

## Impact case study (REF3)

<b>Institution:</b> University of Exeter		
<b>Unit of Assessment:</b> UoA 16 Economics and Econometrics		
<b>Title of case study:</b> The influence of competition and trade on food prices and food security: improving UK forecasting capabilities, developing global understandings and triggering international policy reform		
<b>Period when the underpinning research was undertaken:</b> Jan 2000 to Jun 2016		
<b>Details of staff conducting the underpinning research from the submitting unit:</b>		
<b>Name(s):</b>	<b>Role(s) (e.g. job title):</b>	<b>Period(s) employed by submitting HEI:</b>
Steve McCorrison James Davidson	Professor of Agricultural Economics Professor of Econometrics	Sep 1984 - on-going Jan 2004 - Sep 2019
<b>Period when the claimed impact occurred:</b> 1 Aug 2013 - 31 Dec 2020		
<b>Is this case study continued from a case study submitted in 2014?</b> N		
<b>1. Summary of the impact</b>		
<p>McCorrison and Davidson's ground-breaking research on food pricing and competition issues has led to changes in national and international food policy and food trade reform. From Aug 2013 onwards it provided the UK government with the capacity to better understand, forecast and advise upon food price and food price inflation issues, including during the critical period leading up to the 2016 Brexit Referendum. The Office for Budget Responsibility also used it to update their forecasting method for Consumer Price Index subsets. Internationally, McCorrison's research contributed to an improved global understanding of food sector issues across Organisation for Economic Co-operation and Development (OECD) countries and also in developing countries, as spearheaded by the United Nations' Food and Agricultural Organisation, influencing national and international trade and food policy reforms.</p>		
<b>2. Underpinning research</b>		
<p>McCorrison's field-leading research focuses on competition in the food chain; a complex and often ignored dimension of food and agricultural markets in both developed and developing countries. These complexities are associated with market concentration in downstream sectors beyond the point of agricultural production (i.e. food manufacturing, distribution and retailing) and where there has been direct manipulation by governments of the structure of food and agricultural markets (e.g. through state-trading enterprises), a particular issue in developing countries.</p> <p>Food spend is one of the most significant parts of household expenditure; low-income groups are disproportionately affected by food price increases, given their relatively greater spend of household budget on food. Moreover, food retailing, processing and distribution along with the agricultural sector, can account for significant proportions of GDP, employment, exports and imports. In developing countries where food security issues are a primary concern of governments, food chain issues can fundamentally affect human wellbeing.</p> <p>Understanding the role of food chain competition is important for a number of reasons. Competition in the food chain is an important factor in determining the potential consequences of exogenous shocks - such as oil price spikes, significant trade policy change, or harvest failure - on the food sector and producers and consumers at either end of the food chain. Additionally, the potential effectiveness of government policies, targeted towards agriculture and food consumers, can be affected if the role of price transmission (i.e. how prices in one market affect those in another market) does not take into account the presence of competition throughout the food chain. Over the last 15 years, there has been a global, growing awareness of the importance of competition issues in the food chain, issues brought to the fore by this body of underpinning research.</p> <p>McCorrison [3.1] provides one of the first expositions of the importance of imperfect competition in food markets and the implications that arise from it. This research emphasised its importance in vertically-linked food chains and its effect on trade and agricultural policy outcomes, particularly for consumers. This contribution focussed primarily on developed countries (particularly the European Union). An extension of the research to developing countries, where buyer - as well as seller market power - characterises food chains, revealed that the benefits of</p>		

trade liberalization may be oversold to exporters in developing countries. As with imperfect competition, gains may instead flow to marketing firms in developed countries, as opposed to consumers or farmers [3.2].

McCorrison and colleagues explored the role of price transmission by developing a sophisticated time series econometric modelling framework, consistent with an economic model of the food chain with imperfect competition, to analyse the impact of the UK 2000 *Bovine spongiform encephalopathy* (BSE) crisis. They found that the impact on farm prices was more than double that on retail prices and this, in turn, highlighted the distributional impact of the crisis [3.3].

Davidson, McCorrison and colleagues addressed the consequences of world agricultural prices and macroeconomic shocks (e.g. exchange rates and oil prices) on UK food inflation, this time following the global commodity crises of 2007 and 2011 [3.4]. Results emphasised the importance of exchange rates, as well as world commodity prices, in driving UK food price inflation [3.3, 3.4].

