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The Implications of Brexit for UK, EU and Global Agricultural Reform in the Next Decade

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Summary

- The UK will need new agricultural policies in almost every potential Brexit outcome. In high-income countries, there are four broad agricultural policy models in use at present, all of which are possible options for the UK. The chosen model will need to cope with a range of global challenges: climate change; rising risk of animal disease; downward trends in commodity prices; and shifts in demand from changing diets.
- There seems no real prospect of substantial reform of the EU agricultural model in the next decade, and there exists the risk of a regression away from its current 'decoupled' approach towards a more protective and distortive one. However, EU budget pressures from Brexit, migration and security, which are likely to reduce agriculture's current 40 per cent share of the EU budget, could trigger some policy changes.
- For the UK, only a market-oriented model – aligned and integrated with a more effective commitment to the environment and climate change mitigation – would enable the country to benefit from free trade while keeping the government's promise to improve the environment for the next generation.
- Applying the market-oriented model in the UK would lower prices for consumers, lift the economy's productivity and allow for substantial budget savings to support the environment and public finances. Still, it would mean significant disruption for agricultural producers and the political challenge of market reform should not be underestimated.
- If the UK pursues the market-oriented model of agriculture that its tradition suggests, this could mark an important medium-term shift in attitudes to such a model among members of the WTO and the G20. Implementing a sustainable, market-oriented agricultural policy is a genuine opportunity for UK global leadership outside the EU in the next decade.

Introduction

Regardless of which Brexit model the UK chooses when it leaves the EU in 2019, the country's agricultural sector will need new policies developed from scratch to succeed the EU's Common Agricultural Policy (CAP).[1]

Internationally, agriculture remains a highly politicized area, and the UK's chosen course will have an influence not only on the EU's future agricultural policy, but potentially on policy reform among members of the WTO and G20 after 2020

This briefing looks at the four main model options for forthcoming UK and EU agricultural policy decisions, in the context of wider global trends and challenges. It is clear that an effective policy for future UK agriculture needs to be finely balanced. In recent years, the consensus in the UK has generally been a traditional reformist and liberal position, which the current Conservative government has reinforced with its explicit commitments to a 'global Britain' and free trade. In contrast to this are the promises made during the EU referendum and 2017 election campaigns, and the lobby of farmers and landowners – influential in the Conservative Party – to safeguard their substantial existing subsidies and protection.

Internationally, agriculture remains a highly politicized area, and the UK's chosen course will have an influence not only on the EU's future agricultural policy, but potentially on policy reform among members of the World Trade Organization (WTO) and G20 after 2020. Following Brexit, the UK has an opportunity to demonstrate global leadership in developing a more efficient, market-based model of agriculture that is better integrated and aligned with climate and environmental aims.

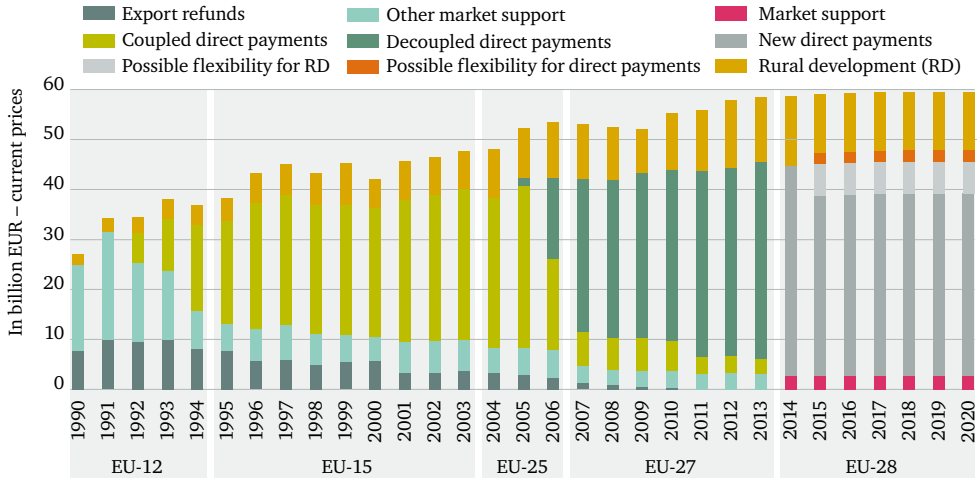
EU Common Agricultural Policy – a costly approach

Currently, as a member of the EU, the UK is a party to the CAP. Alongside the EU's trade regime, which imposes tariffs and tariff quotas (quantity limits) on agricultural imports, the CAP provides significant publicly funded payments to farmers (approximately €60 billion per year, which is equivalent to around €118 a year for each of the EU's 508 million citizens), accounting for some 40 per cent of the EU's expenditure.[2] These funds are largely 'direct payments' to farmers, with just over a quarter going on rural and environmental protection or development schemes. In addition, the EU sets environmental standards and regulates products relevant to agriculture, for example, chemicals that can be used in pesticides.

The CAP has evolved significantly over the last three decades (see Figure 1) to be more 'market-oriented'. Trade distortions have been reduced and incentives to overproduce weakened, while subsidies are generally no longer tied to production levels. That said, the Organisation for Economic Co-operation and Development (OECD) has noted that the most recent 'reforms' of the CAP partly reverse this trend, with 32 per cent of the EU's support being of a distortionary nature in 2015.[3]

[1] Even the European Economic Area (EEA), the closest model to EU membership, involves an entirely distinct agricultural policy and associated trade tariffs on agricultural produce. If the UK remains in the EU customs union temporarily or in the long term, it could theoretically remain in the EU Common Agricultural Policy, though neither the UK nor the EU has suggested such an approach.
[2] European Commission, 'EU annual budget life-cycle: figures', http://ec.europa.eu/budget/annual/index_en.cfm?year=2014 (accessed 31 Aug. 2017).
[3] OECD (2016), *Agricultural Policy Monitoring and Evaluation 2016*, Paris: OECD Publishing, http://dx.doi.org/10.1787/agr_pol-2016-en (accessed 31 Aug. 2017).

Figure 1: CAP expenditure by calendar year



Source: European Commission (2013), *Overview of CAP Reform 2014-2020*, Agricultural Policy Perspectives Brief No. 5, December 2013, https://ec.europa.eu/agriculture/sites/agriculture/files/policy-perspectives/policy-briefs/05_en.pdf (accessed 31 Aug. 2017).

