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Irish Beef Supply Chain and Trade Challenges Post-Brexit: a Case Study

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Smart Sustainable Solution for Business Processes (3S Research Group)

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- Working closely with clients using proactive planning and modelling techniques;
- and Capturing innovation opportunities that support businesses in the emerging markets.

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Key Findings

- In the case of introducing customs, veterinary and immigration checks at UK ports, the delivery times for beef products to the UK market may increase by up to two days. These disruptions are expected under high check intervention and long check delay (i.e. High-Check-Delay scenario).
- Trucks transiting via the UK land-bridge may experience transportation delays of up to five hours, compared with the As-Is situation, if transit checks take an average of 25 minutes per truck[1]. It is still unclear what types of checks the UK will put in place following the transition period. An increase in the time for transit checks will cause an exponential rise in the waiting times for trucks. This will in turn affect the delivery times of beef to consumers.
- If the UK government fails to fit Holyhead Port with adequate checks infrastructure, ferry companies may need to suspend the Dublin-Holyhead route. Diverting beef exports to Liverpool or Heysham will not be a viable alternative, particularly for limited-shelf-life beef products. The long sailing time to both ports add at least five hours to the delivery time. This would have serious implications for supply chains which rely on just-in-time (JIT) or next-day delivery.
- Direct shipping services to Cherbourg may be a viable alternative to the UK land-bridge if the destinations of the shipments are the French, Spanish or Portuguese markets. In the case of trade with other European countries such as Belgium, Germany, Netherlands or Denmark, however, the UK land-bridge is a must. This is particularly true for 'next-day' or JIT delivery models.

Recommendations

- Beef traders and haulage companies must seek other short-sea maritime routes as an alternative to Dublin-Holyhead. Given the limited space at Holyhead Port, a lack of check infrastructure and inspection spaces is anticipated. This would have devastating implications on beef supply chains with a limited shelf-life.
- Irish beef traders and hauliers should register themselves as authorised consignees. This will enable them to avoid transit checks at offices of transit in UK ports. This status allows all transit movements to end at their premises.
- It is recommended that hauliers make themselves familiar with the UK's digital solution for transit checks, the 'Goods Vehicle Movement Service' (GVMS). This allows to avoid paper-based processes at offices of transit at UK ports. Given the limited space in western UK ports (except Liverpool), freight transit checks are expected to cause congestion. The use of a digital solution will enable hauliers to avoid these congestions.

[1] More details about transit check delay scenarios are presented in Section 5, Scenario Analysis

- Beef supply chains should not be interrupted at borders. It is recommended that the Irish Government explore mitigation strategies for border check disruptions in this regard with EU26 and UK authorities. A lack of communication between the revenue authorities in Ireland and the UK will be a real challenge for Irish beef exporters.
- Additional preparations in Rosslare Port should take place for short-sea alternatives to the Dublin-Holyhead route. By increasing sailing frequencies from Rosslare to Fishguard and Rosslare to Pembroke, the anticipated bottleneck and freight congestion at Holyhead following the transition period could be avoided.

1. Introduction

The meat sector in Ireland is one of its most important indigenous industries. It generates total sales of around €4.5bn, with exports exceeding €4bn annually. [2] Ireland is the fifth largest exporter of beef globally and the largest supplier of beef to the UK market. UK primarily imports high-priced cuts of beef, with more chilled than frozen produce. Irish beef exports to the UK increased by 4% in 2018. This was driven by lower beef supplies in the UK and the excellent reputation of Irish grass-fed beef.

In the European market in general, Irish beef exporters enjoy a similar trade position. The sector has seen growth in exports to the Netherlands and Italy rising by 4% and 6% respectively. However, Irish beef has strong competition from eastern Europe traders. On an international scale, the demand for beef in the Chinese market has increased, with more than 1,000 tonnes exported from Ireland in 2018.[3] Other markets such as the Philippines and Hong Kong are highly competitive and are targeted by many traders from South America and Australia with lower prices. The strong competition that Irish beef traders face in European and international markets is the main reason why the UK is a key market for Irish beef.

