 2017 Edition](#), 31 August 2017, p 56.

³⁰ Office for National Statistics, [2011 Census Analysis—Comparing Rural and Urban Areas of England and Wales](#), 22 November 2013, p 9.

³¹ *ibid.*, pp 32–3.

³² Welsh Government, [‘Gross Value Added by Area and Industry’](#), accessed 24 October 2017.

3.4 percent of GVA.³³ The next largest was South West Wales, where this sector represented 2.3 percent of GVA. The largest industry in Wales was 'public administration, defence, education and health', which produced £14,537 million, or 26.1 percent of Wales' total GVA.³⁴

Scotland

The Scottish Government uses a different system of categorisation when comparing the proportion of the population living in urban and rural areas.³⁵ Urban areas are classified in Scotland as being settlements with a population over 10,000, while rural areas are categorised as settlements with a population of less than 3,000. Settlements of sizes in-between these two figures are classified as small towns. According to the June 2016 mid-year population estimates, 12.8 percent of the Scottish population lived in small towns (either 'accessible' or 'remote'), while 17.3 percent were living in rural areas (either 'accessible' or 'remote').³⁶ 69.9 percent of the population lived in urban areas (either 'accessible' or 'remote').

The Scottish Government also classify settlements on the basis of remoteness, with areas that are more than a 30 minute drive from a settlement with a population of 10,000 or more classified as remote. In terms of land use in 2013, 6 percent of the Scottish population lived in remote rural areas, with these areas making up 70 percent of the land by geographic area.³⁷ 12 percent of the population lived in accessible rural areas, constituting 27 percent of the land.

In terms of GVA, it is possible to estimate the size of Scotland's rural economy on the basis of statistics for local authority areas. Of Scotland's 32 local authority areas, 13 have a population of more than 50 percent living outside urban areas.³⁸ In 2014, these 13 local authority areas contributed 20.6 percent of total Scottish GVA.³⁹ In five of Scotland's 32 local authority areas, a majority of the population were classed as living in rural areas. These were Aberdeenshire, Argyll and Bute, Eilean Siar, the Orkney Islands

³³ Welsh Government, '[Gross Value Added by Welsh NUTS3 Areas and Industry](#)', accessed 24 October 2017.

³⁴ *ibid.*

³⁵ Scottish Government, '[Scottish Government Urban/Rural Classification: 2013–14](#)', November 2014, p 23.

³⁶ National Records of Scotland, '[Population Estimates by Urban Rural Classification](#)', 24 August 2017, [Table 1](#): 'Population Estimates for Six-Fold Urban Rural Classification By Sex and Single Year of Age: June 2016'.

³⁷ Scottish Government, '[Rural Scotland: Key Facts 2015](#)', March 2015, Figure 1: 'Percentage of Population and Land by Geographic Area, 2013', p 9. This includes places in both the 'small town' and 'rural area' categories.

³⁸ Scottish Government, '[Scottish Government Urban/Rural Classification: 2013–14](#)', November 2014, p 16, Table 5.2: 'Percent of Population in Each Six-Fold Urban/Rural Category, by Local Authority'.

³⁹ House of Lords Library calculations based on local estimates of GVA for Scotland by Cogentsi, provided by the Scottish Parliament Information Centre.

and Shetland. These five local authority areas contributed 7.7 percent of total Scottish GVA.

The Scottish Government's, [Rural Scotland: Key Facts 2015](#) (March 2015), provides statistics on a range of areas including demographics, education, health, housing, and economy and enterprise. This shows a marked difference between rural areas and the rest of Scotland in the percentage of small and medium enterprises (SMEs) by industry. For example, in remote rural areas 36 percent of SMEs are in agriculture, forestry and fishing, compared with 26 percent in accessible rural areas and 2 percent in the rest of Scotland.⁴⁰ As at March 2014, the total number of SMEs (registered for VAT and/or PAYE) operating in different areas of Scotland was as follows:

- Remote rural areas, 19,620.
- Accessible rural areas, 30,170.
- Rest of Scotland, 115,590.⁴¹

Northern Ireland

670,000 people in Northern Ireland—37 percent of the population—live in rural areas, compared to 63 percent who live in mainly urban areas.⁴² The proportion of those of working age in employment in rural areas is 75 percent, compared to 72 percent in urban areas.⁴³

In 2015, agriculture, forestry and fishing accounted for 25.2 percent of all VAT and/or PAYE registered businesses in Northern Ireland, the largest proportion of businesses according to Northern Ireland's Inter Departmental Business Register.⁴⁴ The second largest was construction at 13.3 percent. With the exception of Belfast, agriculture, forestry and fishing was the largest industry group in all local government districts.⁴⁵

2. Future Challenges and Opportunities

This section highlights two major factors that may bring both risks and opportunities to agriculture, fisheries and the rural economy, both at present and into the future: the UK's withdrawal from the EU and the influence of climate change. This section provides information on these

⁴⁰ Scottish Government, [Rural Scotland: Key Facts 2015](#), March 2015, p 53.