Successive UK governments have argued for EU agricultural policy reform

For at least the last two decades, UK governments of all political persuasions have consistently argued[4] that the EU should eliminate or substantially reduce subsidies that distort trade, and focus support on public goods that are not provided by the market, especially environmental improvement. As Brexit materializes, the EU will lose one of its most liberal and reform-minded members, while the UK will face the challenge of developing its own agricultural and trade policies.

The EU is a major global producer of agricultural goods,[5] and the largest importer and exporter of food.[6] The choices the EU and UK make will affect global agricultural production patterns, price levels and volatility, and will help set the direction for global agricultural policies in the face of climate change and its ecological impacts on water, soil, greenhouse gases and biodiversity.

This briefing aims to inform these decisions. It identifies the trends and challenges in agriculture; sets out the four broad models of agriculture used in high-income countries around the world; considers the leading options for the UK; assesses the implications for the EU and global agricultural policy; and discusses the key policy issues. Although agricultural policies need to be fully aligned and compatible with coherent broader environmental and climate change strategies, these wider considerations are not the major focus of this paper.

[4] Downing, E. (2016), *EU Referendum: Impact on UK Agricultural Policy*, Briefing Paper No. 7602, House of Commons Library, 26 May 2016, http://researchbriefings.files.parliament.uk/documents/CBP-7602/CBP-7602.pdf (accessed 31 Aug. 2017).

[5] In 2015, EU agricultural output was the third-highest globally (behind that of China and India), at $328 billion (2010 prices). World Bank (2015), World Development Indicators, http://data.worldbank.org/data-catalog/world-development-indicators (accessed 31 Aug. 2017).

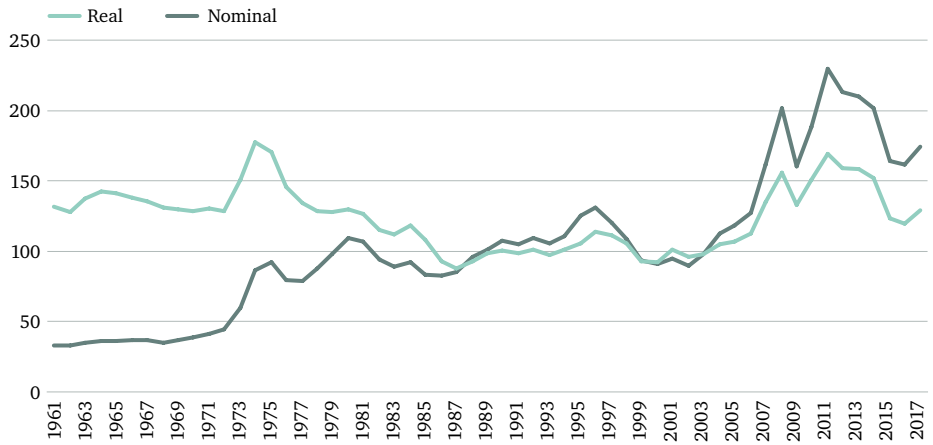
[6] Knoema (2013), 'Trade Statistics: Crops, Livestock Products & Live Animal', https://knoema.com/FAOTSJUL2016/trade-statistics-crops-livestock-products-live-animal?accesskey=dfdnulc (accessed 31 Aug. 2017).

Trends and challenges in global agriculture

As agricultural goods are largely commodity items, their prices tend to be set in international markets. As a result, global events and trends are highly relevant to domestic agriculture. Over the coming years these trends are likely to impact food prices, food security and agriculture.

Three particular trends merit attention in the context of this paper. First, food prices have generally fallen over the past five years. Supply has expanded faster than demand since 2012, following the price spikes in 2007–08 and 2011. Globally, the first spike pushed millions[7] into hunger and reflected the culmination of a 'perfect storm' of steadily increased demand, some weather-related supply shocks, and trade restrictions imposed by governments.[8] The subsequent price falls, since the second price spike in 2011, have created pressures on farmers' margins. In the EU, sectors such as dairy have continued to complain about low prices, driven in part by the removal of EU production limits and downward pressures resulting from a Russian ban on EU agricultural imports, which has created a surplus in the market.

Figure 2: FAO food price index in nominal and real terms



Source: UN Food and Agriculture Organization (2017), 'World Food Situation: FAO Food Price Index', 3 September 2017, http://www.fao.org/worldfoodsituation/foodpricesindex/en/ (accessed 31 Aug. 2017).

The OECD-Food and Agriculture Organization (FAO) outlook[9] anticipates that, in the coming decade, prices could fall further as demand growth continues to slow, and that any 'increased demand for food is projected to be satisfied through productivity gains, with modest changes in crop area and livestock herds'. Still, the potential for price shocks remains, especially if, for example, trade is widely restricted or large-scale climate risks (or extreme weather events) materialize.[10]

[7] Tiwari, S. and Zaman, H. (2010), *The Impacts of Economic Shocks on Global Undernourishment*, World Bank Policy Research Working Paper 5215, http://documents.worldbank.org/curated/en/509661468163742397/pdf/WPS5215.pdf (accessed 31 Aug. 2017).

[8] For example, see Wiggins, S., Keats, S. and Compton, J. (2010), *What caused the food price spike of 2007/08? Lessons for world cereals markets,* Food Prices Project Report, London: Overseas Development Institute, https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/6103.pdf (accessed 31 Aug. 2017).

[9] OECD-FAO (2016), *OECD-FAO Agricultural Outlook 2016-2025*, OECD Publishing, doi: 10.1787/agr_outlook-2016-en (accessed 31 Aug. 2017).

[10] For example, see Bailey, R. et al. (2015), *Synthesis report: Extreme weather and resilience of the global food system*, Global Food Security, www.foodsecurity.ac.uk/publications/extreme-weather-resilience-global-food-system.pdf (accessed 31 Aug. 2017).

Second, the environmental challenge for farming is increasingly apparent. The agricultural sector is both a driver of climate change and vulnerable to its effects. Agriculture accounts for some 13 per cent[11] of total global greenhouse gas emissions (and this proportion is much higher if the emissions caused by the clearing of land for agriculture are included), but there are relatively limited efforts to mitigate this amount in the EU and elsewhere.