If the UK exits the EU single market and customs union without a trade deal, Irish beef exports to the UK will be severely disrupted. The beef sector is expected to face high tariffs, additional administrative burdens, increased veterinary checks and sampling, and a rise in transport and shipping costs. If trade with the UK is restricted post-Brexit, a decline in the amount of Irish beef imported into the UK is expected. It would be extremely challenging for Irish beef traders to replace this market. This case study aims to quantify the implications that Brexit will have on the beef sector in Ireland.

2. Meat supply chain

Beef is unlike other products as its trade is not based on the selling of a carcass as a whole. Each carcass is divided into a range of cuts, which are then exported to various markets according to consumer demand. Each cut has a different value, so exporters must plan their supply chain so they can maximise revenue. In beef supply chains, retailers are the most powerful link. They provide competitive prices to consumers and thus exercise substantial power over the prices paid to processors and producers.

Between 85% and 90% of the cattle produced in Ireland is slaughtered domestically. The remaining 10% is exported as live animals. The supply chain encompasses three main players: cattle producers, processors and retailers. Producers (or farmers) rear the cattle and are often responsible for slaughtering and deboning the carcass. According to the business model, cattle can be slaughtered in one place, and the carcass is deboned at another location. Processors

[2] Ibec, Meat Industry Ireland, 2020, Importance of meat sector, https://meatindustryireland.ie/Sectors/MII/MII.nsf/vPages/Meat_sector~importance-of-meat-sector!OpenDocument

[3] Bord Bia, 2019, Export Performance & Prospects

then receive the beef cuts for further processing or produce smaller cuts to satisfy retailers and food service demand.

It is difficult to verify the market share in regard to Irish beef processors. Three key players appear to possess market share exceeding 10%. These include ABP, Dawn Meats and Kepak.[4] Joint acquisitions between various Irish beef processors have taken place, to improve cattle throughput to the export market. In September 2017, Dawn Meats entered into a partnership with Dunbia. It acquired Dunbia's operations in Ireland, and the two businesses now trade in the UK as Dunbia.[5] These acquisitions and partnerships provide a competitive position for Irish beef processors in the UK market, against suppliers from Eastern Europe.

As previously mentioned, the UK's beef market focuses on fresh meat, and imports more chilled than frozen produce. Ready-meal products are also delivered directly to retailer shelves. The beef supply chain, therefore, is characterised by a limited shelf-life, which is why concerns have been raised regarding the potential challenges arising from Brexit. The shelf-life of chilled beef is dependent on the type of product. To give an example, certain beef cuts can have up to six weeks of a shelf-life, while ready-meal products with beef ingredients may have only one week.

3. Brexit implications for beef sector

▪ *Veterinary health check*

The EU applies comprehensive controls on meat and livestock products imported from third countries. Meat products may only enter the EU through designated border inspection posts (BIPs). These posts contain the necessary inspection facilities and space to conduct veterinary checks. All beef consignments are subject to documentary and sealed identity checks. A proportion of trucks are selected for physical inspections and samples, based on the EU official controls legislation (Veterinary Check Directive 97/78/EC). Food health officers and veterinary surgeons conduct these checks where applicable, and charges for these checks are applied to importers and agents.

If no trade deal is agreed before the end of the transition period, EU official controls on animal products will be applied to meat imports to the EU27 from the UK. Similar inspections are also expected to be applied by the UK, on animal products entering their market from the EU27. Introduction of these inspections on the beef trade between Ireland and the UK will cause delays at borders. These delays are already witnessed with third-country consignments. In addition, there would be further pressure on the already limited port facilities and inspection spaces.

[4] European Commission, Case M.7930
[5] Jim Power Economics, 2020, An Independent Assessment of the Irish Beef Industry

- *Customs controls*

If the UK leaves the EU customs union, additional formalities at borders will occur. This will increase the administrative burden for trade. All beef imports into the UK from the EU27 will have to be declared to UK customs (HMRC). They will then be placed under customs control until processed. There is ambiguity surrounding the revenue and customs procedures that the UK will choose to enact at its borders and how close these procedures will be to the EU's. New customs formalities at UK borders will inevitably cause an increase in transactional and transportation costs, border check fees, processing times at customs posts, and further administrative burdens on exporters and their agents. Beef exporters would require more refrigerated trucks and warehouses to maintain product freshness and shelf-life, which have their own availability and cost issues.

