Llywodraeth Cymru
Welsh Government

PUBLICATION, DOCUMENT

Feasibility study on research into the potential cumulative impacts on Welsh agriculture from UK free trade agreements: Research bulletin

Top line findings from report compiled by The Andersons Centre on behalf of the Welsh Government.

First published: 9 September 2024

Last updated: 9 September 2024

Contents

1. Background

1.1 This bulletin presents the key findings from a study conducted on behalf of the Welsh Government by the Andersons Centre into whether further research into the potential cumulative impacts of UK free trade agreements (FTAs) on Welsh agriculture would be feasible. The UK government publishes impact analyses of FTAs at a national level but has not previously provided data which would show the Wales-level impacts, meaning these can only be extrapolated from the national data. As this was considered insufficient to meet policy interests, the Welsh Government decided to commission a feasibility study.

1.2 The study assessed the feasibility of effectively modelling and quantifying the impacts of new and prospective UK trade agreements on Welsh agriculture, both as a whole and its main subsectors. The study was also asked to consider the availability of Wales-level data required to conduct such analysis. The previous UK government had not shared the full extent of data requested by Welsh Government needed to consider in detail the impact of trade deals. The working assumption of this paper was the continuation of this scenario, and the feasibility assessment is based on the datasets currently available.

2. Research aims

2.1 The project aim was to assess the feasibility of robustly modelling and quantifying the impacts of new and/or prospective UK FTAs on Welsh agriculture, with a focus on understanding the potential to quantify both the cumulative and incremental effects of each FTA on Welsh agriculture as a whole and on main sub-sectors identified by the Welsh Government. The research aimed to review and assess the approaches that could be used to quantify the impacts, show the merits of each approach, and consider the full scope of relevant data that may be required.

2.2 The project also considered the practical implications (e.g. the real-time limitations regarding the availability of trade agreement details whilst being negotiated) and the potential value for money and effectiveness of any potential future research.

2.3 Key issues when considering the full scope of relevant economic, trade and agricultural industry data required when assessing UK FTAs include:

- the availability of adequate datasets and potential to address key gaps
- quality of methodology underpinning the data sources
- data disaggregation for key regional and agricultural sub-sectors
- timeliness regarding the availability of latest data to integrate into the analysis, and
- other relevant considerations included, for example, the ease of integration of the data into economic models.

2.4 The following agricultural sectors were in scope:

- Beef
- Sheep meat
- Dairy (with the intention of splitting out impacts on cheese, butter and milk powder)
- Poultry (meat and eggs)
- Wheat
- Barley
- Horticulture (top level overview only)
- Potatoes (due to the volumes grown in Pembrokeshire)

Methodology

2.5 The researchers used a mixed method approach, utilising desk-based evidence reviews and primary research. The evidence review identified what

overlapping or supporting work had been previously undertaken in this area, including a thorough review of previous evidence reviews from the past seven years and updated material and studies.

2.6 The review looked at around 50 pieces of evidence on the methodology of modelling potential FTA impacts, building on previous evidence compiled by the Andersons Centre during other recent studies including similar work for the Scottish Government. The evidence review primarily examined 3 broad economic modelling approaches:

(1) Computable General Equilibrium (CGE) Models

a. CGE models - which may be used to consider impacts across all industries/ sectors at a UK level. This approach is primarily focused on models built around Purdue University's Global Trade Analysis Project (GTAP) model, which is the most common model foundation across international trade modelling and widely used.

(2) Partial Equilibrium (PE) models

a. Partial Equilibrium models enable greater focus on assessing impacts on specific markets, products or set of products. The study examined PE approaches used in identified trade impact studies post- EU Exit. PE models have been used, for example, in modelling impacts on Scottish agriculture. The evidence review highlighted that there is no single PE model which is dominant across multiple countries or within analysis in the UK. The models explored during the evidence review include the Agricultural Member State Modelling (AGMEMOD) model, the TAPES model and FAPRI-UK Model.