Even if efforts to reduce these emissions are ramped up, agriculture will need to adapt to the impacts of climate change in the future. In addition to the risk of increasingly frequent extreme weather, climate change is expected to alter the length and timing of growing seasons[12] and slow yield growth for key staples such as wheat and maize.[13]

The third trend is that animal disease risk appears to be on the rise, and may be exacerbated by climate change. A recent FAO paper on climate and animal health concluded: 'The flare-up of novel pests and diseases of wildlife and livestock origin, and also the surge of food safety hazards, is likely to continue for decades to come.'[14] This emerging risk could motivate a shift of resources towards detecting, mitigating and responding to disease, especially given the challenge of antimicrobial resistance.

These challenges for agricultural production and supply are likely to be accompanied by continuing shifts in demand, as there is a tension between the trend towards more unsustainable and obesogenic diets and growing recognition of the necessity for healthier, less environmentally damaging diets.

As a result, the coming period will be one of significant challenge for agricultural policy and the broader sector. Inevitably, falling prices will mobilize the agricultural lobby in the EU and the UK, which will further distract governments from formulating policy that incentivizes radical shifts in the emissions intensity of agriculture (and in what people eat).

Four models of agricultural policy

Given the major challenges faced by the agricultural sector, it is important for the UK and the EU to consider models that enable the sector to thrive in response to global developments and trends. This section looks at the different models of agriculture used by high-income countries globally.

Much of the current debate about UK agricultural policy concentrates on the continuation and nature of subsidies, regulations or environmental schemes. While regulations and standards are important both domestically and for trade, for the following analysis it has been assumed that these will remain largely unchanged.

[11] Russell, S. (2014), 'Everything You Need to Know About Agricultural Emissions', World Resources Institute Blog, 29 May 2014, http://www.wri.org/blog/2014/05/everything-you-need-know-about-agricultural-emissions (accessed 31 Aug. 2017).
[12] Thornton, P., Ericksen, P., Herrero, M. and Challinor, A. (2014), 'Climate variability and vulnerability to climate change: a review', *Global Change Biology*, 20: pp. 3313–3328, doi:10.1111/gcb.12581 (accessed 31 Aug. 2017).
[13] Lobell, D. and Tebaldi, C. (2014), 'Getting caught with our plants down: the risk of a global crop yield slowdown from climate trends in the next two decades', *Environmental Research Letters*, 91 (7), doi:10.1088/1748-9326/9/7/074003 (accessed 31 Aug. 2017); Porter, J. R. et al. (2014), 'Food security and food production systems', in Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (2014), *Climate Change 2014 – Impacts, Adaptation and vulnerability: Part A: Global and Sectoral Aspects*, IPCC, 1, London and New York: Cambridge University Press, pp. 485–533, https://doi.org/10.1017/CBO9781107415379.
[14] Lubroth, J. (2012), 'Climate change and animal health', in Proceedings of a joint FAO/OECD Workshop (2012), *Building resilience for adaptation to climate change in the agriculture sector,* pp. 63–70, http://www.fao.org/docrep/017/i3084e/i3084e.pdf (accessed 31 Aug. 2017).

The UK government must make a strategic choice about its aims, and about the type of agricultural system it wishes to pursue. As shown in Table 1, there are arguably four main models, targeting different objectives, among high-income countries globally that may be viable for the UK. The table identifies the main pros and cons of each, but is not exhaustive in its treatment or coverage of them.

Table 1: Overview of agricultural models available to the UK and the EU

Model	Objective	Geographies where model applies	Economic and trade impacts	Social and environmental impacts
Sector protection Trade barriers and subsidies to support sector output	To protect specific farming sectors or practices and incentivize production with high prices	Japan; Norway; Switzerland	+ Budget savings, as only some sectors subsidized – Poor return to public funds – Maintains inefficient businesses – Higher prices for consumers – Costly administration	+ Preserves traditional sectors, approaches and landscapes – Environmental damage from overproduction – Damaging to progress of developing countries – Environmental incentives second to economic ones
Decoupled subsidy Subsidies that are not tied to production	To support farmers' income but with support decoupled from production	EU	+ Less distortionary than subsidies based on output + Potentially cheap to administer – Expensive – Inflates land prices – Increases production as uneconomic farms continue	+ Payment system design can incentivize environmentally sound behaviours + Support for rural areas – Gains tend to support (wealthy) landowners – Environmental payments available to farmers only
Insurance Paying out if prices or incomes fall below a set threshold	To support farmers' income in the event of price or production shocks	US; Canada	+ Occasional payouts are cheaper than annual ones + Can develop finance markets for risk-sharing – Government costs still high – Costly to administer	+ Targets support on priority/vulnerable sectors – Can lead to risk-taking/ rewards failure – Blunt incentives to manage risk – Payouts mostly benefit largest, wealthiest farmers
Market-oriented Low subsidies, and low barriers to imports	An efficient farming sector that trades globally and enables low consumer prices	New Zealand; Australia	+ Lower consumer food prices + More efficient agriculture sector + Reduced taxpayer cost + Lower land prices benefiting other businesses – Potentially disruptive transition from other models – Lower tariff (tax) income	+ Subsidy budgets can be reallocated + No overproduction + Globally dispersed production mitigates supply risks from geographically concentrated production – Smaller agricultural sector with larger, more homogeneous farms, at least in short term – Lower food prices increase consumption and thus related health and environmental impacts

Source: Compiled by author.
Note: This table focuses on models in place in high-income countries, and is intended to provide a brief indication of the main pros (+) and cons (–) of each model. Each is likely to vary in magnitude.

While the UK may well select elements and ideas from more than one area, the government's objectives will determine the overall model.

If supporting producers facing low prices is a priority, then the first three model options may be suitable. However, this support comes at a significant cost. Meanwhile, although the insurance model ostensibly only offers support to producers in years when prices are low, in reality the US system is not substantially cheaper than the EU system. Furthermore, the insurance model (sometimes referred to as 'risk management') does very little to mitigate risks from climate change or of disease to animals – indeed, if anything, it encourages higher risk-taking by producers. Finally, the market-oriented model has the downside of a smaller agricultural sector and inevitable job losses. At present, the UK has very high employment levels, which implies that opportunities exist for those who may lose their jobs. However, such a model may be tougher to implement given the potential disruptive macroeconomic effects of the UK's forthcoming departure from the EU.

An important aspect of agriculture is the impact it has on the local and wider environments. Agriculture improves some landscapes, but is also a significant contributor to climate change, and some of its practices – such as the use of manure, fertilizers and other chemicals – have negative consequences. For the models in Table 1, the extent of these impacts will depend on the wider regulatory structure and the specific incentives created through new policy. Incentives and subsidies can be justified for producers if they benefit the local environment, although it is unclear why they should be available only to those in the agricultural sector and not, for example, to other landowners and users. The sector protection model, which tends to lead to overproduction, is likely to be the most damaging to the environment, while the decoupled subsidy model – which in the EU case includes some environmental payments and requirements – potentially offers the most benefits for the environment.

