

Brexit: Breaking Away – Would it Pay?

Brexit : la rupture – serait-ce payant ?

Brexit: Würde sich der Ausstieg lohnen?

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The UK's relationship with the European Union (EU) is under intense scrutiny ahead of the referendum of 23 June on whether the UK should remain in the EU or not. Whereas several studies have addressed the consequences for the UK's overall economy (e.g. Murray and Broomfield, 2014; Irwin, 2015) only a few analyses have considered the impacts for the UK agricultural sector and UK farmers (e.g. Grant *et al.*, 2016; see also Grant in this issue). This article is based on a study the authors recently undertook for the UK National Farmers' Union (NFU). It briefly summarises the potential impact of a Brexit on UK agricultural production, demand, trade and farm income under selected trade and policy scenarios (see Van Berkum *et al.*, 2016).

UK-EU market integration

With a total export value of €26 billion and an import value of €57

billion, the UK is overall a substantial net-importer of agricultural products. Trends in UK-EU trade relations show that UK exports to other EU Member States accounted, in recent years, for 60–65 per cent of its total agricultural exports, and that around 70 per cent of the UK's imports originate from other EU countries. These numbers indicate the UK's very strong integration with EU agricultural markets (see also the *Parlons Graphiques* and *Guest Editorial* by Swinbank in this issue).

Agricultural and trade policy choices

Should the UK leave the EU, it will face two policy challenges that are likely to have a significant impact on its agricultural and food sector. Firstly, the UK will no longer have to implement the CAP but will have to design its own national agricultural policy. UK governments have

always been strong critics of the CAP, in particular of its income support policy (e.g. the HM Treasury / Defra Vision document of 2005). Hence, it is conceivable the UK government would reduce, rather than increase or even maintain, the direct payments farmers receive under the first Pillar of the CAP (Pillar I). With respect to the second pillar of the CAP (the Rural Development Policy) the UK has a well-developed policy, which addresses the provision of rural public goods (e.g. landscape and biodiversity services) and socio-economic growth priorities (Baldock *et al.*, 2015, 2016). As this links to societal concerns as well as to market failure, this policy could well largely stay in place in the event of Brexit.

“ Le principal déterminant des revenus agricoles au Royaume-Uni est le niveau de soutien public sous forme de paiements directs. ”



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Secondly, leaving the EU would also imply that the UK is no longer part of the EU's single market, or subject to its trade commitments to third countries. These commitments are laid down in the EU's WTO agreement and in its many bilateral and regional trade agreements (RTAs), such as free trade agreements (FTAs) with Canada, Korea, Mexico and African, Caribbean and Pacific states

(in the form of Economic Partnership Agreements), and preferential trade agreements with developing countries (General System of Preferences, including the Everything But Arms arrangement). Hence, the UK will have to decide what trade policy it wishes to pursue after a Brexit.

Scenarios

To represent the policy uncertainty in case of Brexit, we analyse three agricultural support and three trade policy options that are combined in nine scenarios. With respect to agricultural support the following options are considered: i) retention of 100 per cent of the current level of Pillar I direct payments to UK farmers; ii) reduction of these direct payments by 50 per cent; iii) abolition of direct payments. The levels of environmental and other payments made through the rural development programmes of the UK are assumed unchanged in all scenarios.

It is very likely the UK will remain a member of the WTO, the most logical fallback position for the country when leaving the EU. Bilateral agreements both with the EU and third countries, though, have to be re-assessed, re-negotiated and ratified, which may be a complex and time-consuming process. One option for its new relationship with the remaining EU that has been considered is the European Economic Area (EEA) scenario, sometimes known as the 'Norway model'. This would allow the UK almost open access to the European single market. However, it is not evident that an EEA model would include agricultural goods. Politically, the EEA scenario appears very unlikely because it would require the UK to continue to make substantial contributions to the EU budget, accept all relevant EU Regulations without being able to influence them, and accept free movement of labour throughout the EEA. See Matthews (2016) and Buckwell (2016) for an extensive discussion of the agricultural trade policy dimensions of a Brexit.

“Der wichtigste Faktor für die Einkommen in der britischen Landwirtschaft ist die Höhe der verfügbaren Fördermittel in Form von Direktzahlungen.”