⁴¹ *ibid.*

⁴² Northern Ireland Department of Agriculture and Rural Development, [Northern Ireland Rural Statistics: Did You Know?](#), 26 September 2017.

⁴³ *ibid.*

⁴⁴ Northern Ireland Department of Enterprise, Trade and Investment, [VAT and PAYE Registered Businesses in Northern Ireland](#), 25 January 2017, p 2.

⁴⁵ *ibid.*, p 7.

issues from recent parliamentary and governmental reports. It also provides links to further information.

2.1 UK's Withdrawal from the EU

Agriculture

In answer to an oral parliamentary question in the House of Commons in November last year, Thérèse Coffey, Parliamentary Under Secretary of State for Environment, Food and Rural Affairs, stated that “leaving the EU gives us an opportunity to have policies to support the rural economy that are bespoke to the needs of this country”.⁴⁶ House of Lords European Union Committee has stated that to achieve this would mean withdrawing from the EU's Common Agricultural Policy (CAP).⁴⁷

Common Agricultural Policy

The EU's ability to legislate on agricultural policy is established under Articles 38 to 44 of the Treaty on the Functioning of the European Union. This provides that the EU must implement a common agricultural policy (CAP). Four basic regulations underpin the CAP:

- rural development (Regulation 1305/2013)
- financing, management and monitoring (Regulation 1306/2013)
- direct payments (Regulation 1307/2013)
- single Common Market Organisation (sCMO) (Regulation 1308/2013)

The CAP was created in 1962 and is consequently one of the oldest policies in the EU.⁴⁸ Reforms to the CAP have been made over time, notably in 1992, 2003 and 2013.⁴⁹ The European Commission explains that the CAP's budget is spent in three different ways:

- Income support for farmers and assistance for complying with sustainable agricultural practices. This represents direct payments to farmers, linked to compliance with food safety, environmental protection and animal health and welfare standards. Such payments account for 70 percent of the CAP budget. Under reforms in June 2013, 30 percent of these

⁴⁶ House of Commons, '[Oral Question: Rural Economy: Leaving the EU](#)', HC Hansard, 24 November 2016, col 1006.

⁴⁷ House of Lords European Union Committee, '[Brexit: Agriculture](#)', 3 May 2017, HL Paper 169 of session 2016–17, p 8.

⁴⁸ European Commission, '[Agriculture and Rural Development: The History of the Common Agricultural Policy](#)', accessed 23 October 2017.

⁴⁹ *ibid.*

payments will be linked to sustainable agricultural practices related to soil quality, biodiversity and the environment in general.

- Market support measures. These are deployed in response to events such as adverse weather conditions which may have destabilised markets. They account for less than 10 percent of the CAP budget.
- Rural development measures. These measures are intended to support farmers in modernising farms and to assist in them becoming more competitive. Such initiatives are part funded by member states and account for 20 percent of the CAP budget.⁵⁰

The House of Lords European Union Committee’s inquiry into Brexit and agriculture stated that the UK’s withdrawal from the EU “presents a real opportunity for the UK to review and adopt a policy for food and farming which regulates and supports the agricultural sector effectively, and which is tailored to the UK’s unique farming landscape”.⁵¹ Although, the Committee also stated that the CAP, had played a “fundamental” role in regulating and supporting UK agriculture, it cited criticism of the CAP as “bureaucratic and burdensome”.⁵²

The Committee’s report examined the impact of the UK’s withdrawal from the EU on the agricultural sector in terms of both opportunities and risks. On the issue of replacing the CAP with UK specific regulation, the Committee highlighted a risk that the process of regulatory simplification could create non-tariff barriers to trade⁵³—one example being pesticides. The Committee quoted evidence given by Alan Swinbank, Emeritus Professor of Agricultural Economics at the University of Reading, who said that the UK may still have to meet certain EU standards if it wished to trade with the EU in the future:

Any product that goes into an overseas market has to meet the product specification of that market. If that relates to pesticide residues or some other such matter which relates to the product as such, then farmers and processors would still have to abide by those regulations.⁵⁴

The Committee also discussed potential improvements to regulation, such as amending the ‘three-crop’ rule.⁵⁵ The three crop rule is also known as a

⁵⁰ European Commission, ‘[The Common Agricultural Policy \(CAP\) and Agriculture in Europe: Frequently Asked Questions](#)’, 26 June 2013.

⁵¹ House of Lords European Union Committee, [Brexit: Agriculture](#), 3 May 2017, HL Paper 169 of session 2016–17, p 4.

⁵² *ibid.*

⁵³ *ibid.*, p 49.

⁵⁴ *ibid.*, p 48.

⁵⁵ *ibid.*, p 47.