- *Accessibility to mainland Europe*

Almost all Irish beef exports to mainland Europe (90% of Irish beef exports) go via the UK land-bridge. It is the fastest route to Continental Europe and the most effective in terms of cost. Shipments which use direct route services, to Cherbourg or Rotterdam for example, can take up to twice the transit time of those shipments which go through the UK land-bridge.

The efficiency of the UK land-bridge, however, may diminish when the UK leaves the EU single market and customs union. Beef products will be subject to two transit checks at UK borders. To date, it is unclear what types of checks will take place on trucks transiting through the land-bridge following the transition period. For instance, significant disruption to traffic will arise if transport documents, licences and qualifications are not mutually recognised on both sides of the border. In addition, if the UK authorities fail to arrange permission for EU26 drivers (i.e. non-Irish and non-UK citizens) to freely access the land-bridge, the threat of additional delays caused by immigration would be inevitable. In addition, there is no mechanism in place to ensure that EU27 companies will be treated equally in the UK, in the case of any disputes. Such uncertainty undermines the current control that operators have over their transportation times and costs. This in turn will disrupt the reliability of beef delivery and quality standards.

Transport and logistics companies that work with the beef sector will also be obliged to change their cabotage business models. The cabotage model allows freighters to drop off and pick-up goods in the UK while in transit to mainland Europe via the land-bridge. It enables operators to have the most effective use of their trucks by avoiding empty runs. If this is the case, costs associated with administration would increase, as the expense of using containers at less than full load can add up (i.e. groupage cost).

- *Just-in-time (JIT) supply chains*

The fresh beef supply chain is very sensitive to an increase in transit times as this cuts down shelf-life, which can cause spoilage. Some trade regulations for certain fresh beef produce (e.g. fresh mince beef) also add to the complexity of the supply chain as a whole. These regulations stipulate that delivery must take place within a small window, following the slaughter of the

carcasses. The current supply-chain design relies on the JIT model, to avoid storing stocks. The aim is to receive stocks when they need to be sold; for instance, using next-day delivery to maintain the freshness of the beef along with its high value.

Following the transition period, retailers will be forced to keep more stocks in their inventories and plan their imports more strategically. However, pressure will mount on freighters to minimise their transit times and find alternative routes in order to maintain the next-day delivery norm.

- *Cost compliance of meat exports*

According to a study published by Nottingham University in 2013,[6] most meat shipping arrangements are managed by exporters themselves. This gives them control over the choice of shipping lines and other shipping costs. Following the transition period, new costs will be imposed on the beef trade between the EU27 and the UK, arising from new checks and customs procedures on both sides of the border. Three distinct cost categories have been identified:

1) *Costs incurred where goods are subject to customs and veterinary checks*: Inspection costs will be applied when custom authorities in the UK or port health authorities select cargo for inspection. Most UK port operators charge a flat-rate inspection fee, regardless of whether or not the cargo is selected for inspection. Demurrage cost is also applied by port authorities for shipping lines which stay past their allowance time when loading and unloading. Shipping lines pass on these demurrage charges and any other uplifts directly to the exporters.

2) *Cargo clearance cost from ports*: Clearing consignments through ports requires transactional charges to be applied on the importer. These include handling charges in the case of unaccompanied trucks, border control post charges in some facilities, port health inspections costs, and customs declaration-related costs.

3) *Set-up and registration costs*: Beef export and custom procedures for the UK require traders or their agents to register with the relevant authorities. Registration on systems run by the public authorities is free of charge, such as registration with HRMC or TRACES (i.e. European Commission computer system). However, beef imported from countries outside of the EU must pay a one-off capital investment fee, along with an annual subscription to the port community systems.

Nottingham University provided an estimation of what various charges are likely to be incurred by traders or their agents at UK ports in the case of meat produce, Table 1. In the event that no trade deal is reached between the EU27 and UK, similar figures could be imposed on Irish beef exporters and UK importers following the transition period.

Table 1: Cost elements incurred by beef exporters and importers or their agent at UK ports (source: Nottingham University, 2013)

[6] Andrew Grainger, Trade and Customs Procedures: The Compliance Cost for UK Meat Imports, Case Study.