Box 1: Aligning agricultural and environmental policies

The models for agriculture examined in this paper have various implications for the environment. These models need to be supplemented by sound environmental strategies that address climate and broader environmental objectives, and that also align with the approaches of other countries. The need for appropriate policies to help deal with the environmental challenges is urgent for both the UK and the EU.

Agriculture has a major impact on local, regional and global environments. Some of the impacts can be positive – for example, preserving carbon sinks, soil health and biodiversity, as well as maintaining and creating attractive landscapes through appropriate land use and conscientious environmental stewardship. Still, these are often realized on a more limited scale when compared with the widespread negative impacts such as homogenization of landscapes and the reduction of biodiversity, greenhouse gas emissions, unsustainable water withdrawals, eutrophication, and the erosion and degradation of soils. Overall, agriculture is a major source of greenhouse gas emissions, the main polluter and user of water, and the primary driver of habitat destruction and species loss.

The interdependencies and complex relationships between agriculture, ecology and climate mean that it is imperative that policies addressing these areas complement one another and, where appropriate, are integrated. If national, European and global environmental goals are to be met, agricultural policy cannot exist in isolation from climate

and environmental policies; governments must do more to align and integrate them. This will mean accompanying regulations and policies with reform of subsidies and trade practices.

The UK government has pledged to be 'the first generation to leave the environment in a better state than we inherited it'.[15] Alongside a sound trade and economic model, both the UK and the EU will need to make major improvements to their means of addressing environmentally damaging externalities. Existing approaches to linking public funds to environmental outcomes have shown that achieving this is complex and multifaceted. However, it is vital that the UK now demonstrates leadership on this issue.

Leading options for the UK

The UK has traditionally argued for a market-oriented model of agriculture. Consecutive governments have long accepted and produced evidence[16] to show that production-based subsidies are expensive and distortionary, and that trade barriers are self-defeating in terms of protecting agricultural sectors. However, this issue is now complicated by two main factors: one economic, one political.

Economic impact of post-EU trade and migration

After Brexit, the UK's new trade and migration regime may have a significant economic impact on UK agriculture. In regard to the UK's trade relationship with the EU, policies that boost the agricultural sector would actually conflict with positions that benefit the wider economy and consumers. For example, in consideration of the UK's position as a large net importer of food from the EU, new trade barriers – especially in a scenario in which UK–EU trade relies on WTO rules – would actually benefit most parts of the agricultural sector by cutting competition from the EU, which would push up food prices and increase domestic agricultural production.[17]

A UK–EU trade deal is in both parties' economic interest. However, if the two sides fail to strike a trade deal, then they will default to WTO rules.[18] In that eventuality, most UK sectors would face reduced competition from EU producers and, with subsidies guaranteed by the UK government, likely increase their output accordingly to meet domestic demand. Only net exporters such as producers of barley and, especially, sheep meat would be adversely affected.[19] Given the complexity and time required to agree a comprehensive trade deal, and the economic self-harm to both parties of a 'no deal' scenario, a transitional arrangement would make sense. If the UK can strike a trade deal with the EU, it seems possible that this would include

[15] Conservative and Unionist Party (2017), *Conservative and Unionist Party Manifesto 2017*, p. 26, https://s3.eu-west-2.amazonaws.com/manifesto2017/Manifesto2017.pdf#page=28 (accessed 21 Sep. 2017).
[16] For example, see Defra and HM Treasury (2005), 'A Vision for the Common Agricultural Policy', December 2005, http://webarchive.nationalarchives.gov.uk/20060616120000/http://www.defra.gov.uk/farm/capreform/vision.htm (accessed 31 Aug. 2017).
[17] van Berkum, S., Jongeneel, R. A., Vrolijk, H. C. J., van Leeuwen, M. G. A. and Jager, J. H. (2016), *Implications of a UK exit from the EU for British agriculture: Study for the National Farmers' Union (NFU)*, LEI Wageningen UR Report 2016, 46, https://www.nfuonline.com/assets/61142 (accessed 31 Aug. 2017).
[18] Known as 'Most Favoured Nation' levels, these rules oblige countries to treat all other trade partners in the WTO equally unless they have agreed a trade deal covering substantially all trade. These terms are less favourable than those of any trade deal.
[19] Davis, J., Feng, S., Patton, M. and Binfield, J. (2017), *Impacts of Alternative Post-Brexit Trade Agreements on UK Agriculture: Sector Analyses using the FAPRI-UK Model*, Agri-Food and Bio-sciences Institute, August 2017, https://content17.green17creative.com/media/99/files/FAPRI_UK_Brexit_Report.pdf (accessed 21 Sep. 2017).

tariffs close to their current level of zero. The recent EU–Canada trade deal – the Comprehensive Economic and Trade Agreement (CETA) – removes tariffs and quotas on 97 per cent of the EU's imports from Canada.[20] With any such trade deal, UK exports to the EU would be subject to new 'rules of origin' paperwork checks to confirm products originated in the UK (and qualified for lowered tariffs). These new frictions would be damaging, especially for the trade of perishable goods. However, in the context of the UK's overall trade with the EU, these impacts would be relatively small and the agricultural sector would be largely unaffected.

The UK's new trade relationships with other countries create the risk of new competition for its agricultural producers. After Brexit, the UK's default tariffs will mimic the EU's in order to re-establish the UK trade schedule at the WTO. As now, this means very high tariffs on some imports – for example, over 60 per cent on beef or 40 per cent or more on dairy products.[21] However, the UK would then be free to lower the tariffs it applied to such non-EU products and those of the wider agricultural sector. This could benefit consumers and the economy overall, but would most likely have significant impacts on UK livestock producers, especially those of beef and lamb, where modelling suggests that even halving tariffs could reduce domestic output by 6–7 per cent.[22]

This economic risk is exacerbated by uncertainty over the ability of the agricultural sector to continue to rely on seasonal labour from the EU, with some 85 per cent of seasonal workers coming from Bulgaria and Romania. Even before Brexit happens, recruitment for these roles is becoming more difficult.[23] The government has suggested that a seasonal agricultural workers' scheme is being considered to address the sector's needs.[24] Regardless of what steps are taken, the risk of instability in trade and migration continues to challenge some farming business models and will form the central case for ongoing support from the farm lobby.