‘crop diversification measure’. It requires farms greater than 30 hectares to grow three crops, and farms greater than 10 hectares to grow two crops.⁵⁶ Tim Breitmeyer, Deputy President of the Country Land and Business Association (CLA), stated that that the rule “was brought in [...] to get rid of the monocropping of crops in Europe, in particular. It does not fit our farming model at all well here”.⁵⁷ Wyn Grant, Emeritus Professor of Politics at the University of Warwick, described it as a “blunt instrument”.⁵⁸

Beyond the CAP, the Committee highlighted risks to the UK’s trade in agri-food products. This included both tariff barriers (in the absence of a preferential trade agreement) and non-tariff barriers when exporting to the EU. It also argued that the UK’s future trading relationship with the EU would “affect or limit domestic policies on regulation, funding and farming standards”.⁵⁹ Alongside this, the Committee also raised the issue of agriculture as a devolved competence and argued that the Government would need to “engage extensively” with the devolved administrations “to ensure the repatriation of agricultural policy from the EU respects the devolution settlements without compromising the integrity of the UK’s internal market in agri-food products”.⁶⁰

The Committee also considered the potential impacts of freedom of movement on both skilled and unskilled roles within the agricultural sector. The Committee stated that the heavy reliance on migrant labour in the UK agricultural sector reflects (in part) a shortage of domestic labour. The Committee’s witnesses provided possible explanations for this, including: the assertion that labour sourced from the locally unemployed was “not reliable”; that where employment was high people were unwilling to “undertake the journeys or tolerate the conditions involved”; and that demographic change meant that rural populations were ageing.⁶¹

The issue of the agricultural labour force was also investigated by the House of Commons Environment, Food and Rural Affairs Committee, which published a shortened report ahead of the general election.⁶² The Committee stated that its witnesses all said that there had been a historical

⁵⁶ European Commission, [‘Agriculture Myths: Cropping the Facts on the “Three Crop Rule”](#)’, 19 November 2014.

⁵⁷ House of Lords European Union Committee, [Brexit: Agriculture](#), 3 May 2017, HL Paper 169 of session 2016–17, p 47.

⁵⁸ *ibid.*

⁵⁹ *ibid.*, p 4.

⁶⁰ *ibid.*

⁶¹ *ibid.*, p 70.

⁶² House of Commons Environment, Food and Rural Affairs Committee, [Feeding the Nation: Labour Constrains](#), 27 April 2017, HC 1009 of session 2016–17. The Government responded on 17 October 2017, [Feeding the Nation: Labour Constrains: Government Response to the Committee’s Seventh Report of Session 2016–17](#).

problem in recruiting appropriate workers and that this had become more challenging following the EU referendum:

During our inquiry we heard from a wide variety of witnesses representing various agricultural and horticultural employers who relied on a mix of unskilled, semi-skilled and skilled labour. They were unanimous in reporting that their businesses had long struggled to find sufficient labour to meet their needs, either from UK or overseas sources. They considered that these problems had worsened since June 2016 following the UK's decision to leave the EU.⁶³

However, the Committee stated that this evidence was contradicted by Ministers, who said that labour market statistics showed that there had been an increase of 82,000 workers from Bulgaria and Romania, from 204,000 at the end of 2015 to 286,000 at the end of 2016:

As a result the Government was confident that sufficient numbers of foreign workers were entering the country to make-up the agriculture sector's shortfall in available seasonal staff as the 'supply' of 286,000 Bulgarian and Romanian workers (not including migration from other sources) dwarfed the sector's demand of 80,000.⁶⁴

The Committee expressed concern that the industry had a different experience to Government on this issue, arguing that the current statistics do not form a sufficiently accurate evidence base on which to make employment and immigration policy as the UK leaves the EU and to give confidence to the sector:

It is apparent that the statistics used by the Government are unable to provide a proper indication of agriculture's labour needs. These statistics and their utility for measuring supply of, and demand for, seasonal labour must be reviewed by the end of 2017 to give the sector confidence in the adequacy of the official data on which employment and immigration policies will be based for the period after the UK leaves the EU.⁶⁵

The Committee also looked at the possibility of introducing a new seasonal agricultural workers scheme (SAWS). Witnesses told the committee that in the absence of a specific scheme restricting workers to jobs in agriculture, the sector has lost out in competition to other more 'desirable' sectors, such as construction and hospitality. The Committee reported that the Government disputed this, but said it would keep the need for a new SAWS

⁶³ House of Commons Environment, Food and Rural Affairs Committee, [Feeding the Nation: Labour Constrains](#), 27 April 2017, HC 1009 of session 2016–17, p 4.

⁶⁴ *ibid*, p 5.

