The Direct Trade Impacts of EU Exit Scenarios on Northern Ireland’s Long-Term Economic Performance

Department for the Economy Summary

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Introduction

The Department for the Economy (DfE) engaged the Fraser of Allander Institute (FAI) at the University of Strathclyde to assess the long-term macroeconomic impacts for Northern Ireland (NI) of a range of possible EU exit scenarios using a Computable General Equilibrium (CGE) Model of the NI Economy[1].

Whilst a number of studies have sought to assess the potential regional economic impact of the UK's exit from the EU, this is the first time that specific analysis has been produced using a Computable General Equilibrium Model (CGE) of the NI economy with NI specific trade data at its core. **This study should not be considered directly comparable to other studies, such as the HMG analysis[2] published last year, as it focuses on direct trade impacts only and crucially, does not take account of the potentially adverse economic impacts of Brexit for the NI economy resulting from the lower economic performance of trading partners such as the rest of the UK, the EU (including Ireland) and the rest of the world. In addition the HMG modelling also factors in dynamic productivity effects from reduced trade, and studies that capture this effect[3] tend to record larger GDP impacts**. The Department is currently enhancing the CGE Model so that it can, in the future, better take account of impacts in relation to the rest of the UK.

It is important to emphasise that the economic analysis undertaken does not constitute a long-term economic forecast for NI and it does not address important macroeconomic issues such as exchange rates, demographic change and changes to productivity. Rather, the analysis produced is based on a very specific set of scenarios and assumptions. The work seeks to highlight the potential macro-economic consequences of various scenarios relating to the post Brexit trading arrangements for NI, as well as provide an indication of the magnitude of these impacts at a detailed sectoral level.

The full report produced by FAI covers a range of scenarios as to how the NI economy might be impacted over the long term, including Hard and Soft Brexit outcomes and different approaches to a Backstop. All of the Brexit scenarios involve a negative economic impact in the long run, with the least impactful being a "Soft Brexit" scenario where the UK as a whole remains closely aligned to the EU. However, all scenarios deliver different impacts, which are felt to various degrees by particular industries.

In the current political context of the UK's exit from the EU **the report provides valuable insight into the impact of a 'no deal'**. The imposition of tariff and non-tariff barriers through a No Deal Brexit would be highly impactful over the long term. Exports, employment and wages would all be lower than would otherwise be the case, with the impacts felt almost exclusively in the private sector. Recent analysis by the Department indicated that in key "at risk" sectors alone, some 40,000 jobs in NI were supported by exports to the EU. This analysis by FAI suggests that as a result of export and import shocks[4] under the No Deal scenarios examined, there could be between 15,000 and 18,500 less jobs[5] across the economy in the long-run. These impacts would be felt most acutely within the wholesale and retail sector (that could have 5,000 less jobs) as well as agriculture and the food & drink sectors (that could have 3,000 less jobs). Those impacts

[1] For an overview of the NI CGE Model see DfE Research Bulletin 19/6
[2] EU Exit: Long-term economic analysis, November 2018
[3] For example see the comparison of studies in Table 2.3 of the OBR Discussion Paper on Brexit and the OBR's forecasts
[4] Including an initial shock of around 19% for EU Exports.
[5] The 15,000 to 18,500 reduction, over the long run, relates to jobs across the economy and not just in "at risk" sectors.

would also spread beyond industry and impact on wages, incomes and households. In the long-run wages could be up to 3.7% lower in real terms, equivalent to around £1,000 per year for the typical worker.

This level of economic disruption, resulting in a loss of 3% or more of GDP, focussed almost exclusively in the private sector, is not something that could be easily mitigated. Indeed, in line with the No Deal Sensitivity Analysis undertaken by FAI, **the ultimate level of these losses are likely to be materially higher than currently modelled, due to NI's as yet unquantified indirect exposure to economic losses in the GB market** which is our largest single external market.