If the sector faces economic disruption from restricted migration or a more open trade regime with countries beyond the EU, this could constrain the UK government's appetite for further disruption from other policy changes such as reducing subsidies.

Brexit and 2017 election campaign promises

An important political factor is that the Conservative government and ministers have raised expectations of ongoing support for the agricultural sector, at least in the short term.

[20] European Commission (2016), 'CETA – Summary of the final negotiating results', https://trade.ec.europa.eu/doclib/docs/2014/december/tradoc_152982.pdf (accessed 31 Aug. 2017).
[21] Agriculture & Horticulture Development Board (2017), *The WTO and its implications for UK agriculture*, Appendix, 28 June 2017, https://ahdb.org.uk/documents/Horizon_june2017.pdf (accessed 22 Oct. 2017).
[22] van Berkum et al. (2016), *Implications of a UK exit from the EU for British agriculture*.
[23] Travis, A. (2017), 'Decline in EU workers hits UK agriculture, Lords inquiry told', *Guardian*, 18 January 2017, https://www.theguardian.com/environment/2017/jan/18/decline-eu-workers-hitting-uk-agriculture-lords-inquiry-told (accessed 31 Aug. 2017).
[24] House of Lords European Union Committee (2017), *20th Report of Session 2016-17: Brexit: agriculture*, HL Paper 169, p. 72 (para. 271), https://publications.parliament.uk/pa/ld201617/ldselect/ldeucom/169/169.pdf (accessed 31 Aug. 2017).

The Conservative manifesto for the 2017 election gave a commitment to 'continue to commit the same cash total [£3.27 billion annually[25]] in funds for farm support until the end of the parliament' – i.e. in 2022. Depending on inflation over the same period, this could imply a small real-terms cut. In July 2017 the new environment secretary responsible for agriculture, Michael Gove, stated that the government would move away from the EU's approach of rewarding 'size of land-holding ahead of good environmental practice'[26] and those 'already wealthy'. He suggested that public money would instead be used to 'reward environmentally responsible land use'. At the same time, he stated that he wanted to ensure that the UK will be 'generously supporting farmers for many years to come'.

Transition impacts can be exaggerated. Jobs that are lost may move to other sectors, as normally happens in a healthy economy

Before the Brexit vote, George Eustice, the minister of state at the Department for Environment, Food and Rural Affairs (Defra) responsible for agriculture, fisheries and food, expressed interest in replicating Canada's government-backed insurance schemes to address the volatility faced by farmers.[27] However, it seems inconceivable that the necessary administrative system could be established in time for the UK's scheduled departure from the EU in 2019. Furthermore, such an aspiration is at most a long-term objective, and even then a centre-right government's aversion to bureaucratic bodies, and previous high-profile failures by authorities making rural payments, would likely dampen any enthusiasm.

There is recognition that Brexit offers a unique and unparalleled opportunity to improve agricultural policy in the UK. The UK government continues to make clear that it is committed to open and free trade, which implies that trade barriers on agricultural imports will be reduced. There has been much criticism of subsidies: the centre-right *Times* newspaper has called for substantial reductions of subsidies,[28] and the 'leave' campaign demanded EU budget contributions be reallocated. The government is yet to outline its plans, but it has an opportunity to reduce and reallocate subsidy budgets to better incentivize agricultural practices that benefit the public, such as actions that help the UK achieve its climate change objectives.

Transition impacts of reform

A move to a genuinely market-oriented model would result in imports displacing UK products, and the removal of all forms of subsidies would cause some farming operations to fold. While the resulting lower prices would benefit consumers, importing businesses and the economy overall, it would also mean unviable agricultural businesses closing, being taken over or having to reinvent themselves. The livestock sector in particular is vulnerable in this regard, with rural communities, especially upland areas, likely to suffer the most commercially.

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[25] In 2016, agricultural payments totalled £3.273 billion – combining £2.737 billion from the European Agricultural Guarantee Fund and £0.536 billion via the European Agricultural Fund for Rural Development. HM Treasury (2017), *European Union Finances 2016: statement on the 2016 EU Budget and measures to counter fraud and financial mismanagement*, p. 45, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/590488/PU2027_EU_finances_2016_print_final.pdf (accessed 31 Aug. 2017).

[26] Department for Environment, Food and Rural Affairs (Defra) (2017), 'The Unfrozen Moment – Delivering A Green Brexit', speech by the RT Hon Michael Gove MP, 21 July 2017, https://www.gov.uk/government/speeches/the-unfrozen-moment-delivering-a-green-brexit (accessed 31 Aug. 2017).

[27] Case, P. (2016), 'George Eustice sets out vision for farming life outside EU', *Farmers Weekly*, 23 March 2016, http://www.fwi.co.uk/news/george-eustice-sets-out-vision-for-farming-life-outside-eu.htm (accessed 31 Aug. 2017).

[28] *The Times* (2017), 'Agricultural Yield', editorial, 21 February 2017, https://www.thetimes.co.uk/past-six-days/2017-02-21/comment/agricultural-yield-088nthgqj.

However, transition impacts can be exaggerated. Jobs that are lost may move to other sectors, as normally happens in a healthy economy. By way of comparison, the number of manufacturing redundancies in a single year is normally equivalent to over one-fifth of the entire agricultural workforce (over the last decade, redundancies in the manufacturing sector averaged over 100,000 per year[29] – the total agricultural workforce is just over 421,000[30]).

The cost of agricultural subsidies is so high that any savings from their reduction could comfortably fund transition support. Theoretically, even one year of the UK's current direct agricultural subsidies, £2.7 billion,[31] is more than enough to pay the median UK annual full-time earnings of £28,000[32] to over one-fifth of the agricultural workforce. These funds could provide substantial support and retraining to those affected. Of course, these examples are purely illustrative, and do not represent an assessment of the actual impact nor the appropriate policy instrument. Moreover, there could be ongoing socio-economic impacts on parts of rural communities affected that would need to be considered, and would create particular political challenges.

Overall, the UK government's commitment to free trade should mean a more open agricultural sector with lower import tariffs. With so much of the UK's previous EU budget contribution going on agriculture, the government may feel pressure to reduce the £3.27 billion of subsidies it has committed to provide. Immediately after the Brexit vote, the government confirmed[33] that it would mimic the EU's decoupled subsidy system, but its longer-term plans are unclear. There is a small chance that, over the longer term, the UK could move to an insurance-based model, although recently it has emphasized allocating subsidies more closely tied to environmental improvement.