⁶⁵ *ibid*.

under review and that one could be introduced within five to six months if necessary.⁶⁶

The Lords debated the House of Lords EU Committee's report *Brexit: Agriculture* on 17 October 2017.⁶⁷ The Government's response to the report was published on 29 June 2017.⁶⁸ In its response, the Government stated that leaving the EU was a "once in a generation" opportunity to transform the UK's food and farming policies, improve its environment and protect its rural landscape.⁶⁹ The Government also committed to maintaining existing cash total funds for farm support until the end of the current parliament.⁷⁰ At the time of writing, the Government has yet to publish a position paper on agriculture and/or fisheries.⁷¹ However, in its *Northern Ireland and Ireland* position paper (16 August 2017) the Government said that the extent and complexity of third country Sanitary and Phytosanitary (SPS) and other related checks would not be consistent with the UK and the EU's "shared objectives to avoid a hard border for the movement of goods, and to respect the Belfast ('Good Friday') Agreement in all its parts, including in regard to facilitating ongoing North-South cooperation on agriculture".⁷² In answer to a written question on 24 October 2017, the Government stated that it was working towards securing the "best deal" for the food and farming sector, and was conducting analysis of the impact of potential trade scenarios on the agri-food sector:

We are working towards securing the best deal for the food and farming sector as the UK leaves the EU, whilst ensuring consumers continue to have a wide range of choice of high-quality food products at affordable prices. At the same time, it will be a priority to maintain the UK's high standards of food safety and of animal health and welfare. To this end, the UK is seeking a unique and ambitious economic partnership that provides the freest possible trade with the EU, including for the food and drink sector. The Government is conducting ongoing analysis of the impact of various trade scenarios on the UK agri-food sector.⁷³

In the Queen's Speech, the Government announced plans to introduce an Agriculture Bill to "provide stability to farmers as we leave the EU" and to

⁶⁶ House of Commons Environment, Food and Rural Affairs Committee, [Feeding the Nation: Labour Constrains](#), 27 April 2017, HC 1009 of session 2016–17, p 8.

⁶⁷ Debate on 'Brexit: Agriculture and Farm and Animal Welfare (European Union Committee Report)', [HL Hansard, 17 October 2017, cols 537–85](#).

⁶⁸ Department for Environment, Food and Rural Affairs, [Government Response to the House of Lords EU Energy and Environment Sub Committee Report into Brexit: Agriculture](#), 29 June 2017.

⁶⁹ *ibid*, p 1.

⁷⁰ *ibid*.

⁷¹ Department for Exiting the European Union, '[Article 50 and Negotiations with the EU](#)', accessed 26 October 2017.

⁷² HM Government, [Northern Ireland and Ireland: Position Paper](#), 16 August 2017, p 19.

⁷³ House of Commons, '[Written Question: Food](#)', 24 October 2017, 108688.

“support our farmers to compete domestically and on the global market, allowing us to grow more, sell more and export more great British food”.⁷⁴

Selected further reading:

- House of Lords European Union Committee, [Brexit: Animal Welfare](#), 25 July 2017, HL Paper 15 of session 2017–19 and Department for Environment, Food, Rural and Affairs, [Response to the House of Lords European Union Committee Report on Brexit: Farm Animal Welfare](#), 29 September 2017.
- House of Commons Library, [Migrant Workers in Agriculture](#), 4 July 2017.
- House of Commons Library, [Brexit: Agriculture and Trade](#), 29 June 2017.
- Parliamentary Office of Science and Technology, [Security of UK Food Supply](#), 4 July 2017.

Fisheries

The EU’s Common Fisheries Policy (CFP) was introduced in the 1970s with the aim of ensuring that fishing and aquaculture are environmentally economical and socially sustainable. It also aims to “foster a dynamic fishing industry and ensure a fair standard of living for fishing communities”.⁷⁵ As with the CAP, the CSF has undergone reform, with the most recent changes taking effect on 1 January 2014.⁷⁶ The CFP covers the main areas of fisheries management, international policy, market and trade policy, and funding.⁷⁷

On 17 December 2016, the House of Lords EU Committee published its report into Brexit and fisheries.⁷⁸ As with the EU Committee’s report on Brexit and agriculture, *Brexit: Fisheries* is an extensive report, with the Committee describing it as an “immensely complex” area.⁷⁹ The Committee looked at opportunities and risks associated with the UK’s withdrawal from the EU across a wide area, including UK fisheries policy after the CFP, cooperation with the EU post withdrawal, access rights and negotiating quotas, and fisheries and trade. A brief summary of some of the issues discussed follows.

⁷⁴ Cabinet Office and Prime Minister’s Office, [Queen’s Speech 2017: Background Briefing Notes](#), 21 June 2017, p 23.

⁷⁵ European Commission, ‘[The Common Fisheries Policy \(CFP\)](#)’, accessed 23 October 2017.

⁷⁶ *ibid.*

⁷⁷ *ibid.*

⁷⁸ House of Lords European Union Committee, [Brexit: Fisheries](#), 17 December 2016, HL Paper 78 of session 2016–17.

⁷⁹ *ibid.*, p 5.