Cost Item	Organisation	Estimated fees and Charge
Customs Inspection Cost	Port Operators	€0 – €240/hour (depending on scale of job and labour requirement) – ***Actual***
Customs checks using X-ray	Port Operators	€58 – €63/Container – ***Actual***
Demurrage Fees	Shipping Line	€0 – €121/day (depending on the port estimation) – ***Estimated***
Veterinary Checks	Port Health Authority	€76 – €106/Consignment – ***Actual***
Border Control Post Fees	Port Operators	€77 – €121/20-foot container (cost figure per container can guide the estimation of cost per truck) – ***Actual***
Port Terminal Handling Charge	Shipping Line	€242/20-foot container (cost figure per container can guide the estimation of cost per unaccompanied truck) – ***Estimated***
** The cost elements are estimated based on a 20-foot container containing 13 tonnes of meat using Lo/Lo shipping mode. The figures can be used to estimate the cost for HGVs that use the Ro/Ro shipping mode to export beef products to the UK.*		

4. Methodology

The methodology for this study combines various data-collection methods and modelling activities. This included interviews with professionals and experts from the sector, simulation modelling, and scenario mapping and analysis. For more information about the research methodology and data collection, please refer to Chapter 3.

5. Scenario analysis

The analysis in this section quantifies the implications that these post-Brexit scenarios would have on Irish beef exports. These scenarios include introduction of new border checks across the Irish Sea, application of transit checks on trucks using the land-bridge, and whether ports in the UK are ready to apply these border checks. The effect of these scenarios on beef delivery times, remaining shelf-life, and wating times at ports for beef carriers were analysed. The analysis was based on a simulation model which mimics the transportation flow between Ireland, the UK and the EU26 through two transportation routes:

1- East/West maritime corridor: This combines a number of maritime routes which link the eastern Irish ports (i.e. Dublin and Rosslare) with UK ports through the Dublin-Heysham, Dublin-Liverpool, Dublin-Holyhead, Rosslare-Fishguard and Rosslare-Pembroke maritime routes.

2- Land-bridge route: This model shows the transportation links between Ireland and the EU26 through 1) the East/West maritime corridor, 2) transit routes to and from Holyhead, Liverpool, Heysham, Fishguard and Pembroke ports, on the western side of the UK, and

Dover Port on the south-eastern side, and 3) the maritime route, Dover-Calais, to the rest of mainland Europe.

The scenario analysis takes place under a common set of assumptions:

- A truck carries only one type of product. Groupage – freighters dropping off and picking up goods in the UK while travelling to mainland Europe or Ireland – is not considered in this case study.
- The model takes place under the assumption of a no-deal Brexit. The procedures for border checks at UK ports are assumed to be similar to the current check procedures that take place on imports from non-EU countries. Irish beef imported to the UK market goes through three types of checks: 1) Documentary & sealed identity checks; 2) SPS checks, and 3) Security & immigration checks. 100% of consignments is subject to documentary and sealed identity checks. Different proportions of trucks will be directed to SPS and immigration checks under this scenario.
- The capacity of check facilities at UK ports matches the proposed facility capacities at Dublin and Rosslare ports, proposed by the Irish Government.[7] The check facilities at Liverpool have been assumed to match the proposed facilities at Dublin Port: 25 SPS inspection bays, 4 revenue turnout sheds, and 8 sealed check booths. This assumption is based on the similarity of Liverpool to Dublin Port in terms of size and space. On the other hand, Holyhead, Fishguard and Pembroke are assumed to have check facilities equivalent to the proposed facilities in Rosslare Port: 13 SPS inspection bays, 2 revenue turnout sheds, and 2 seal check booths.
- Immigration checks will be conducted at checkpoints in UK ports. The number of these is assumed to match the number of revenue sheds as proposed for Irish ports.
- The average shelf-life for beef is assumed to be three weeks. According to beef exporters and hauliers, the maximum shelf-life for fresh beef is six weeks, while the beef product with shortest shelf-life must be delivered on the next day following production (e.g. fresh ready-meals).

In addition, a set of specific assumptions are identified for each scenario according to its nature and dynamics. The following sections illustrate the settings of each scenario along with its assumptions and the analysis of its results.