The current government will continue to face a tension between its stated commitments to markets and free trade, and its close ties with the agricultural sector.

Brexit and the outlook for EU and global agricultural reform

In May 2017 the EU completed its first consultation on modernizing and simplifying[34] the CAP, and resulting proposals are expected to be made later this year. The current CAP runs from 2014 to 2020. However, the timetable of elections for the European Parliament and the appointment of a new Commission in 2019 suggests that substantial changes are extremely unlikely.

[29] Office for National Statistics (ONS) (2016), Dataset: RED02: Redundancies by industry, age, sex and re-employment rates, Manufacturing redundancies 2007–16, https://www.ons.gov.uk/employmentandlabourmarket/peoplenotinwork/redundancies/datasets/redundanciesbyindustryagesexandreemploymentratesred02 (accessed 31 Aug. 2017).
[30] Defra et al. (2017), *Agriculture in the United Kingdom 2016*, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/629226/AUK-2016-17jul17.pdf (accessed 31 Aug. 2017).
[31] This figure is only the basic direct payment element of the total £3.27 billion – European Agricultural Guarantee Fund (EAGF) Pillar 1 funding – it excludes £0.54 billion targeted on rural and environmental development (European Agricultural Fund for Rural Development (EAFRD)). HM Treasury (2017), *European Union Finances 2016: statement on the 2016 EU Budget and measures to counter fraud and financial mismanagement*, p. 45 (accessed 22 Sep. 2017).
[32] ONS (2016), 'Average earnings', in ONS (2016), *Annual Survey of Hours and Earnings: 2016 provisional results*, https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/bulletins/annualsurveyofhoursandearnings/2016provisionalresults#average-earnings (accessed 31 Aug. 2017).
[33] HM Treasury (2016), 'Chancellor Philip Hammond Guarantees EU funding beyond date UK leaves the EU', 13 August 2016, https://www.gov.uk/government/news/chancellor-philip-hammond-guarantees-eu-funding-beyond-date-uk-leaves-the-eu (accessed 31 Aug. 2017).
[34] European Commission (2017), 'Consultation on modernising and simplifying the common agricultural policy (CAP)', https://ec.europa.eu/agriculture/consultations/cap-modernising/2017_en (accessed 22 Sep. 2017).

The negotiation of Brexit and the EU's overall budget-setting process ('Multiannual Financial Framework') will likely precede any reforms on agriculture. The mid-term review of the budget, currently under way, has focused on increased 'flexibility' in the budget to deal with security and migration. The European Commission has recognized in three of five (post-Brexit) scenarios on the future of EU finances[35] that public spending on agriculture will need to be reduced, and in one scenario has suggested that it should be better targeted. This shift in budget priorities could catalyse reform after 2020.

EU agricultural reform to date

Previous reforms, especially before the mid-2000s, reduced public spending levels relative to sector output, and removed many of the most distortionary types of support (including export refunds and coupled direct payments, see Figure 1). However, this progress was curtailed somewhat with the most recent reform. This aimed to reward farmers for their environmental contribution with the introduction of a 'Greening Payment'. Consequently, 30 per cent of 'new direct payments' are dependent on recipients adhering to certain environmental practices: crop diversification; maintenance of permanent grasslands; and allocating a portion of land to 'Ecological Focus Areas', which are areas such as hedges and field margins not used for production.[36] Simulations suggest that these new requirements deliver little additional environmental benefit.[37] Other changes were the reintroduction of payments depending on production levels ('coupled') and a raft of options (such as 'capping' the maximum payments to farmers) that member states can choose to apply.

Where next for EU agriculture?

The European Commission's consultation document[38] on modernizing and simplifying the CAP sets out the new context for EU agriculture, highlighting: lower prices and increased market uncertainty (including geopolitical tensions such as those with Russia and the related trade restrictions); the shift of trade negotiations from multilateral to bilateral; and new international commitments on tackling climate change and in line with the UN's Sustainable Development Goals.

It further suggests three new options (in addition to the status quo and a hypothetical 'no policy' scenario) for addressing these changes. The status quo means maintaining high subsidies, largely based on land area and requiring minimal environmental commitments from recipients; alongside a separate tranche of grants for rural and environmental schemes.[39] A viable market-oriented option – with reduced subsidies and trade protections – is conspicuous by its absence. According to Alan Matthews,

[35] European Commission (2017), *Reflection paper on the future of EU finances*, 28 June 2017, https://ec.europa.eu/commission/sites/beta-political/files/reflection-paper-eu-finances_en.pdf (accessed 31 Aug. 2017).
[36] European Commission (2013), 'MEMO: CAP Reform – an explanation of the main elements', 25 October 2013, http://europa.eu/rapid/press-release_MEMO-13-937_en.htm?locale=FR (accessed 31 Aug. 2017).
[37] For example, see Gocht, A., Ciaian, P., Bielza, M., Terres, J. M., Roder, N., Himics, M. and Salputra, G. (2016), *Economic and environmental impacts of CAP greening: CAPRI simulation results*, EUR 28037 EN, Joint Research Centre, European Commission, doi:10.2788/452051 (accessed 31 Aug. 2017).
[38] European Commission (2017), 'Inception Impact Assessment: Communication on Modernising and Simplifying the Common Agricultural Policy', http://ec.europa.eu/smart-regulation/roadmaps/docs/2017_agri_001_cap_modernisation_en.pdf (accessed 31 Aug. 2017).
[39] European Commission (2013), 'MEMO: CAP Reform – an explanation of the main elements'.

Professor Emeritus of European Agricultural Policy in the Department of Economics at Trinity College, Dublin, the remaining three options can be summarized as:[40]

- Programming subsidies with an implied shift from area-based payments towards rural development, innovation and risk management tools;
- Building on area-based payments to further leverage economic and environmental benefits in a simplified way, perhaps introducing co-financing for Pillar 1 (i.e. untied farmer) payments while making greater use of technology to modernize controls towards performance-based outcomes; and
- Focusing support on smallholders, mandatory capping of direct payments, environmentally friendly farms and local food.

These are all incremental proposals, building on the CAP's existing approach rather than offering a fundamental redesign. In contrast, a recent report by the Rural Investment Support for Europe (RISE) Foundation argued that a more sustainable policy would involve a complete restructure incorporating an integrated approach to land management and a new, holistic approach to risk management.[41]

There is little agreement on the best course of action within the EU, beyond a consensus on the need for 'simplification'. In an early discussion of the European Council,[42] several delegations argued for more robust 'market crisis' measures (such as risk management) and equal payments per hectare for each member. Meanwhile, many also asked for more national flexibility in determining where their subsidies were targeted (for example, to manage the balance of rural and environmental objectives).