Methodology

As set out in section 2 of the FAI report, this analysis relies on a CGE model that has been constructed to take account of NI specific data. This model generates a sophisticated representation of the NI economy and facilitates a dynamic assessment of economic impacts. This means that all potential macroeconomic impacts from a policy change are incorporated so that an assessment can be made of e.g. the impact on the retail sector, resulting from a reduction in the performance of the manufacturing sector.

Using this framework, a number of scenarios have been assessed that try to replicate, as far as is possible, potential future trading arrangements for NI. Given the on-going uncertainty in relation to where the Brexit process may end up, these scenarios have been developed to encompass a wide range of possible outcomes ranging from no deal Hard Brexit scenarios, to scenarios whereby NI's future trading arrangements take place within the parameters of the Backstop. These Backstop scenarios assume that there is no workable solution to the border issue on the island of Ireland, however it is recognised that ongoing and future work streams will continue to explore this issue in more detail.

Tariff impacts on goods have been assessed using detailed product level tariff schedules and non-tariff barriers for goods have been derived by drawing upon the central estimates generated within the HMG analysis published in November 2018. Impacts of services trade have been based on the data contained within the Services Trade Restrictiveness index (STRI) that was specifically calculated for NI. All trade impacts have been applied to survey data produced by NISRA, including the Annual Business Inquiry and Broad Economy Sales and Exports Statistics survey.

Summary of Results

The main long term (circa15 years) results arising from the study are summarised as follows:

	GDP	External Sales[6]	Real Wages	Employment	Investment
Hard Brexit (UK Tariffs)	-3.0%	-9.7%	-3.6%	-1.6%	-3.8%
Hard Brexit (EU MFN Tariffs)	-3.3%	-11.7%	-3.7%	-1.7%	-3.7%
- *With 5% GB Sensitivity*	*-4.0%*	*-13.5%*	*-4.5%*	*-2.1%*	*-5.0%*
- *With 10% GB Sensitivity*	*-4.6%*	*-15.4%*	*-5.2%*	*-2.5%*	*-5.8%*
Indefinite Backstop	-1.6%	-5.0%	-2.3%	-1.0%	-1.9%
NI Backstop, GB EEA	-1.3%	-4.0%	-1.8%	-0.7%	-1.6%
NI Backstop, GB FTA	-2.7%	-8.2%	-3.6%	-1.6%	-3.4%
Soft Brexit	-1.1%	-3.4%	-1.5%	-0.6%	-1.3%

Table1

Source: FAI Analysis

[6] External Sales include both Exports and Sales to GB.

As is evident from table 1, all the potential future trading relationships demonstrate a significant negative economic impact, including those where NI's trading future is determined within the context of a "Backstop" as envisaged within the published Withdrawal Agreement[7].

This is perhaps unsurprising as all scenarios assume the introduction of trade frictions in the form of either tariffs or Non-tariff barriers (NTBs) between NI and its main trading partners i.e. between NI/ROI, NI/EU and NI/GB. Furthermore it is important to highlight that as well as goods trade, all scenarios, including backstop scenarios, include adverse trading conditions for services trade.

Key Issues

Hard Brexit Scenarios

Often termed the "WTO Option", the most significant scenario for NI's long term economic performance is where the UK undertakes international trade in goods (including with the EU) using tariffs derived from the EU's published Most Favoured Nation Tariff schedule. This results in a significant reduction in exports due to the fact that NI's goods will now be more expensive for European buyers resulting in less goods being purchased from NI.

This reduction in competitiveness, arising from tariffs and NTBs, acts to reduce the overall level of aggregate demand within the economy to the extent that long term GDP is assumed to be 3.3% lower than would otherwise be the case. The analysis suggests that, based on current prices, GDP per household could be around £1,900 lower than the baseline position. However, under the Hard Brexit sensitivity that adds a further 10%[8] reduction in demand for NI goods from GB (impact on long-term NI GDP is -4.6%), due to the lower post Brexit performance of the UK economy, the reduction in GDP per household could be much greater, i.e. nearly £2,800 lower than the baseline.