- *Level of customs and SPS checks delay*

By the end of the transition period, the UK has full border control operations for dealing with the movement of goods between the UK and EU27. The UK government announced in June 2020 that new border controls would be introduced in three stages, ending in July 2021. This will provide business with adequate time to recover from the impact of Covid-19 and prepare

[7] Government of Ireland, July 2019, Preparing for the Withdrawal of the United Kingdom from the European Union: Contingency Action Plan.

for the new border checks regime. In regard to products of animal origins and plants, the arrangements of the three stages are:[8]

January 2021: Physical checks will take place only on all high-risk, live animals, and certain plants. Traders will be required to pr-notify the UK authorities before certain movements. Products will not be required to enter the UK through a border control post (BCP) at this stage. All checks will take place at the point of destination.

April 2021: All products of animal origins (including beef) must be pre-notified with the UK authorities before arriving in the UK, along with presentation of the respective health documentation. At this stage, physical checks will take place on all products of animal origin, regulated plants and plant products, at the point of destination.

July 2021: Sanitary and phytosanitary (SPS) checks for animals, plants and their products will take place at UK BCPs, and not at the point of destination. According to the UK government, there will be an increase in the number of physical checks and samples taken from these products.

The UK government has outlined the processes for the movement of goods between the UK and EU27 from the end of the transition period onwards. This includes the processes and required documentation to be included. However, there is still no clear information regarding the level of interventions that will be applied by UK authorities. Three factors would influence the level of intervention and delay at UK ports: 1) the proportions of trucks that will be selected for the border control checks (e.g. customs, SPS, or immigration checks), which will be decided by the UK government regulations; 2) the intensity and length of those checks, and 3) the accuracy of declarations and health documentation submitted.

These three factors will be affected by any kind of regulatory divergence. The mutual recognition of drivers' permits and licences on both sides is also an issue, as are the constraints on road haulage permits, and finally the immigration status of the EU26 drivers (i.e. non-Irish or non-UK citizens). These factors will greatly influence the flow of traffic between Ireland and the UK. This in turn will affect delivery times, quality standards and spoilage rates. Longer lead times will disrupt the beef supply chain. Retailers currently rely on just-in-time strategies and next-day deliveries. This is due to the distributors working off an inventory level which is kept to a minimum. To understand the impact that check delays will have on the beef supply chain, three border checks scenarios at the UK ports were used: 1) Limited Check Delay, 2) Moderate Check Delay and 3) High Check Delay.

These three scenarios were tested and analysed with a baseline set as the current situation of trade or the As-Is scenario (i.e. no border checks are applied). Table2 shows each scenario in terms of the proportion of trucks selected and checked, along with the timing of these checks.

[8] GOV.UK, 2020, Border planning by the end of the transition period, https://www.gov.uk/government/news/government-accelerates-border-planning-for-the-end-of-the-transition-period.

The research team assumed there would be a 10% increase in the percentage of trucks selected for checks, and a 50% increase in the time it takes to check each vehicle.

The analysis shows how sensitive transportation times, and the shelf-life of products are to check delays at UK ports, Figure 1. A slight increase in truck transportation times is observed in the *Limited-Check-Delay* and *Moderate-Check-Delay* scenarios. However, the average truck transportation time increases by **234%** in the *High-Check-Delay* scenario in comparison to the transportation time in the *Limited-Check-Delay* scenario. This disrupts the flow of beef exports for up to two days. This would have a devastating impact on Irish beef exports to the UK and affect the fresh beef supply chain in general. The average remaining beef shelf-life would be reduced by 9% in the *High-Check-delay* scenario. This would result in a significant loss to the value of products, their quality standards, and competitiveness (e.g. mince beef and fresh ready-meals).