In the study reported here, three scenarios have been considered with respect to trade:

a) **UK–EU FTA scenario:** The EU and the UK conclude a free trade agreement (FTA) within the 2 years allowed by Article 50 of the Treaty on European Union (Lisbon treaty). An FTA is not as advantageous as the free access to the European Single Market that membership of the EU confers, as border arrangements are required to deal with matters like country of origin. FTAs invariably treat some agricultural products as sensitive, and it is the EU's preferred policy to apply Tariff Rate Quotas (TRQs) to these products. In this scenario we assume a TRQ on UK sheep and lamb meat, meaning

the UK would be allowed to export the current (2014/2015) export volume of fresh lamb to the EU at zero tariffs, and for it to pay the EU's external tariff for volumes beyond that quota. For commodities other than sheep/lamb meat, no tariffs will be applied on the UK's bilateral trade with the EU. For UK trade with third countries, the UK continues to apply the EU Common Customs Tariff (CCT) on extra-EU imports.

b) **Default WTO scenario:** the UK leaves the EU and falls back to the WTO-default position, meaning that UK import/export conditions fall under the WTO's non-discrimination Most Favoured Nation (MFN) rules. Under this scenario the EU applies its CCT (i.e. the MFN applied rates as agreed in WTO agreements) to UK imports, and the UK applies the same rates set by the EU's CCT to EU and third party imports. Note however that because UK imports are no longer subject to the EU's TRQ and other preferential import regimes, the full CCT tariff applies on these imports, and the price level in the UK for products that benefited from that regime is likely to increase.



Cattle and sheep/goat farms in particular are heavily dependent on direct payments

Box 1: Methodology

A three-step procedure has been followed to assess the impact of the different scenarios. First, the implications of the trade policy scenarios with respect to border price wedges (i.e. tariffs) and trade facilitation costs) were examined in some depth. Higher trade facilitation costs, coupled with the UK charging tariffs on EU imports and losing access to EU preferential imports, imply more expensive imports and hence a price increasing effect, depending on the product subject to these regimes. Moreover, estimates were needed as to how the rents associated with TRQs are divided between the importer (e.g. UK) and countries exporting to the EU.

The second step is a market impact analysis, for which the AGMEMOD model has been used. The advantage of this partial equilibrium model is that it has a refined presentation of key agricultural crop and animal production and use activities, including the existing agricultural and trade policies. The model is extensively used for analyses of the Common Agricultural Policy (CAP) at Member State level (see for example Erjavec *et al.*, 2011; Bartova *et al.*, 2009) as well as for baseline projections (Offermann *et al.*, 2014).

The third step in the analysis is to determine the impacts on farm incomes, using a calculation tool, based on the EU's Farm Accountancy Data Network (FADN), which draws its UK data from the results of the UK's Farm Business Survey. The projected price changes that come from the sector model are applied in the farm calculation tool. In our comparative-static analysis, no impacts of price changes on the production quantities are included in the estimations, so the cost structure is assumed to stay the same, with one important exception: The impact of price changes on (purchased) animal feed is taken into account (which will thus lead to a potential change in costs). Similarly, the three levels of direct payments (i.e. 100%, 50% and zero direct payments) are fed into this calculation tool. While the FADN-based farm-level analysis claims to be representative at Member State level, the tool also allows us to analyse the impact on income and farm viability at lower aggregation levels (e.g. sector and regions).

c) UK Trade Liberalisation

scenario: The UK reduces its tariff rates by 50 per cent across the board. This scenario is rather similar to scenario b), with the only difference being that the UK and the EU have different border tariffs: the UK applies 50 per cent of the current MFN-tariffs to all imports including those from the EU, whereas the EU applies its CCT to UK exports to the EU.

The scenarios also differ with respect to the level of transaction or trade facilitation costs (TFC). Border arrangements are required to deal with matters like country of origin. For this reason it is assumed that in the FTA scenario, additional transaction costs of trade of 5 per cent

would be incurred (see Donner Abreu, 2013; Boulanger and Philipidis, 2015). Under the Default WTO and UK Trade Liberalisation (UK TL) scenarios, UK and trade partner legislation no longer necessarily runs parallel, which

also implies that mutual recognition of standards and rules becomes more costly. For that reason under these scenarios a TFC mark-up of 8 per cent (the upper limit of the average transaction costs, as mentioned in Donner Abreu, 2013) is assumed. Table 1 summarises the scenarios. The scenarios have been analysed using a three-step approach including a sector and farm level modelling approach (see Methodology Box for further details).