Government manipulation of market structures, designed to deliver food policy objectives were analysed. This is a particular issue in developing countries, where there are concerns about food security. McCorrison and MacLaren [3.5] found that market deregulation, often a requirement of international support packages, was not necessarily welfare enhancing. As an extension to this research [3.6], the authors developed a framework to assess government reforms to food market structures across a variety of different contexts. They showed that policy reforms relating to procurement and distribution did not necessarily guarantee improvements in food security.

Recognised for pioneering advances in the field of global agricultural and food economics, McCorrison was appointed as a Fellow of the European Association of Agricultural Economists in 2020.

### 3. References to the research

- [3.1] **McCorrison, S.** (2002), Why Should Imperfect Competition Matter to Agricultural Economists?, *European Review of Agricultural Economics*, 29, 349-371. [doi.org/10.1093/eurrag/29.3.349](https://doi.org/10.1093/eurrag/29.3.349)
- [3.2] Sexton, R., I.M. Sheldon, S. **McCorrison** and H. Wang. (2007), Agricultural Trade Liberalisation and Economic Development: The Role of Downstream Market Power' *Agricultural Economics*, 36: 253-270. [doi.org/10.1111/j.1574-0862.2007.00203.x](https://doi.org/10.1111/j.1574-0862.2007.00203.x)
- [3.3] Lloyd, T. **S. McCorrison**, W. Morgan and A.J. Rayner. (2006), Food Scares, Market Power and Price Transmission: the UK BSE Crisis, *European Review of Agricultural Economics*, 33: 119-147. [doi.org/10.1093/erae/jbl001](https://doi.org/10.1093/erae/jbl001)
- [3.4] **Davidson, J.**, A. Halunga, T.A. Lloyd, **S. McCorrison** and C.W. Morgan (2016), World Commodity Prices and Domestic Retail Food Price Inflation: Some Insights from the UK, *Journal of Agricultural Economics*, 67(3): 566-583. [doi.org/10.1111/1477-9552.12158](https://doi.org/10.1111/1477-9552.12158)
- [3.5] **McCorrison, S.** and D. MacLaren (2007), De-Regulation as (Welfare Reducing) Trade Reform: The Case of the Australian Wheat Board, *American Journal of Agricultural Economics*, 89: 637-650. [doi.org/10.1111/j.1467-8276.2007.00985.x](https://doi.org/10.1111/j.1467-8276.2007.00985.x)
- [3.6] **McCorrison, S.** and D. MacLaren (2016), Food Security, Welfare and Partial Deregulation of Parastatals, *Oxford Economic Papers* 68(3): 836-856. [doi.org/10.1093/oeq/gpw014](https://doi.org/10.1093/oeq/gpw014)

### 4. Details of the impact

McCorrison and Davidson's research developed the UK Government's internal capacity to better understand, analyse and model food price and food trade issues. At the time of the Brexit referendum, it underpinned public and ministerial debate around the potential impact of Brexit on UK food prices. Furthermore, McCorrison's research highlighted the importance of competition issues in the context of global economic reform of food and agricultural sectors, leading to national and international food policy and food trade reform.

**Boosting the UK government food price forecasting capabilities; and informing strategic approaches to food policy**

McCorrison, Davidson and colleagues developed the **UK Food Price Forecasting Tool** for the UK's Department for Environment, Food and Rural Affairs (Defra) in 2011, based on research outlined in [3.4], in response to the global commodity crises of 2007 and 2011 affecting UK food price inflation at the time.

The **Tool** continued to be used by Defra staff from Aug 2013 onwards, to produce 6-monthly forecasts of UK food price inflation, where none had previously been available. Results were used to brief senior Defra ministers, notably the Minister of State for Agriculture, Fisheries and Food (2015-19) and cross-departmental collaborations, notably with HM Treasury (HMT) [5.1]. They also routinely underpinned Defra's monthly Food Price Inflation Note, providing context to Office for National Statistics (ONS) monthly inflation reports, and which are sent to the ministerial team [5.1]. Additionally, results from the **Tool** directly underpinned the hugely influential Methodology Note, co-ordinated by Defra and HMT, entitled '*How Defra has estimated the potential effect of import tariffs on UK food prices, May 2016*'. This Note provided the only publicly available assessment of the potential impact of Brexit on UK food prices and was used to inform public debate and government ministers, alike, at the time of the Brexit Referendum [5.1].