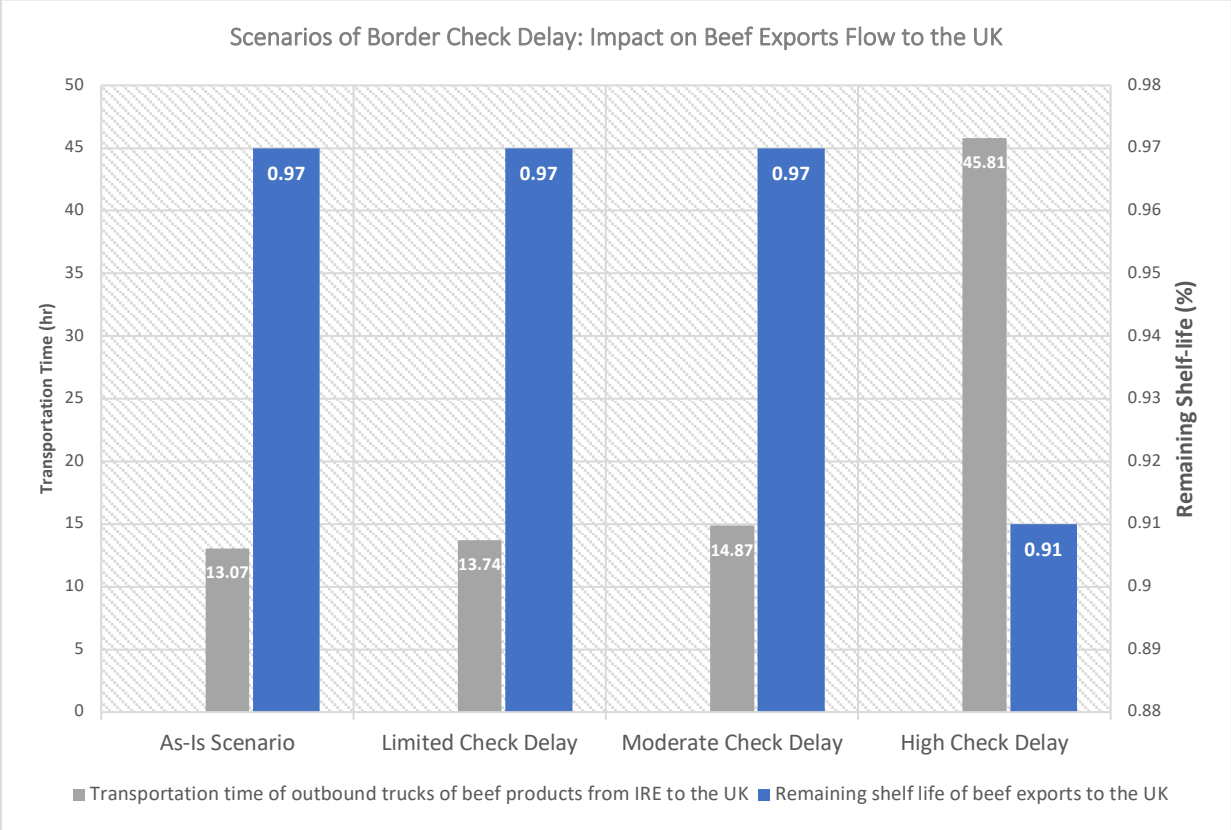

Figure 1: Impact of border check delay on beef exports to the UK

Table 2: Settings of check intervention scenarios

Examined scenarios	Scenario setting	Values	Comments
As-Is Situation	Timing of documentary + sealed identity checks on trucks carrying beef at UK ports (minutes)	0	No trucks are directed to any checks at the UK ports.
	Percentage of beef-loaded trucks selected for physical checks at UK ports (%)	0%	
	Timing of physical checks for beef-loaded trucks at UK ports (mins)	0	
	Percentage of beef-loaded trucks selected for security, licence compliance and immigration checks at UK ports (%)	0%	
	Timing of security, licence compliance and immigration checks at UK ports (mins)	0	
Limited Check Delay	Timing of documentary + sealed identity checks of trucks at UK ports (mins)	20	Documentary and sealed identity checks are applied to 100% of consignments. In this scenario it is assumed that documentary checking takes 20 minutes per truck, and that drivers and operators are familiar with the new border control procedures, thus minimising the number of incomplete declarations or missing certificates and reducing the checking time.
	Percentage of trucks selected for physical checks at UK ports (%)	10%	10% of trucks are directed to physical checks. The scenario assumes that the UK and EU achieve an agreement that minimises regulatory divergence.
	Timing of physical checks at UK ports (mins)	60	Physical check time assumed to be 60 mins per truck.
	Percentage of trucks selected for security, licence compliance and immigration checks at UK ports (%)	10%	10% of trucks selected for security + immigration checks.
	Timing of security, licence compliance and immigration checks for trucks at UK ports (mins)	20	Security + immigration checks take 20 mins per truck.
Moderate Check Delay	Timing of documentary and sealed identity checks at UK ports (mins)	30	Documentary + sealed identity checks are applied to 100% of consignments and take 30 mins per truck. Drivers and freight forwarders are less familiar with the new border control procedures compared to the Limited-Check scenario.
	Percentage of trucks selected for physical checks at UK ports (%)	20%	20% of trucks are directed to physical check bays.
	Timing of physical checks at UK ports (mins)	90	The physical check takes 90 mins per truck.
	Percentage of trucks selected for security, licence compliance and immigration checks at UK ports (%)	20%	20% of the trucks are assumed to be selected for security and immigration checks.
	Timing of security, licence compliance and immigration checks (mins)	30	Security + immigration checks take 30 mins per truck.
High Check Delay	Timing of documentary and sealed identity checks at UK ports (mins)	45	Documentary + sealed identity checks are applied to 100% of consignments. It is assumed that the check takes 45 mins per truck, and that drivers and freight forwarders are unfamiliar with the new border control procedures compared to the Limited-Check scenario. The scenario is likely to occur in the short period directly after the end of the transition period.