Results: market impacts

Under the FTA and Default WTO scenario, UK domestic producer prices increase relative to the baseline (Figure 1). The average price increases for the FTA and WTO scenarios are respectively 4.5 and 8.3 per cent. This is mainly driven by trade facilitation costs in both scenarios, and higher import costs from the EU coupled with lost access to cheap imports under the EU's preferential trade arrangements with the Default WTO scenario. Due to the loss of the UK's access to EU preferential imports, producer prices for sheep meat, poultry meat, butter, cheese and sugar are estimated to increase by 4.2, 0.3, 0.8, 0.3 and 3.8 per cent, respectively.

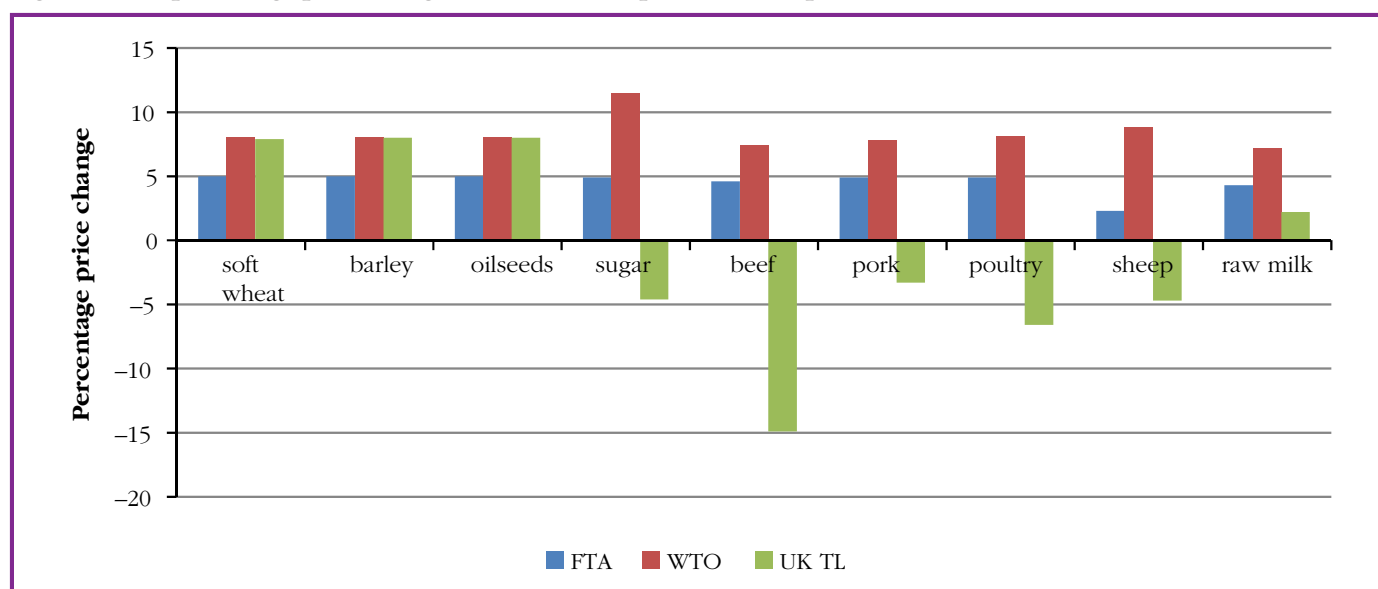
The UK TL scenario implies a lowering of the UK's external import tariffs by 50 per cent. This scenario has significant impacts on meat and dairy prices, as current

Table 1: Overview of scenarios

	Agricultural policy scenario			
	FTA between EU and UK	100% Direct Payment; 5% TFC	50% Direct Payment; 5% TFC	No Direct Payment; 5% TFC
	Default WTO	100% Direct Payment; 8% TFC	50% Direct Payment; 8% TFC	No Direct Payment; 8% TFC
	UK Trade Liberalisation	100% Direct Payment; 8% TFC	50% Direct Payment; 8%TFC	No Direct Payment; 8% TFC

Notes: TFC: trade facilitation costs; FTA: free trade agreement.

Figure 1: The percentage price changes for selected crops and animal products



import protection rates are the highest for these product categories. Consequently, the overall effect of the UK TL scenario is a strong price decrease for animal products in comparison with crop prices. The sugar price is also projected to decrease under this scenario.