A Defra Economist also credited McCorrison with embedding understanding of food price inflation drivers into Defra's wider, strategic thinking:

*"it is impossible to overstate the... enormous influence of your ideas, concepts and work around the drivers and forecasting of food price inflation... without (this), we would have none of the rich, complexity of understanding about these issues that we have today."* [5.1]

In 2020, the Office for Budget Responsibility (OBR) updated its in-house econometric model used to forecast different subsets of the Consumer Price Index (CPI), drawing directly on research in [3.4]. A Senior OBR Economist directly credits McCorrison's research and advice with enabling them to become "*more confident in forecasting UK food price inflation*" and having "*enhanced an important aspect of the OBR's forecasting capability.*" [5.2].

Further contributions to strategic review and policy change are evidenced by other uses of the research [3.3; 3.4]. Specifically, findings informed: (1) oral and written evidence presented by McCorrison on food price issues to the House of Lords Sub-Committee on 'Responding to price volatility: creating a more resilient agricultural sector' in 2015 [5.3]; and (2) Contributions to Chapter 7 'International Dimensions of Climate Change' of the UK Climate Change Risk Assessment 2017 Report, specifically on the potential impact on UK food prices due to climate change impact on the global food system [5.4].

In recognition of his field-leading research, McCorrison was appointed to Defra's Economic Advisory Panel (EAP) in 2018 for a 5-year term to advise on food chain issues and assessments of food and agricultural trade issues.

### **Recognition of 'Competition in the Food Chain' issues within OECD countries, leading to international policy reform**

In the aftermath of the world commodity crises of 2007-08 and 2011, international policy makers were increasingly concerned with competition issues in the food chain. For example, there were concerns about the impact of increasing market concentration in all stages of the food chain and the transmission of shocks from world to domestic retail markets, and their effect on agricultural producers, firms in the food sector and ultimately domestic consumers.

Based on his profile and research on these issues [3.1, 3.3], McCorrison was personally invited by the OECD Competition Directorate in 2013 to define the policy agenda for the OECD Roundtable in Paris (Oct 2013) on 'Competition in the Food Chain', by: (i) preparing a letter to delegates, on behalf of the Chair of the OECD Competition Committee, describing the competition issues and problems to be addressed at the Roundtable event [5.5a]; and, (ii) supplying a landmark report 'Competition Issues in Food Chain' [5.5b] for OECD publication which summarised the main competition concerns in the food sector across OECD countries. The Roundtable event was attended by anti-trust authorities (that promote fair competition in markets for the benefit of consumers and businesses) from all OECD member countries as well as national and international stakeholder groups,

In response to the event, submissions were received from 31 OECD member countries, detailing their country-specific issues and outlining their policy responses [5.5c]. The event raised international awareness of buyer power issues in the food chain and developed a shared understanding of actual and potential policy responses and comparative experiences of food sector competition issues amongst OECD member countries.

The highly influential OECD Business and Industry Advisory Committee (BIAC) subsequently advised that competition in the food supply chain industry should receive equal weight in enforcement, as compared to other sectors, e.g. financial markets or high-tech industries. They also advised that policies designed to address distributional or protectionist concerns, may have unintended consequences, and so should not be addressed within competition law, but rather through non-competition law or codes of practice [5.5d].

Furthermore, the event and OECD report authored by McCorriston [5.5b] directly contributed to:

- Creation of the EU Directive (2019/633) on ‘unfair trading practices in business-to-business relationships in the agricultural and food supply chain’, through highlighting the range of complex concerns that farmers in OECD countries face when dealing with firms in a highly concentrated food sector [5.6a].
- OECD review of ‘Competition Policy in the Mexican Grocery Retail Industry’, through providing the context of competition issues across different food sector environments [5.6b].

### **Underpinning global acceptance of the links between competition policy and food security, leading to international policy reform**

McCorriston’s research underpinned an international acceptance of the importance of competition policy as an instrument of government in promoting food security in developing countries. In 2015, McCorriston was invited by the United Nations (UN) Food and Agricultural Organisation (FAO) to prepare an influential technical paper on ‘Competition and Food Security’ [5.7a], in part due to his 2013 commission from the UK’s Department for International Development (DfID) to conduct a systematic review on the links between trade reforms and food security in developing countries. The technical paper contributed directly to the FAO’s flagship 2015-2016 ‘State of Agricultural Commodity Markets’ report, on the links between trade and food security [5.7b].