The analysis also demonstrates that wages could be up to 3.7% lower in real terms over the long term, than they otherwise would be. Using the most recently available median weekly wage data from NISRA, suggests that this could equate to approximately £1,000 per year for the average full time employee. Again, this is due to the overall reduction in demand for NI's goods and services, resulting in a reduced demand for labour by businesses and thereby lowering wages. However, whilst this analysis represents an adverse outcome for workers, it highlights one of the ways through which the economy would try to rebalance and regain competitiveness over the longer term i.e. by becoming more price competitive in terms of labour/wages.

The FAI analysis also highlights that the adverse economic consequences of a hard Brexit would be less severe if trade was to take place using the UK Governments published Temporary Tariff Schedule[9]. In either No Deal scenario NI exports to the EU would face the full effect of EU tariff and Non-Tariff barriers, but under the UK Temporary Tariff Schedule NI imports (from anywhere in the world) would generally face much lower tariffs compared to the EU Common External Tariff. Whilst there would undoubtedly be winners and losers trading under this regime, this less severe impact for the economy overall is likely due to the elimination of

[7] https://www.gov.uk/government/publications/withdrawal-agreement-and-political-declaration
[8] The 10% assumption is arbitrary and has been used as a sensitivity to demonstrate the significance of potential indirect spill-over effects from NI's largest trading partner.
[9] For modelling purposes this scenario assumes the announced UK Tariff Schedule continues on a permanent basis.

import tariffs for most products, resulting in a potential benefit for consumers, as goods can now be imported more cheaply from the rest of the world[10].

The analysis produced by FAI also facilitates an estimate to be made of the potential employment impacts under each scenario. The two hard Brexit scenarios outlined above would equate to between 15,000 and 18,500 less jobs than in the absence of Brexit. A large proportion of job losses would be in the wholesale and retail sector, which represents NI's largest employment sector. However, there would also be significantly less jobs within the agriculture as well food and drink sectors which could each have 3,000 fewer jobs.

All of the above indicators point towards a material economic impact if NI's future trading relationship takes place under the conditions described within the Hard Brexit scenarios. Indeed, the economic indicators produced by FAI point towards a significant impact, especially for NI's private sector, both in terms of its goods and services providers. This level of economic disruption is not something that could be easily mitigated and, as suggested within the HMG November 2018 report, it is unlikely that potential future regulatory flexibility from leaving the EU or increased trade from new trade deals would be significant enough to replace this lost level of output. Nor does it seem likely that the fiscal side of the economy could plausibly mitigate the GDP impact of such a fall in private sector export markets (which would be akin to the GDP effect of around £2bn general public spending in NI). As well as being a direct reversal of previous goals around rebalancing the economy, any general expansion of the public sector could never realistically replicate the lost private sector export activity.

Backstop Scenarios

The backstop scenarios that have been modelled are an attempt to simulate the potential frictions or non-tariff barriers that could arise from checks, e.g. customs & regulatory checks, on goods crossing the Irish Sea from GB to NI. These frictions also attempt to reflect the fact that over the long term, there could be increasing regulatory divergence between NI and GB meaning that some products sold in GB may not be available for purchase within NI due to differences in product standards.

Given these potential frictions applying to "imports" of goods to NI from GB, it is perhaps unsurprising that this results in a fairly significant adverse economic consequence, especially given that GB represents NI's largest trading partner accounting for 30% of all "imported" goods, compared to 16% for all other countries (including ROI) combined[11]. This analysis also highlights the fact that within the context of a backstop, the NI economy will be less impacted, the closer the UK maintains future alignment to the EU.