The Committee explained that when the UK withdraws from the EU it would almost certainly also withdraw from the CFP:

The EU has exclusive competence for fisheries management through Article 38, Treaty on the Functioning of the European Union. When the UK withdraws from the EU, it will withdraw from the Treaty. Even in the closely related trade and regulatory relationship between European Economic Area (EEA) countries and the EU, fisheries is excluded.⁸⁰

As a result, the Committee highlighted evidence from several witnesses that the UK would have the opportunity to establish its own fisheries policy. The UK would be able to decide how fish stocks are harvested from within its Exclusive Economic Zone (EEZ), and by whom.⁸¹ However, the UK would remain a party to the United Nations Convention on the Law of the Sea (UNCLOS).⁸² The Committee took evidence from Robin Churchill, Professor Emeritus of International Law at the University of Dundee, who stated that under Article 63(1) of UNCLOS there is a general obligation to cooperate between states in “whose waters the same stocks occur, what are generally called in shorthand ‘shared stocks’ to co-operate in the management of them”.⁸³

On the issue of access to UK waters, the Committee concluded that in declaring an EEZ distinct from EU waters it could control access to its waters by foreign vessels. However, it would need to be able to utilise its full ‘Total Allowable Catches’ (TAC):

The UK could choose to exclude foreign vessels that have gained access to fishing in UK waters through the Common Fisheries Policy, including those that claim historic access rights. To do this it would need to use the full Total Allowable Catches in its Exclusive Economic Zone, while bearing in mind the obligation under international law to coordinate with neighbouring states. In making this decision the Government would have to take into account any impact such a change could have on relations with neighbouring states that currently have access to fishing in the UK EEZ.⁸⁴

The Committee also briefly considered the London Fisheries Convention. The Convention was signed in 1964 before the UK joined the EU and it allows five European countries to fish within six and twelve nautical miles off

⁸⁰ House of Lords European Union Committee, [Brexit: Fisheries](#), 17 December 2016, HL Paper 78 of session 2016–17, p 12.

⁸¹ *ibid*, p 14.

⁸² *ibid*, p 13.

⁸³ *ibid*, p 14.

⁸⁴ *ibid*, p 17.

of the UK's coast.⁸⁵ The Committee heard evidence from Robin Churchill, Professor Emeritus of International Law at the University of Dundee, and Richard Barnes, Professor of Law at the University of Hull, who argued that the Convention had now been superseded by EU law and that these rights were captured in the annex to Council Regulation 2371/2002.⁸⁶ Professor Churchill explained he was "sceptical" about whether the rights in the Fisheries Convention would revive after the UK's withdrawal from CFP "even if they do [...] the UK could cover itself and withdraw from that [the Convention]".⁸⁷ On 3 July 2017, the Government gave formal notice of its intention to withdraw from the Convention "to take effect 2 years from the date of this letter or on the date on which the United Kingdom ceases to be a Member State of the European Union, whichever is the later date".⁸⁸

In its report the House of Lords EU Committee also stated that some aspects of fisheries policy were not directly linked to the CFP and so withdrawal from the CFP would not automatically end them. These would instead depend on the outcome of the UK's negotiations with the EU. The Committee highlighted 'quota hopping' as an example:

The practice of quota-hopping is possible because of EU Freedom of Establishment rules, rather than as a consequence of the Common Fisheries Policy. Whether the practice is maintained post-Brexit is likely to be determined in the course of the negotiations on withdrawal. In the meantime, the Government could consider whether a strengthening of the 'economic link' could enhance the benefits derived from UK quotas for UK communities.⁸⁹

The Committee concluded that withdrawal from the CFP was "an opportunity for the UK to review fisheries management practices and develop a management regime that is tailored to the United Kingdom".⁹⁰ The Committee also wrote about the devolved nature of fisheries policy and said

⁸⁵ Department for Environment, Food and Rural Affairs, '[UK Takes Key Step Towards Fair New Fishing Policy After Brexit](#)', 2 July 2017.

⁸⁶ House of Lords European Union Committee, [Brexit: Fisheries](#), 17 December 2016, HL Paper 78 of session 2016–17, p 15.

⁸⁷ *ibid*, p 16.

⁸⁸ Foreign and Commonwealth Office, [UK Depository Status List: Fisheries Convention, signed at London, 9 March–10 April 1964](#), 3 July 2017.

⁸⁹ Quota hopping denotes the practice of fishers from other member states benefiting from UK quotas by setting up UK companies to buy UK fishing vessels and thereby quotas (House of Lords European Union Committee, [Brexit: Fisheries](#), 17 December 2016, HL Paper 78 of session 2016–17, p 17).

⁹⁰ House of Lords European Union Committee, [Brexit: Fisheries](#), 17 December 2016, HL Paper 78 of session 2016–17, p 23.

that care would be needed to ensure that the UK had a coherent fisheries policy after withdrawal:

Fisheries management is a devolved matter for which the CFP has provided a common framework across the Devolved Nations. Post-Brexit this framework will fall away, raising the potential of four differing UK fisheries management regimes. Yet for the purpose of Brexit negotiations the UK must act as a single coastal state. Devolved Administrations must therefore be taken into account from the outset to ensure that a unified UK negotiation position on fisheries and Brexit is formed, based on co-operation with the four Devolved nations and their fishing industries.⁹¹