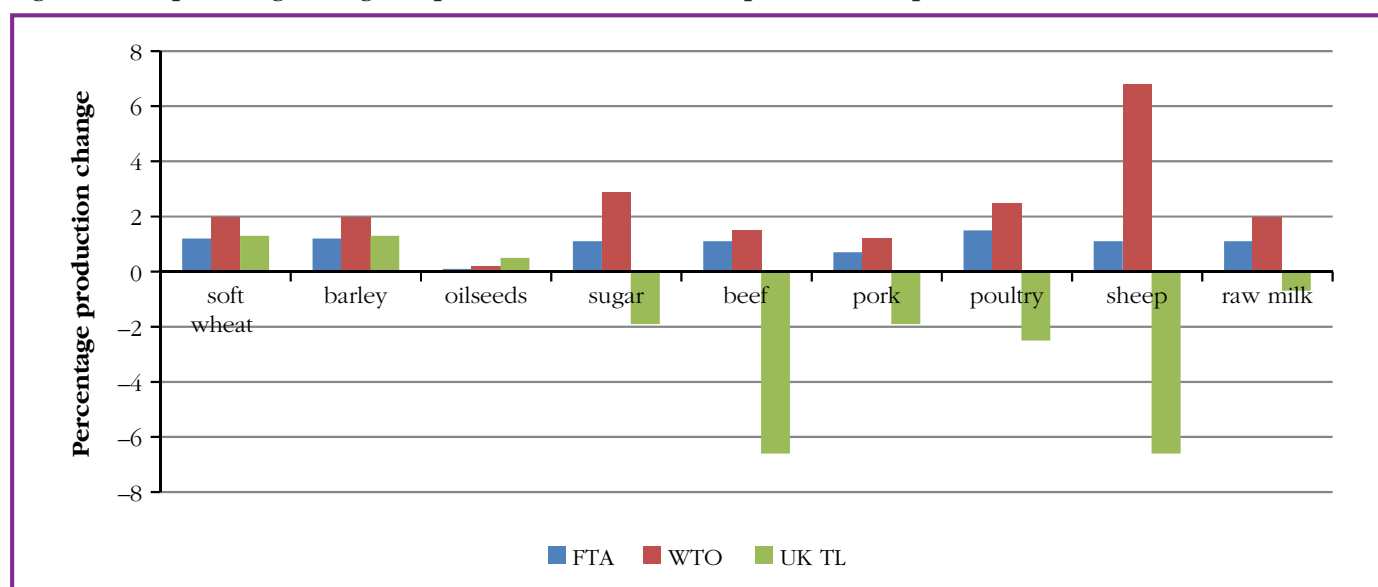
Under the FTA and Default WTO scenarios, higher farm prices will have a positive impact on domestic production (Figure 2), albeit the changes are relatively small (sheep meat being an exception). In the UK TL scenario the picture is more differentiated. Due to price decreases

for sugar and animal products the production of these products is also expected to decrease. This affects beef and sheep production in particular.

The price increases under the FTA and WTO scenario not only have a positive impact on production but also will have (in most cases) a negative impact on domestic consumption. As a result, the UK's trade balance improves, which is mainly due to declining imports. In the UK TL scenario, however, the UK's imports of animal products and sugar increase, as domestic production of these

products will decline, while, induced by lower prices, consumption of these products will tend to increase. Due to lower production in the livestock sector there is a spill over to the arable sector: less feed (coarse grains) is used, which will lead to more exports of barley and reduced imports of (soft) wheat. The UK TL scenario is likely to result in relatively less intensive trade relations with EU countries, particularly for animal products as UK prices will tend to be lower than in the EU, making it difficult for the EU to be a competitive exporter to the UK.