However, it should be noted that part of the adverse economic consequence of operating within the backstop (albeit relatively minor), reflects the fact that the backstop only protects goods trade with the EU and that external services trade is still affected by the UK's withdrawal from the EU under all backstop scenarios. Therefore services trade, including that undertaken on a cross border basis, is not covered within the terms of the backstop and will be affected by the overall future trading relationship of the UK and EU. Furthermore, although the economic impact from future changes to migration policy and the potential to end free movement of people within the EU has not been modelled within the FAI analysis, it is likely that this

[10] Settings aside trade under new UK FTAs, under the announced UK tariff regime, imports from the Rest of the World would now typically face zero or lower tariffs while, for imports from the EU, a (relatively small) subset of products would now face new tariffs.
[11] https://www.nisra.gov.uk/publications/current-publication-broad-economy-sales-exports-statistics

will have a material impact on the NI economy in terms of labour supply, and will not be mitigated by provisions within the backstop.

The overall outcome is driven by the presumption that the level of friction faced by GB to NI trade increases the further GB and the EU diverge. As a result the operational practicalities of any backstop and the outworking of commitments around "unfettered" access to the GB market would greatly influence the ultimate economic outcome for NI. Aside from political action to negotiate down the practical impact of any frictions, there would be limited scope for mitigations for NI operating within the backstop either in terms of regulatory flexibility or potential future free trade agreements as NI would be constrained by the EU's customs code and single market rules. For illustration, in the modelled scenario where GB and the EU diverged most (with only an FTA between GB and the EU) the extent of the output loss, compared to the status quo, would be akin to the GDP effect of around £1.5bn general public spending in NI.

However it is possible that benefits, such as potential increased FDI attractiveness for manufacturing in NI[12], could arise from the Backstop in terms of the ability to sell goods tariff free into both the EU & GB markets. However, more research would need to be carried out to gauge the macroeconomic significance of this and how any potential benefit could be realised, especially in the context of the UK entering into a trade agreement with the EU and potentially operating a highly liberalised tariff regime that would reduce the barriers to firms from any country wishing to sell into the UK market.

Soft Brexit Scenario

This scenario assumes that the entire UK retains a close trading relationship with the EU through membership of the European Economic Area. Most UK research studies looking at Brexit will tend to include a scenario along these lines – often terming it the Norway or the EEA option.

With all of the UK outside the customs union there would be still be an economic impact to NI/EU trade due to customs related frictions, while GB-NI trade is assumed to be frictionless. In addition, unlike all the other scenarios studied, the impact for services trade with the EU is greatly reduced (although still marginally impacted) since full Single Market access is largely retained through EEA membership.

As UK alignment to the EU is closest under a soft Brexit scenario, the impacts on the NI economy, as expected, are less severe than the other scenarios modelled. This would be in line with most UK wide studies which tend to find a "Norway" style outcome as one of the least impactful Brexit scenarios. The results point to an impact on NI GDP of 1.1%. Under this scenario external sales would be around 3.4% lower than the baseline, with employment and real wages 0.6% and 1.5% lower respectively.

Sectoral Impacts

Part of the benefit of developing a CGE model of the Northern Ireland economy is the level of detail that can be produced in terms of sectoral economic impacts.

[12] The Impact of the UK's EU Exit on the Attractiveness of Northern Ireland to FDI and Associated Job Creation Effects, March 2019.

The analysis produced by FAI demonstrates that both the Agriculture and Food & Drink sectors will potentially be the most affected by our future trading relationship with the EU. This is due to the fact that these sectors represent a significant proportion of cross border trade (32% of exports to ROI[13]) and will be disproportionately impacted by EU tariffs that tend to be significantly higher for animal and food related products. However, although the impacts for these two sectors represent the most affected in percentage terms, in absolute terms, under the hard Brexit scenario, the wholesale and retail sector is the most affected as it is NI's largest economic sector in terms of total GVA.

The hard Brexit scenarios generate a slight increase in GVA associated with the public sector. This is due to the assumption that NI would benefit from increased government spending[14] resulting from additional tariff revenue that would be raised from trade with the EU. This increases the long-term economic output of this sector by around 1.5% and would represent additional employment in the public sector of around 3,000 employees.