Many of the Committee's conclusions on risks and opportunities were complex and interrelated. For example, it argued that landing data offered support to the argument that the UK received a disproportionately small quota of stocks caught in the UK EEZ. However, this was complicated by fish moving across borders during their lifecycles and that failing to cooperate after withdrawal could lead to over-fishing:

[M]any stocks spend part of their lives in the EEZs of other countries and cannot be regarded as only 'UK fish'. Failure to recognise that shared stocks require shared management could lead to overfishing and over-exploitation of these stocks. It will be crucial to seek science-based agreement on how such stocks are shared to ensure their long-term sustainable exploitation.⁹²

The Committee's report was debated in the House of Lords on 16 January 2017.⁹³ The Government responded to the Committee's report in March 2017.⁹⁴ In its response, the Government described fisheries as a "key area" in the UK's withdrawal negotiations with the EU.⁹⁵ The Government also stated that after withdrawal "the UK will no longer be bound by the CFP [...] we are currently analysing all EU fisheries legislation to determine which measures should be incorporated into domestic law".⁹⁶ To this end the Government has recently stated that "most of the fisheries acquis" will be

⁹¹ House of Lords European Union Committee, [Brexit: Fisheries](#), 17 December 2016, HL Paper 78 of session 2016–17, p 3.

⁹² *ibid*, p 57.

⁹³ Debate on 'Brexit: Fisheries (EUC Report)', [HL Hansard, 16 January 2017, cols 1–32](#).

⁹⁴ HM Government, [Government Response to House of Lords EU Energy and Environment Sub-Committee Report into the Future of Fisheries in the Light of the Vote to Leave the EU](#), March 2017.

⁹⁵ *ibid*, p 1.

⁹⁶ *ibid*, p 3.

transferred into UK domestic legislation by the European Union (Withdrawal) Bill, but a fisheries bill would be introduced which would then supersede this:

The purpose of the European Union (Withdrawal) Bill is to provide stability and certainty so that wherever practical, the same laws and rules will apply immediately before and immediately after our departure. On that basis, most of the fisheries acquis will be transferred into domestic legislation. The Queen’s Speech, however, set out the Government’s plans for a fisheries bill for the UK to control access to its waters and set fishing opportunities when we leave the EU and the Common Fisheries Policy. Provisions in the Fisheries Bill would supersede the European Union (Withdrawal) Bill.⁹⁷

On the issue of devolved powers, the European Union (Withdrawal) Bill would amend “each of the devolution statutes [...] so as to maintain the current parameters of devolved competence as regards retained EU law”.⁹⁸ This is intended to be a transitional arrangement “while decisions are taken on where common policy approaches are or are not needed”.⁹⁹ In its response to the Committee, the Government said it would:

[W]ork carefully to ensure that as powers are repatriated from Brussels back to Britain the right powers are returned to the UK Parliament, and the right powers are returned to the devolved administrations of Scotland, Wales and Northern Ireland. The Prime Minister has been clear that no decisions currently taken by the devolved administrations will be taken from them.¹⁰⁰

The Government also stated that the UK would continue to cooperate with adjacent states over shared and straddling stocks because it wanted to avoid the risk of over-fishing “at all costs”.¹⁰¹ Regarding the short term status of EU structural funds, the Government stated it would continue to match funding at least in the short term:

EU structural funding for the sector (the European Maritime and Fisheries Fund) is covered by the guarantee the Chancellor gave on 13 August 2016, although a decision has yet to be taken on any long-term support for the industry and coastal communities.¹⁰²

⁹⁷ House of Commons, ‘[Written Question: Common Fisheries Policy](#)’, 19 October 2017, 108021.

⁹⁸ European Union (Withdrawal) Bill [Explanatory Notes](#), p 11.

⁹⁹ *ibid.*

¹⁰⁰ HM Government, [Government Response to House of Lords EU Energy and Environment Sub-Committee Report into the Future of Fisheries in the Light of the Vote to Leave the EU](#), March 2017, p 3.

¹⁰¹ *ibid.*, p 1.

¹⁰² *ibid.*, p 3. See also: HM Treasury et al, ‘[Chancellor Philip Hammond Guarantees EU](#)

Selected further reading:

- House of Commons Library, [Brexit: What Next for UK Fisheries?](#), 4 July 2017
- Barrie C Deas (Chief Executive of the National Federation of Fishermen's Organisations), ['Fishing and Brexit'](#), 3 July 2017, UK in a Changing Europe Blog

Rural Economy

The risks and opportunities for the rural economy associated with the UK's withdrawal from the EU share many elements with agriculture and fisheries. It could also be affected by the same or similar things as the UK's economy as a whole. However, the EU's rural development policy is of particular interest. The European Commission explains that this policy assists rural areas and complements the CAP:

The EU's rural development policy helps the rural areas of the EU to meet the wide range of economic, environmental and social challenges of the 21st century. Frequently called "the second pillar" of the Common Agricultural Policy (CAP), it complements the system of direct payments to farmers and measures to manage agricultural markets (the so-called "first pillar"). Rural Development policy shares a number of objectives with other European Structural and Investment Funds (ESIF).¹⁰³