Potential EU agricultural policy after 2020

There is a chance that EU agriculture policy regresses in the coming decade. In March 2017, 12 member states submitted a paper[43] calling for more flexibility in using coupled-support payments (dependent on volume of production) with more discretion for EU members (although this is not a Commission or majority position). Already in some areas and sectors in the EU, distortionary coupled subsidies are substantial – for example, in Romania some cattle farmers receive payments of over €300 per animal.[44] If the submitted proposal became policy, it would put significant distortionary powers in the hands of member states. It would also undermine the original aim of the common market of providing a level playing field within the union, signal that the EU's policy was shifting firmly into the realms of protectionism, and unwind 15 years of reform.

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[40] Matthews, A. (2017), 'What can we expect following the CAP public consultation?', CAP Reform blog, 13 February 2017, http://capreform.eu/what-can-we-expect-following-the-cap-public-consultation/ (accessed 31 Aug. 2017).
[41] Buckwell, A., Matthews, A., Baldock, D. and Mathijs, E. (2017), *CAP: Thinking Out of the Box: Further modernisation of the CAP – why, what and how?*, The RISE Foundation, http://www.risefoundation.eu/images/files/2017/2017_RISE_CAP_Full_Report.pdf (accessed 31 Aug. 2017).
[42] Council of the European Union (2017), Note from Presidency to the Council: CAP post-2020 – Exchange of views, 28 February 2017, http://data.consilium.europa.eu/doc/document/ST-6766-2017-INIT/en/pdf (accessed 31 Aug. 2017).
[43] Council of the European Union (2017), Note from General Secretariat of the Council to the Delegations: Voluntary Coupled Support. Information from the Bulgarian, Croatian, Cyprus, Czech, Finnish, French, Greek, Italian, Latvian, Polish, Romanian and Slovenian delegations, http://data.consilium.europa.eu/doc/document/ST-6861-2017-INIT/en/pdf (accessed 31 Aug. 2017).
[44] European Commission (2015), *Voluntary coupled support – Sectors mostly supported*, 30 July 2015, https://ec.europa.eu/agriculture/sites/agriculture/files/direct-support/direct-payments/docs/voluntary-coupled-support-note_en.pdf (accessed 31 Aug. 2017).

As the UK will be an EU member until 2019 on the current Brexit schedule, it may be able to play a role in preventing such a regressive regime. However, if greater protectionism became the post-2020 direction of EU policy, it would be a costly side effect of Brexit for European consumers. Such a shift would further disadvantage farmers outside the EU (including in the UK at that time) competing with EU producers in newly coupled sectors.

Brexit budgetary pressures

Funding is another challenge for the EU's agricultural sector after Brexit. Putting aside the liabilities the UK has accrued as an EU member, the UK's exit will leave the EU with an annual €10 billion gap in its budget.[45] If this reduction were exclusively applied to the agricultural budget, it would represent a 20 per cent cut.[46] Alternatively, if all member states increased their budget contributions to cover the shortfall, the Netherlands, Germany and Sweden (already large net contributors) would see their contributions increase by more than 10 per cent (whereas for most others the increase would be 5–8 per cent).

Putting aside the liabilities the UK has accrued as an EU member, the UK's exit will leave the EU with an annual €10 billion gap in its budget

The EU budget is already under significant pressure from member states facing fiscal pressures at home, as well as additional demands on security following recent terrorist attacks and in relation to border controls and refugees. Security and migration currently account for a relatively small share of the EU budget: originally, they were budgeted at less than 2 per cent of total spending.[47] All the available budget flexibility has already been used to prioritize these areas within the current budget period, and these costs are very likely to increase substantially in the next period.

Downward pressures on the agricultural budget will be resisted by member states that benefit from subsidies, and by the European Parliament.[48] As mentioned earlier, the European Commission has recognized in three of five (post-Brexit) scenarios on the future of EU finances[49] that public spending on agriculture will need to decrease. While budget cuts alone are unlikely to transform agricultural policy, the funding pressures of Brexit, rises in migration and increased security threats will provide additional pressure for changes to be made. That said, significant material EU agricultural reform in the next decade seems improbable. There is little evidence of an ambition to liberalize the market in any of the EU's post-2020 proposal papers, and some countries have called for a return to highly distortionary coupled payments. Ultimately, this reflects two fundamental issues: a lack of consensus in the EU; and the built-in incentives of the negotiation process to protect existing payments.

[45] Haas, J. and Rubio, E. (2017), *Brexit and the EU budget: threat or opportunity?*, Policy Paper 183, Berlin: Jacques Delors Institut, 16 January 2017, http://www.delorsinstitut.de/2015/wp-content/uploads/2017/01/BrexitEUBudget-HaasRubio-JDI-JDIB-Jan17.pdf (accessed 31 Aug. 2017).
[46] Ibid.
[47] European Commission (2015), 'EU expenditure and revenue 2014-2020', http://ec.europa.eu/budget/figures/interactive/index_en.cfm (accessed 31 Aug. 2017).
[48] For example, see Kay, A. (2016), 'MEPs vote to reverse cuts to EU agriculture budget', *Farmers Guardian*, 18 October 2016, https://www.fginsight.com/news/news/meps-vote-to-reverse-cuts-to-eu-agriculture-budget-16116 (accessed 31 Aug. 2017).
[49] European Commission (2017), *Reflection paper on the future of EU finances*.

Wider implications at the G20 and the WTO

Globally, the use of protectionist measures and subsidies is higher in agriculture than in any other sector, but their use has been falling over the past three decades. In OECD countries, agricultural producer support has dropped from almost 2.5 per cent of GDP in 1986 to 0.4 per cent in 2015.[50] The OECD has noted that some emerging economies have gone against this trend and have increased support to agriculture.[51]

The UK's approach to agriculture once it leaves the EU will have an influence at the WTO and G20 levels

In general, trade barriers have also come down over the last half century, but agricultural tariffs remain well above those on other goods. In the EU, for example, agricultural tariffs average over 12 per cent, compared with 4 per cent on other goods.[52] These tariffs are a substantial distortion to agricultural trade.