(3) Combined CGE-PE approach

a. Some recent studies have used both a CGE and PE approach in combination. This may enable a more in-depth analysis of the potential impacts of FTAs on agriculture, but the combined approach was noted to also be more resource intensive than an individual model approach.

2.7 Additional scoping was also undertaken to review some other modelling approaches:

a. This included the International Agri-Food Trade Network (IAFTN) model created by Harper Adams University and used in conjunction with the Agriculture and Horticulture Development Board (AHDB) to analyse the impact of the UK-Australia and UK-New Zealand trade deals. This approach examines the impact of trade agreements on a network of five countries or groups of countries, with a smaller data requirement than CGE and PE approaches, but is reliant on selecting the appropriate countries within the limited network.
b. Gravity models were also examined. Gravity models are founded on trade flows being influenced by the geographical proximity and economic scale of the nations involved. Use of gravity modelling was identified in one piece of research modelling the impacts of post- EU Exit scenarios on UK agriculture.

2.8 Ten stakeholders with an interest and knowledge in agriculture trade analysis were interviewed to provide additional insight into key studies, how to address key challenges, methodological approaches that could be used and their advantages and disadvantages. These interviews were conducted under condition of anonymity, but included representatives from government agencies and departments (excluding Welsh Government), trade associations, academic experts, consultants and think tanks, and levy boards. Participants were identified either by Welsh Government Officials or by The Andersons Centre, and were not self-selecting.

2.9 Welsh Government officials from the Trade Policy, Trade Analysis and Agriculture Trade teams were kept updated throughout the process, with an interim report presented approximately halfway through the work allowing for further questions to be raised and any gaps noted and addressed.

2.10 The analysis and report compilation were carried out concurrently. A comparative analysis was carried out of each approached identified, looking at the following areas for each approach:

1. Overview
2. Territories – focused on and FTAs assessed
3. Measures – to assess impacts e.g. Gross Value Added, employment, etc
4. Advantages – in the context of Welsh agriculture
5. Disadvantages
6. Implications – for future Welsh Government studies and likely value for money.

2.11 Prior to the final presentation of the report to Welsh Government officials, the report was internally peer reviewed by the Andersons Centre by a consultant not involved in the research directly. The final presentation consisted of an overview of the research findings and a Question & Answer session.

3. Findings

3.1 The study concluded the most insightful modelling approach for Welsh Government to use would be a combined CGE and PE approach. However, the overall cost of this approach would be significant. A PE approach is suggested as likely to be the most suitable if a single approach were taken, with a solely PE based approach being lower in cost.

3.2 The study notes that regardless of the approach taken, data preparation

would be crucial and would need to be carried out before undertaking an FTA analysis study. A key aspect of this would involve data compilation at the Wales level, including input-output tables and robust intra-UK trade data.

3.3 Analysing cumulative impacts of multiple FTAs is a complex task, particularly when FTAs are analysed before they are implemented. The GCE and PE approaches are arguably better suited to this task, but if any approach requires significant additional modelling to understand the specific contribution of a given FTA on the overall impact, the cost-benefit of doing this is highly questionable.

3.4 As previously noted, the CGE modelling approaches are based on being built around the GTAP model, but the report concludes that applying GTAP models to the Welsh economy directly is not currently feasible. While the study has assessed the utility of emerging approaches (such as network models) such approaches would need further testing in a UK context.

3.5 Overall, the study concludes that the considered modelling approaches would need to be supplemented by other methods to examine more disaggregated geographical impacts within Wales. Extending analyses to regional or community levels would require significant additional resources and there would also be challenges around the confidence levels of assessing FTA impacts at lower geographies. If any of the potential options outlined in the research are taken forward in the future, it should be ensured that key datasets should be in place before the work commences.

Report authors:

The Andersons Centre
3rd Floor, The Tower, Pera Business Park
Melton Mowbray, Leicestershire
LE13 0PB

Views expressed in this report are those of the researchers and not necessarily those of the Welsh Government

For further information please contact:

Trade Policy Team
Email: **TradePolicy@gov.wales**