In answer to a written question on 15 December 2016, the Government stated that it would match 'pillar 2' funding signed before (and after, based on certain conditions) the autumn statement last year:

This Government understands our rural and agricultural communities' need for clarity and certainty, and has provided commitments to continue funding. On 13 August, the Chancellor of the Exchequer announced that the UK Government would guarantee CAP Pillar 1 payments throughout the UK until 2020. On the 3rd October, the Chancellor of the Exchequer announced that the UK Government would guarantee CAP Pillar 2 funding for rural development policies, including agri-environment schemes signed before the Autumn Statement and those signed after the Autumn Statement providing they are in line with strategic domestic priorities and are good value for money. DEFRA will be engaging widely on future policy options in due course.¹⁰⁴

[Funding Beyond Date UK Leaves the EU](#), 13 August 2016.

¹⁰³ European Commission, ['Rural Development 2014–2020'](#), accessed 24 October 2017.

¹⁰⁴ House of Commons, ['Written Question: EU Grants and Loans'](#), 15 December 2016, 56851. See also: HM Treasury and Department for Exiting the European Union, ['Further Certainty on EU Funding for Hundreds of British Projects'](#), 3 October 2016.

The House of Commons debated leaving the EU in relation to the rural economy on 17 January 2017.¹⁰⁵

Selected further reading:

- House of Lords Library, [Rural Economy: Key Statistics and Recent Developments](#), 22 April 2016

2.2 Climate Change

Under the Climate Change Act 2008, the UK Government is required to publish a UK-wide ‘Climate Change Risk Assessment’ (CCRA) every five years.¹⁰⁶ The second CCRA was published on 18 January 2017.¹⁰⁷ The paper outlines the Government’s assessment of priority risks and opportunities around a changing climate. The CCRA draws on the *UK Climate Change Risk Assessment 2017 Evidence Report* (the Evidence Report) written by the Committee on Climate Change’s Adaptation Sub-Committee.¹⁰⁸ The Committee on Climate Change (CCC) is an independent statutory body established under the Climate Change Act 2008 to advise the UK and the devolved administration governments on setting and meeting carbon budgets, and preparing for climate change.

Based on the Evidence Report, the CCRA identifies that a combination of increased population and climate change could put pressure on water availability for agriculture.¹⁰⁹ However, the CCRA argues that the policy framework for managing these long-term risks exists; citing the publication of a water resilience roadmap.¹¹⁰ The CCRA also outlined the need to reform the current water abstraction system, and that it was:

[C]ommitted to reform the system by the early 2020s to create a better, fairer, more modern and flexible approach that will support business resilience, investment and growth, and manage the pressures of a growing population and climate change.¹¹¹

¹⁰⁵ Debate on ‘Leaving the EU: The Rural Economy’, [HC Hansard, 17 January 2017, cols 828–72.](#)

¹⁰⁶ Committee on Climate Change, ‘[UK Climate Change Risk Assessment 2017 Evidence Report: Introduction to the CCRA](#)’, accessed 23 October 2017.

¹⁰⁷ HM Government, [UK Climate Change Risk Assessment 2017](#), January 2017.

¹⁰⁸ Committee on Climate Change, ‘[UK Climate Change Risk Assessment 2017 Evidence Report](#)’, accessed 23 October 2017. See also, Committee on Climate Change, [UK Climate Change Risk Assessment 2017: Synthesis Report Priorities for the Next Five Years](#), July 2016.

¹⁰⁹ HM Government, [UK Climate Change Risk Assessment 2017](#), January 2017, p 14.

¹¹⁰ Department for Environment, Food and Rural Affairs, [Creating a Great Place for Living: Enabling Resilience in the Water Sector](#), March 2016.

¹¹¹ HM Government, [UK Climate Change Risk Assessment 2017](#), January 2017, p 14.

In addition to pressures arising from water availability, the CCRA identified risks to the UK's natural capital and the goods and services that are drawn from it, for example, timber, food, pollination, carbon storage and the 'cultural benefits' of landscape and wildlife.¹¹² It also cited the Evidence Report as showing that the impact of climate change on biodiversity, terrestrial, coastal, marine and freshwater ecosystems are "already being observed", and that "there is clear evidence of northwards shifts in species distributions and the timing of seasonal events due to climate change".¹¹³ The Climate Change Committee's Adaptation Sub-Committee also argued that there was an increased risk to agriculture, forestry and landscapes from pests, pathogens and invasive species.¹¹⁴

However, the CCRA stated that there were also potential benefits for agriculture and forestry, but that such benefits could only be realised by managing the negative impacts of climate change:

The report also identifies potential opportunities for agriculture and forestry in the form of extended growing seasons, increased productivity and new crop varieties that would have potential benefits for domestic food production. In order for these opportunities to be realised, however, action is needed to manage the negative impacts from reduced soil quality and water availability and the increase in flooding and pests and diseases.¹¹⁵

The Committee on Climate Change's Adaptation Sub-Committee has stated that the possibility of increased production may require farmers to be advised on how to improve and adapt existing farm systems and to exploit new markets.¹¹⁶ The Committee has also published a factsheet on the natural environment and natural assets.¹¹⁷ Additionally, chapter three of the full Evidence Report provides more in-depth discussion of these issues.¹¹⁸ This looks at both current and future risks and opportunities. For example, regarding future risks, the Evidence Report cites work which found that by the 2050s (under a certain projection based on a low emissions scenario) the areas of land suited and moderately suited for current varieties of rain-fed potato production would decrease by 88 percent and 74 percent

¹¹² HM Government, [UK Climate Change Risk Assessment 2017](#), January 2017, p 15.