At the 10th Ministerial Conference in Nairobi, in December 2015, WTO members reached a historic agreement[53] to abolish the highly damaging practice of subsidizing exports. Reform-minded members of the Cairns Group[54] (a collective of 19 countries accounting for over a quarter of the world's agricultural exports) have now urged fellow WTO members to 'finish global farm trade reform' and limit agricultural subsidies to 5 per cent of production value.[55]

The UK's approach to agriculture once it leaves the EU will have an influence at the WTO and G20 levels. At that time, the UK will likely re-establish its trade schedule as an independent WTO member. This will enable the UK to play a part in WTO discussions. After a period of transition to ensure market stability, the UK could move to a market-oriented model, such as that adopted by Australia and New Zealand, which could demonstrate how agriculture in a developed country can succeed in an open regime, and with the potential to do so in a manner consistent with its environmental aspirations and commitments. For the EU and the US, such a move on the part of the UK would be a much more relevant example of reform than Australia's previous adoption of this model. It would make the UK the second G20 country after Australia to introduce a market-oriented model, and the largest economy to do so. The current context of the Trump administration makes it difficult to envisage more open trade in the short term. However, by 2025, especially if economic growth in developed countries disappoints, the incentives and momentum could shift in favour of complete reform of the UK agricultural sector.

[50] OECD (2017), Producer and Consumer Support Estimates database, http://www.oecd.org/tad/agricultural-policies/producerandconsumersupportestimatesdatabase.htm (accessed 31 Aug. 2017).
[51] The increases are driven by China but also seen in Brazil, Indonesia and Kazakhstan. These outweighed decreases in Colombia, Russia and South Africa. Ukraine's agricultural support remained very minimal. OECD (2015), *Highlights: Agricultural Policy Monitoring and Evaluation 2015*, pp. 14 and 19, https://www.oecd.org/tad/agricultural-policies/monitoring-evaluation-2015-highlights-july-2015.pdf (accessed 31 Aug. 2017).
[52] WTO (2015), *World Tariff Profiles 2015*, https://www.wto.org/english/res_e/booksp_e/tariff_profiles15_e.pdf (accessed 31 Aug. 2017).
[53] WTO (2015), 'WTO members secure "historic" Nairobi Package for Africa and the world', 19 December 2015, https://www.wto.org/english/news_e/news15_e/mc10_19dec15_e.htm (accessed 31 Aug 2017).
[54] Cairns Group, http://cairnsgroup.org/pages/default.aspx.
[55] Glauber, J. (2016), 'Unfinished Business in Agricultural Trade Liberalisation', November 2016, http://cairnsgroup.org/Pages/Unfinished-Business.aspx (accessed 22 Sep. 2017).

Conclusion

The likely direction of the UK's agricultural sector after Brexit is still unclear. On the one hand, there is the UK's traditional reformist and liberal position and stated willingness to adopt a market-oriented model – reinforced by the government's commitment that the UK will be a 'global leader in free trade',[56] and supported by sections of the media. On the other hand, there are constraints arising from promises made during the EU referendum and 2017 election campaigns, interest in the insurance model from the minister of state at Defra, and the lobby of farmers and landowners wishing to protect their substantial existing subsidies. There is an opportunity for the UK to lead international market-oriented policy reform, which would closely align environmental, climate and agricultural policies and redesign subsidies to better achieve environmental commitments. Globally, there is an absence of existing leadership on these issues; the UK has a significant opportunity to position itself as a pioneer.

Economically, there is a strong case for liberalizing the agricultural sector: lower prices for consumers, ensured food security through diversified trade, and a rise in the sector's productivity. These benefits potentially outweigh those of preserving any particular farming system. Consecutive UK governments have accepted and argued this case in the EU. Vested interests, often in the receipt of subsidies, have so far resisted change. The current global outlook of potentially lower prices, climate change and higher disease risk does not change these benefits, but it does imply the need for other policy shifts to ensure that public goods are delivered and that agricultural spillovers such as pollution are accounted for. Overall agricultural spending should be reduced. It should be refocused on R&D, and on incentives to manage the environment better, mitigate climate change and build resilience to disease and climate shocks.

Reform will cause some businesses to fold, or substantially change. But the costs of reform can be exaggerated. Jobs will be lost and move to other sectors: by way of comparison, the manufacturing sector has typically shed 100,000 jobs per year – more than a fifth of the current agricultural workforce. Similarly, the savings possible from reducing agricultural subsidies are large enough to fund significant worker transition costs. Nevertheless, transition costs and the risk of residual unemployment are real and should be proactively addressed by the government. The political challenge of implementing such reform should not be underestimated.

In the EU, it is unlikely that there will be significant progressive change in agricultural policy in the next decade. Any ambition to liberalize policy was effectively dismissed in the European Commission's consultation on modernizing and simplifying the CAP. However, budget pressures have led the Commission to lay out potential scenarios beyond 2020, which would materially reduce levels of agricultural funding. EU member countries are only just beginning to countenance shifting material amounts of funding away from agriculture despite domestic fiscal constraints and budget pressures from Brexit, migration and security.

Although the UK's agricultural sector is relatively small, the country's status as a G20 member and developed economy means that its future agricultural policy will have global relevance. While Donald Trump's US presidency may introduce new trade

[56] BBC News (2016), 'Theresa May: UK will be 'global leader in free trade'', 3 September 2016, http://www.bbc.co.uk/news/uk-politics-37257006 (accessed 31 Aug. 2017).

barriers, if the UK pursues the open model of agriculture that its rhetoric and tradition imply, it could mark an important medium-term shift in attitudes to the market-oriented model among members of the WTO and the G20 – providing a European example of liberalized agriculture that deals with the cost of transition and that can work in developed countries. It would also add to momentum from the WTO's recent success in eliminating farm export subsidies, which the WTO director-general called the 'most significant outcome on agriculture in the organization's 20-year history'.[57]

The debate on the UK's post-Brexit agricultural model is about to begin. Of the four broad options, only a market-oriented model – aligned and integrated with a more effective commitment to the environment and climate change mitigation – would enable the UK to benefit from free trade and a more diverse global outreach, while keeping the government's promise to improve the environment for the next generation.

[57] WTO (2015), 'WTO members secure "historic" Nairobi Package for Africa and the world'.

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Cover image: Farmer Mark Thomas shows his prizewinning champion South Devon bull in the show ring on the first day of the Royal Cornwall Show near Wadebridge on 9 June 2016, in Cornwall, England. Image copyright © Matt Cardy/Getty Images.

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