The hard Brexit scenarios also suggests a small long-term benefit to the food and accommodation services sector. There may be a variety of reasons why the model has produced this result, however it is likely due to the fact that cheaper domestic produce as well as lower wages, which both represent key inputs for this sector, may act to produce an overall benefit over the longer term.

The analysis produced by FAI also allows for a comparison to be made between the economic performances of individual sectors within a hard Brexit or backstop scenario. The FAI analysis suggests that whilst some sectors are materially better off trading under the terms of the backstop, especially agriculture and food and drink, some sectors are likely to be worse off notably Chemicals/Pharma, Electrical Manufacturing and Mechanical and Other Manufacturing. This is due in part to the fact that these sectors source a large proportion of their intermediate inputs from the rest of the UK and would therefore be disproportionately impacted by any trade frictions that would arise crossing the Irish Sea. This differential outcome for certain sectors is linked to the presumption that the level of friction faced by GB to NI trade increases the further GB and the EU diverge, and so this again demonstrates that the operational practicalities of any backstop, and the outworking of commitments around "unfettered" access to the GB market, do matter for the NI economy.

Conclusion

This is the first study to use a CGE model developed specifically to represent the Northern Ireland economy and that has NI specific trade data at its core. The Department for the Economy welcomes the contribution made by the Fraser of Allander Institute to develop this capability and the contribution that the report will make to the ongoing policy implications of the UK's withdrawal from the European Union. Whilst it is recognised that this analysis should not be seen as a forecast of the potential implications of Brexit on the NI economy, the report produced by FAI highlights the economic challenges that Brexit will usher in, not least for important sectors within NI such as Agriculture and Food and Drink.

The analysis has demonstrated that there will be material and significant economic consequences arising from the decisions that will ultimately be made around the terms of the UK's withdrawal from the EU, and that there are likely to be long lasting effects for the economy and businesses locally. All of the Brexit scenarios involve a negative economic impact in the long run, with the least impactful being a "Soft Brexit"

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[13] https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/Overview-of-NI-trade.pdf

[14] The analysis also assumes that baseline spending is held constant and the additional revenue would be spent in line with current baseline proportions.

scenario where the UK as a whole remains closely aligned to the EU. However, all scenarios deliver different impacts, which are felt to various degrees by particular industries. Some of the key messages include:

- **No Deal Scenarios**: The imposition of trade barriers through a No Deal Brexit would be highly impactful. Exports, employment and wages would all be lower, with the impacts felt almost exclusively in the private sector. There would be between 15,000 and 18,500 less jobs in the long run with the impact felt most acutely within the wholesale and retail sector as well as agriculture and the food & drink sectors. This level of economic disruption, focussed almost exclusively in the private sector, is not something that could be easily mitigated.

- **Backstop Scenarios**: In these scenarios the adverse economic impact for NI is also linked to the degree of regulatory divergence between GB and the EU that might ultimately occur. As a result, the operational practicalities of any backstop and the outworking of commitments around "unfettered" access to the GB market would greatly influence the ultimate economic outcome for NI. In addition, with services trade not being protected within any of the backstop scenarios, all modelled outcomes also involve an adverse economic impact from higher barriers to services trade with the EU.

- **Soft Brexit Scenario**: This is the least impactful scenario as it assumes a close trading relationship is maintained between the UK and the EU, albeit NI will still face some adverse economic impacts as a result of customs related frictions for its EU trade. Compared to the other scenarios, the negative impact for services trade with the EU is greatly reduced since full Single Market access is largely retained through EEA membership.

This work has examined some Brexit scenarios not previously modelled elsewhere, while at the same time modelling for Northern Ireland some of the scenarios that many UK level studies have commonly looked at previously. The work has revealed some important and overriding messages, while also reinforcing some others. Care should be taken to avoid making direct or invalid comparisons to other studies conducted in different ways. Research studies that uses different modelling frameworks and capture different factors inevitably will have different results even when they come to the very same conclusions.