Figure 2: The percentage changes in production for selected crops and animal products



Results: farm income impacts

With the 100 per cent DP scenario, the income effects due to changes in prices are positive in all sectors in both the FTA and Default WTO scenarios; but only for field crop farms when the UK Trade Liberalisation scenario is applied (Figure 3). The positive income results for price changes in the FTA and Default WTO scenarios range from almost zero to above €10,000 per farm in field crops (+14 per cent for an average field crop farm), dairy and mixed farms; while for horticulture and poultry farms these income effects are around €30,000 (+40 per cent for an average horticulture farm and +32 per cent for an average poultry farm). Income effects are more positive in the Default WTO scenario than in the FTA scenario. This is mainly due to the higher trade facilitation costs, which induce higher prices for UK agricultural products. In the scenarios with full abolition of direct payments the positive effects of an increase in output prices are more than offset by a decrease in subsidies. Where the UK government maintains a level of



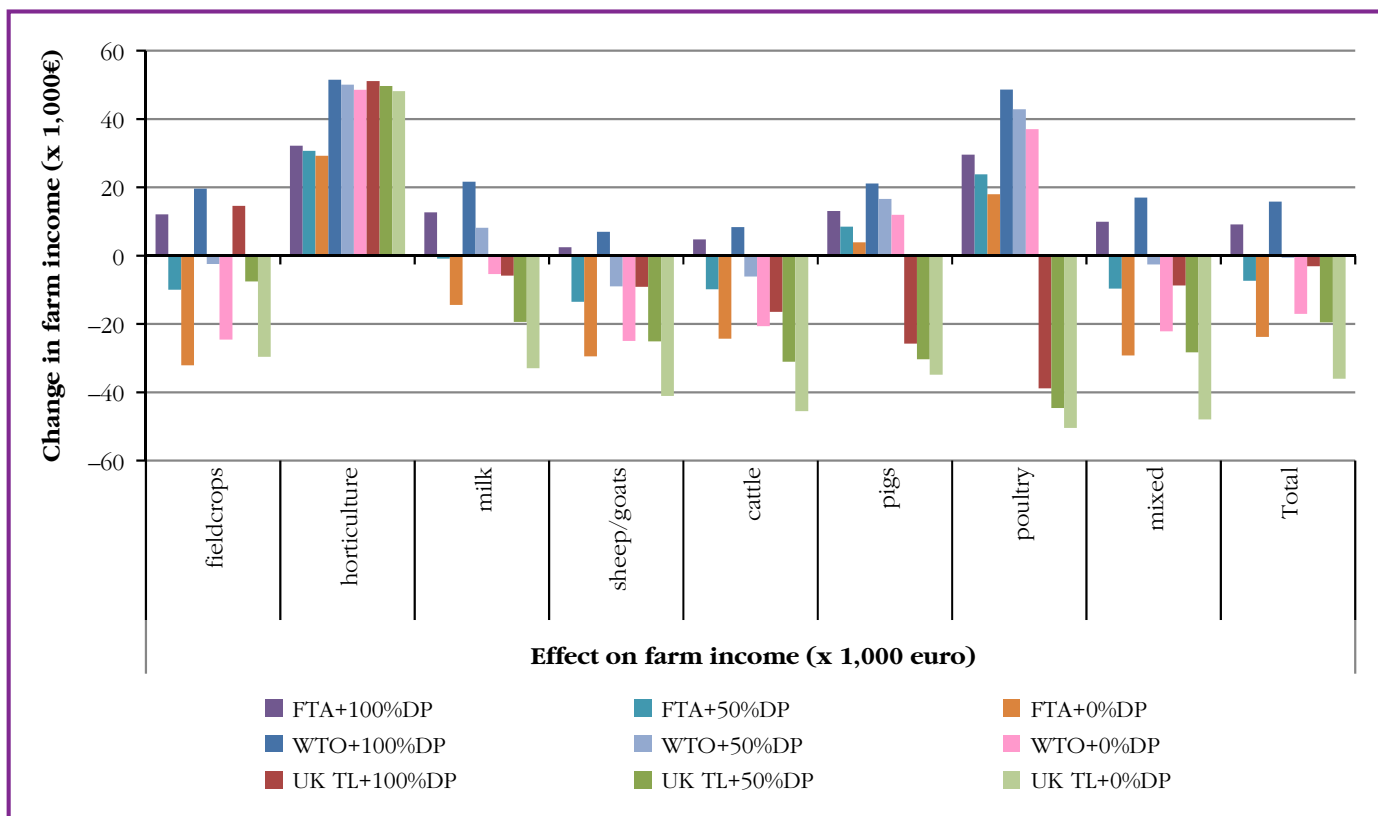
Under the UK Trade Liberalisation scenario, farm-gate prices for animal products and sugar will decline significantly.

direct payments of 50 per cent of the current EU payments, the results in these two scenarios are more diverse. Some types of farming would benefit on average, while others would show a decrease in income under the FTA or Default WTO scenario.