¹¹³ *ibid.*

¹¹⁴ Committee on Climate Change, [UK Climate Change Risk Assessment 2017: Synthesis Report Priorities for the Next Five Years](#), July 2016, p 55.

¹¹⁵ HM Government, [UK Climate Change Risk Assessment 2017](#), January 2017, p 15.

¹¹⁶ Committee on Climate Change, [UK Climate Change Risk Assessment 2017: Synthesis Report Priorities for the Next Five Years](#), July 2016.

¹¹⁷ Committee on Climate Change, [Factsheet: UK Climate Change Risk Assessment 2017 Evidence Report Natural Environment and Natural Assets: Chapter 3](#), July 2016.

¹¹⁸ Committee on Climate Change, [UK Climate Change Risk Assessment 2017 Evidence Report: Chapter 3 Natural Environment and Natural Assets](#), July 2016.

respectively.¹¹⁹ However, productivity is also complicated by the effect of climate change on pests and diseases:

Climate change will affect crop disease both directly (eg by affecting spore release, the frequency of suitable infection conditions, host resistance, speed of disease development and disease survival between seasons) and indirectly (eg through the production of susceptible crops in new locations).¹²⁰

In the CCRA, the Government also noted the “potential areas for improvement, for example better use of policy levers such as the successor to the EU Common Agricultural Policy”.¹²¹

At a National Farmers Union’s North East Environment Forum, Representative Richard Bramley argued that “climate change is happening and it is affecting us in many ways already”.¹²² Mr Bramley explained that his profitability is affected by his ability to adapt to such processes:

While a key skill in running a farm is adapting all the processes to suit the prevailing conditions, the environmental climate in which I operate has the greatest impact on my profitability and output. Yet it is something over which I have very little control [...] Anything which is likely to make our environmental climate alter, or become more extreme, is a concern to me and should be for everyone.¹²³

On the wider issue of soil science, the Secretary of State for Environment, Food and Rural Affairs, Michael Gove, recently spoke at the launch of the Sustainable Soil Alliance (SSA).¹²⁴ He emphasised the importance of soil health saying that some agricultural practices had damaged this:

If you have heavy machines churning the soil and impacting it, if you drench it in chemicals that improve yields but in the long term undercut the future fertility of that soil, you can increase yields year on

¹¹⁹ Committee on Climate Change, [UK Climate Change Risk Assessment 2017 Evidence Report: Chapter 3 Natural Environment and Natural Assets](#), July 2016, p 55–6.

¹²⁰ *ibid*, p 56.

¹²¹ HM Government, [UK Climate Change Risk Assessment 2017](#), January 2017, p 15.

¹²² National Farmers Union, ‘[NFU Speaks Out on Climate Change in Westminster](#)’, 10 October 2017.

¹²³ *ibid*.

¹²⁴ “The Sustainable Soils Alliance is a partnership of businesses, campaigning organisations, the applied scientific community, academia, governmental and non-governmental organisations working together to reverse the current crisis in soil health. Our vision is to reverse soil health decline and work together to restore our soils to health within one generation.” Sustainable Soils Alliance, ‘[Sustainable Soils Alliance](#)’, accessed 26 October 2017.

year but ultimately you really are cutting the ground away from beneath your own feet. Farmers know that.¹²⁵

The *Guardian* reported that DEFRA is “currently working on a new agricultural bill and is simultaneously drawing up a 25-year environmental plan. Gove promised both would reflect the concerns of the SSA”.¹²⁶

Selected further reading:

- House of Lords Library, [Leaving the European Union: UK Climate Change Policy](#), 15 June 2017.
- Department for Environment, Food and Rural Affairs, [Agricultural Statistics and Climate Change](#), August 2017.
- Natural Environment Research Council, [‘RIDE Forum: Climate Change Impact Report Cards’](#), accessed 24 October 2017.
- Food and Agricultural Organisation of the United Nations, [‘Climate Change’](#), accessed 24 October 2017.
- Parliamentary Office of Science and Technology, [Environmentally Sustainable Agriculture](#), 4 July 2017.

¹²⁵ Bibi van der Zee, [‘UK is 30–40 Years Away from ‘Eradication of Soil Fertility’. Warns Gove’](#), *Guardian*, 24 October 2017.

¹²⁶ *ibid.*