The Director of the Food Systems and Food Safety Division, FAO described the FAO flagship report as “*highly influential in bridging the gap between economic research and national policies*” [5.8] and the significance of the 2015-16 report’s focus as:

*“a crucial issue for the FAO and policymakers to address, as many developing countries are highly dependent on agricultural exports for a significant proportion of their total export earnings while many others are highly dependent on imports for the provision of food staples... therefore key to the development of appropriate policies in many developing countries.”* [5.8]

The flagship report [5.7b] and McCorriston’s underpinning technical paper [5.7a] were presented to an FAO ‘expert group’ and attributed, by the Director of Food Systems & Safety, as being an “*important influence*” leading to the following “*international impacts*”:

- i) FAO support provided to countries involved in renegotiation of the World Trade Organisation (WTO) Agreement on Agriculture and developing the understanding of WTO negotiators;
- ii) “*instrumental*” in developing the FAO work programme within the Trade and Markets Division, “*particularly in guiding deliberations of the FAO Committee on Commodity Problems in October 2016*”;
- iii) “*informing the allocation of resources (staff and financial) to trade related work in support of FAOs Strategic Objective on ‘Enabling more efficient and inclusive agricultural and food systems’*”.

- iv) *“influential in recognising the... priority that should be given to competition policy as an instrument of government in promoting food security ... (and) that issues around market competition need to be integral to the development of actionable solutions developed in the process towards the 2021 UN Food Systems Summit.”* [5.8]

The impact of McCorriston’s research on competition issues in developing countries extends further. The 2016 World Bank Report ‘Breaking down Barriers: Unlocking Africa’s Potential through Vigorous Competition Policy’ [5.9] cites McCorriston’s underpinning research [3.3] reflecting the importance and widespread reach of this research. McCorriston also played a leading role in preparing a 2015 report recommending wide-scale reforms to Liberia’s agricultural sector; it being one of the world’s poorest countries and recovering from civil conflict. The report, coordinated by the International Growth Centre (IGC), was delivered to the Liberian Cabinet. Concerns, highlighting priorities for reform in the rice market, were subsequently incorporated into the Government of Liberia’s strategy document *“Food and Agriculture Policy and Strategy: From Subsistence to Sufficiency”* [5.10].

### 5. Sources to corroborate the impact

- [5.1] Letter from Economic Advisor, Defra, 8<sup>th</sup> Oct 2020.
- [5.2] Letter from Senior Economist, Office for Budget Responsibility, 22<sup>nd</sup> Sep 2020.
- [5.3] Written and oral evidence to House of Lords EU Energy and Environment Sub-Committee (2016) ‘Responding to price volatility: creating a more resilient agricultural sector’. (copy saved on file)
- [5.4] UK Climate Change Risk Assessment Evidence Report: Chapter 7, International Dimensions. Committee on Climate Change, London  
<https://web.archive.org/web/20210219111639/https://www.theccc.org.uk/wp-content/uploads/2016/07/UK-CCRA-2017-Chapter-7-International-dimensions.pdf>
- [5.5] a) Draft of letter sent to OECD Member States (2013) in preparation for OECD Roundtable in Paris (Oct 2013) for Special Session ‘Competition in the Food Chain’;  
b) Background paper prepared for this OECD Secretariat for Special Session:  
<https://web.archive.org/web/20210219111907/http://www.oecd.org/daf/competition/CompetitionIssuesintheFoodChainIndustry.pdf>  
c) Executive Summary of debate and written submissions from OECD Member States for Policy Roundtable: ‘Competition Issues in the Food Chain Industry’.  
<https://web.archive.org/web/20210219111907/http://www.oecd.org/daf/competition/CompetitionIssuesintheFoodChainIndustry.pdf>  
d) BIAC response to discussion  
<https://web.archive.org/web/20210223113054/https://pdf4pro.com/view/competition-issues-in-the-food-chain-industry-oecd-org-521c9b.html>
- [5.6] a) Directive of the European Parliament and Council (17 Apr 2019) on ‘unfair trading practices in business-to-business relationships in the agricultural and food supply chain’;  
b) OECD (2019), Competition Policy in the Mexican Grocery Retail Industry.
- [5.7] a) Technical Note: Competition and Food Security (2015). Prepared for FAO by S McCorriston. (p1-9).  
<https://web.archive.org/web/20210219112327/http://www.fao.org/3/i5225e/i5225e.pdf>;  
b) The State of Agricultural Commodity Markets 2015-2016. Trade and food security, FAO, 2015.  
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- [5.8] Letter from Director Food Systems and Food Safety, FAO, 19<sup>th</sup> Sep 2020
- [5.9] World Bank Group. (2016). Breaking down barriers. Unlocking Africa’s potential through vigorous competition policy. Cites [3.2] Sexton et al (2007) on p2.
- [5.10] Liberian Rice Importation Policy and Strategy, Ministry of Commerce and Industry, Jan 2016.