The UK TL scenario has a significant negative impact on all sectors, except on field crops when 100 per cent direct

payments remain. In particular, grazing livestock (dairy, sheep and cattle) and pigs and poultry are strongly affected by the price decreases in this scenario. A 50 per cent reduction or complete elimination of direct payments further decreases farm incomes in those sectors under this scenario. For example, negative impacts may add up to €50,000 per poultry farm (Figure 3). The impact of the UK TL scenario in the horticultural sector

Figure 3: Income effects per farm type, per scenario, compared to the 2012/2013 average income (€'000).



Source: EU-FADN-DG AGRI; calculations LEI.



The choices the UK government will make with respect to its agricultural policy are crucial for farmers' income.

compared to the Default WTO scenario is rather limited.

Where there is abolition of direct payments a large number of farms will experience negative income effects. Consequently, the viability (defined as the ability of farms to cover their opportunity costs) of a substantial number of farms (15–25 per cent, depending on the scenario) will be negatively affected by this policy change.

Cattle and sheep/goat farms in particular are heavily dependent on direct payments: 2012/2013 FADN data indicate that without these payments their income would have been negative. Mixed and field crop farms also greatly rely on direct payments for their income. Overall, two-thirds of UK farm incomes rely on direct payment support.

All UK regions would on average show a decline in farm incomes if

the UK government were to fully abolish the direct payments. A 50 per cent reduction in subsidies shows more diverse results with better outcomes (in terms of farm incomes) under the Default WTO scenario than under the FTA scenario. Again, the UK TL scenario shows the most significant changes. Farm incomes decline in all regions, except for East England, where half of the horticultural farms are located and which are little affected by the reduction in direct payments. Farm incomes are most severely affected in Scotland under the UK TL scenario.

Results: consumer-taxpayer impacts

To the extent that prices increase, as is the case in the FTA and Default WTO scenarios, and for some products in the UK TL scenario, consumers/users will

thus face higher costs. The UK Treasury is likely to gain because a Brexit will save taxpayers money. The UK currently contributes an estimated €7.9 billion to the CAP budget, from which its farmers receive €3.8 billion. A Brexit would therefore reduce UK budget expenditure on agriculture: reductions would vary from €4.1 billion (–52%) to €7.3 billion (–93%), depending on whether the UK's new agricultural policy would: retain 100 per cent direct payments, reduce payments by 50 per cent, or abolish them.

Difficult strategic choices

The choices the UK government would make with respect to its agricultural and trade policies in the event of a Brexit will crucially determine how agriculture and farmers will be affected. Another key factor is the increase in trade

facilitation costs the UK may face when leaving the EU. In contrast with standard economic textbooks, in the real world transaction costs are non-zero. Economic integration can generate important savings in transaction costs, so this is an advantage the UK would lose if it left the EU.

In the FTA and Default WTO scenarios, the impacts on trade turn out to be modest in general. The agricultural sector could benefit from increased prices and production, whereas consumer/users would lose. Under the UK TL scenario, farm-gate prices for animal products and sugar will decline significantly. As a result meat and milk production would decline in the UK, which has a knock on effect on the arable sector through lower

demand for coarse grains and other feedstuffs.

“ The biggest driver of UK farm incomes is the level of public support available via direct payments. ”

The results of each scenario show that the biggest driver of UK farm incomes is the level of public support available via direct payments. The positive price impacts on farm incomes seen through both the FTA and WTO default scenario would be offset by the loss of the

direct support payments. A reduction in these direct payments, or a complete elimination of them, would exacerbate the negative income effects of declining prices seen under the UK TL scenario.

Our findings are based on a range of assumptions (see Van Berkum *et al.*, 2016 for further details) and the modelling is limited to what could be quantified. Moreover, the AGMEMOD and FADN farm-level calculation tools do not take into account details of structural changes (e.g. farm exit) or issues such as the impact on land values and markets. The outcomes therefore should be interpreted as providing a direction of effects rather than precise outcomes of policy options.

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Summary


Brexit: Breaking Away – Would it Pay?

