Extended Abstract
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Paper/Poster Title	Predictions for the UK-Australia trade agreement: an approach with market power

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Abstract	***200 words max***
Brexit is without doubt one of the most important events that have affected the UK over the last decades. This is particularly evident in international trade, because access to a number of foreign markets has been compromised. To deal with this problem, the UK Government is currently negotiating a number of trade agreements with key countries across the world. A major concern is the potential negative effects of these agreements on the UK farming sector. The aim of this article is to present simulations made for the UK-Australia for some agrifood commodities using an innovative modelling approach which, in contrast with other existing predictive models, recognises the role of market imperfection associated with the existence of powerful intermediaries in the supply chain. The results revealed some negative effects on the farming sector in the UK, however, these effects are in general marginal.	

Keywords	UK-Australia agricultural trade; Intermediaries; Market Imperfection
JEL Code	F1, F5 see: www.aeaweb.org/jel/guide/jel.php?class=Q)

Introduction	***100 – 250 words***
After leaving the EU, the UK trade of agricultural commodities has become challenging, with a number of sectors facing import tariffs placed by third countries against the UK. In order to mitigate the negative effects of these tariffs, the government has started to negotiate several agreements with key countries to get market access for domestic production. The farming sector is concerned about the new agreements because of the potential negative effects on output and prices caused by the resulting higher competition. In order to assess these impacts, this article offers simulations for the UK-Australia agreement by means of a new modelling approach.	

Methodology	*100 – 250 words*
The trade predictions/simulations were carried out by means of a new model approach that consists of an extension of the international trade network model developed by Goyal and Joshi (2006) and Furusawa and Konishi (2007). The extended model formally includes powerful intermediaries in the supply chain with the purpose of capturing the effects of imperfection caused by these companies on the trade system. The model also allows for product differentiation, asymmetry across countries, policy biases and different number of intermediaries per country. This mathematical model is calibrated by means of real data. The model produces simultaneous predictions for several network configurations which are then compared to make the predictions. The model was used to make predictions of the UK-Australia agreement for lamb, beef, dairy (cheese) and oilseed.	
Results	***100 – 250 words***
In relation to lamb, the model suggests there will be a large increase in Australian imports in percentage terms. However, this is from a low base, and volume changes are relatively small. Total UK imports are not expected to increase significantly, with much of the increase from Australia offset by reduced imports from elsewhere in the network. Changes in the UK domestic marketplace are relatively small. Regarding beef, the results revealed that most changes take place in UK trade volumes. In percentage terms, increases in Australian imports are large, but from a small base, overall volume changes are small. The model suggests that the increase in Australian imports will be offset by changes in trade elsewhere in the network, meaning there is a limited effect on the UK domestic market. In relation to dairy(cheese), here is more movement across the whole network than for other sectors. Unlike beef and lamb, Australia actively imports cheese and so is a potential opportunity for the UK. Large volume changes mask the small base figures, so overall volume changes are small. Finally, the model suggests there will be much less impact of the trade deal on OSR than for other sectors. This is because trade is already more exposed to the global marketplace. An increase in Australian exports to the UK relies on an increase in domestic production in Australia, so other factors such as weather and Australian OSR yield need to be factored in when considering impacts on the UK market.	
Discussion and Conclusion	***100 – 250 words***
The results presented above can be explained by the strategic behaviour of intermediaries. For lamb, the intermediaries (processors) in Australia face a trade-off. On one hand they benefit from the removal of tariffs. However, in order to fill the new market, the processors will demand a higher level of output from the farming sector, which subsequently raises the domestic price in Australia. This means that the cost faced by the processors increase. In order to mitigate the highest cost and to remain competitive in their existing markets, Australia only exports a relatively small amount of lamb to the UK. However, this small amount does increase the total lamb sold in the UK marketplace, putting downward pressure on the profits of UK processors. As a result, demand from the processors for UK lamb reduces slightly which has a knock-on effect of downward pressure on the UK lamb. However, overall the effect is small in percentage terms. For beef, the economic explanation is similar. For dairy (cheese), the new market in Australia offers UK companies a good opportunity to make additional profits from exporting product. However, given that Australia is a	

competitive market, and in order to be competitive, UK companies have to reduce the output sold in the UK market which in turn will reduce demand, and therefore the price paid to farmers. Finally, Australia is a net exporter of oilseeds and the agreement offers Australia the opportunity to increase the level of current exports. However, this increase is marginal and will not have a large effect on the market. In summary, the new modelling approach was able to predict marginal effects of the UK-Australia agreement, which is associated with the existence of market imperfection in the supply chain of the commodities considered in the study.