 In the event of a Brexit the UK would have to redefine its trade relationship with the EU and develop its own agricultural policy. We analyse the impacts of a UK–EU Free Trade Arrangement (FTA); a WTO MFN tariff rates scenario; and a UK Trade Liberalisation scenario (UK TL). In each scenario the effects of three different levels of direct payments to farmers are estimated: current levels, 50 per cent reduction and no direct payments. In the FTA and WTO scenarios, UK prices for agricultural products would increase due to the higher trade facilitation costs and the UK's loss of access to EU preferential import regimes, with positive impacts on producers but negative on consumers or users. In the UK TL scenario, prices for animal products tend to decline, while crop prices show an increase relative to the status quo. The effects on farm incomes reflect these changes in prices but incomes ultimately are strongly dependent on choice of agricultural policy with regard to direct payments. Full abolition of direct payments generally more than offsets the positive effects of output price increases on farm incomes. Direct payments of 50 per cent of current levels have more diverse impacts on farm incomes.

Brexit : la rupture – serait-ce payant ?

 En cas de Brexit, le Royaume-Uni devra redéfinir ses relations commerciales avec l'Union européenne (UE) et développer sa propre politique agricole. Nous analysons les incidences d'un accord commercial de libre-échange entre le Royaume-Uni et l'UE (FTA); d'un scénario dans lequel les taux des tarifs sont ceux de la nation la plus favorisée de l'OMC (WTO); et d'un scénario de libéralisation des échanges du Royaume-Uni (UK TL). Dans chacun des scénarios, les effets de trois niveaux différents de paiements directs sont estimés: niveaux actuels ; 50 pour cent de réduction; et aucun paiement direct. Dans les scénarios FTA et WTO, les prix des produits agricoles au Royaume-Uni augmenteraient à cause de la hausse des coûts de la facilitation des échanges et de la perte d'accès du pays aux régimes d'importation préférentiels de l'UE, les incidences étant positives pour les producteurs et négatives pour les consommateurs et utilisateurs. Dans le scénario UK TL, les prix des produits animaux tendent à baisser tandis que ceux des produits végétaux se montrent plus élevés qu'en cas de status quo. Les effets sur les revenus agricoles reflètent ces variations de prix mais au final, les revenus dépendent fortement du choix de politique agricole en termes de paiements directs. La suppression complète des paiements directs fait plus que compenser les effets positifs de la hausse des prix sur les revenus agricoles. Des paiements directs divisés par deux ont des incidences plus diverses sur les revenus agricoles.

Brexit: Würde sich der Ausstieg lohnen?

 Im Falle eines Ausstiegs aus der EU müsste Großbritannien seine Handelsbeziehung mit der EU neu definieren und seine Agrarpolitik eigenständig entwickeln. Wir analysieren die Auswirkungen eines Freihandelsabkommens zwischen Großbritannien und der EU, eines Szenarios der WTO mit MFN-Zollsätzen sowie eines Szenarios zur Handelsliberalisierung in Großbritannien. In jedem Szenario schätzen wir die Effekte von drei unterschiedlichen Niveaus bei den Direktzahlungen an die Landwirte: das gegenwärtige Niveau, eine Verringerung um 50 Prozent sowie gar keine Direktzahlungen. Bei einem Freihandelsabkommen und unter den Szenarien der WTO würden die Preise für landwirtschaftliche Erzeugnisse in Großbritannien aufgrund höherer Kosten für die Handelserleichterung und des Wegfalls der Präferenzregelung für Einfuhren aus der EU steigen – dies würde sich positiv auf die Erzeuger, jedoch negativ auf die Verbraucher oder Nutzer auswirken. Unter dem Szenario zur Handelsliberalisierung dürften die Preise für tierische Erzeugnisse der Tendenz nach sinken, während die Preise für pflanzliche Erzeugnisse im Vergleich zum Status quo steigen. Die Auswirkungen auf die Einkommen in der Landwirtschaft spiegeln diese Preisänderungen wider, allerdings hängen die Einkommen letztlich stark davon ab, welche Entscheidungen für die Agrarpolitik und insbesondere mit Blick auf die Direktzahlungen getroffen werden. Im Allgemeinen gleicht eine vollständige Abschaffung der Direktzahlungen die positiven Auswirkungen von höheren Erzeugerpreisen auf die Einkommen in der Landwirtschaft mehr als aus. Direktzahlungen von 50 Prozent des gegenwärtigen Niveaus haben unterschiedliche Auswirkungen auf die Einkommenslage in der Landwirtschaft.

summary