	Percentage of trucks selected for physical checks at UK ports (%)	30%	30% of trucks are directed to physical checks.
	Timing of physical checks at UK ports (mins)	135	Physical check takes 135 mins per truck.
	Percentage of trucks selected for security, licence compliance and immigration checks at UK ports (%)	30%	30% of the trucks are selected for security and immigration checks.
	Timing of security, licence compliance and immigration checks (mins)	45	Security + immigration checks take 45 mins per truck.

To understand the reason for the long delay under the *High-Check-Delay* scenario, a more in-depth analysis was conducted. The analysis showed that the average waiting time for trucks at Holyhead Port increases to 6.7 days per truck, Table 3. Shipping lines and business communities in both Ireland and the UK have expressed concerns regarding the limited space at Holyhead Port, along with the fact that it is unprepared in terms of adequate checking infrastructure. Considering the extensive volume of Irish exports (including fresh beef exports) that flows Dublin-Holyhead, a bottleneck would be caused at Holyhead Port in the worst-case scenario.

Table 3: Average waiting time of fresh beef trucks at UK checkpoints

	Fresh beef export trucks' waiting time at UK ports				
	Heysham	Liverpool	Holyhead	Fishguard	Pembroke
As-Is	0.00	0.00	0.00	0.00	0.00
Limited-Check Delay	0.18	0.02	0.76	0.27	0.09
Moderate-Check Delay	0.34	0.46	5.47	0.71	0.06
High-Check Delay	2.06	0.97	162.4	1.39	0.23

These results shed light on three important facts: 1) Holyhead is an important entry point for beef exports to the UK markets, 2) truck flow on the Dublin-Holyhead route would be extremely sensitive to a large increase in check interventions and delays at Holyhead Port, and 3) the limited space at Holyhead Port is a barrier for the development of adequate check facilities needed for the high volume of Irish exports on the Dublin-Holyhead route. Maintaining a smooth flow of traffic on this route is essential to bolster resilience in the beef trade relationship between Ireland and the UK.

The results in Table3 show disruption on a lesser scale to exports on the other maritime routes (e.g. Dublin-Heysham, Dublin-Liverpool, Rosslare-Fishguard and Rosslare-Pembroke). The low volume of beef trade on these routes explains these results. Beef exporters explained that the long shipping times for Dublin-Heysham and Dublin-Liverpool, along with limited sailing frequencies on the Rosslare-Fishguard and Rosslare-Pembroke routes, present the main barrier to traders using these routes as alternatives to Dublin-Holyhead.

- *Level of transit checks*

Transit check procedures will apply immediately on 1 January 2021.[8] Traders will be moving goods into UK customs territory under the Common Transit Convention (CTC). It facilitates the movement of goods and cross-border trade between EU member states, EFTA countries, and Turkey, North Macedonia, and Serbia[9]. In the event that there are paper-based offices of

[9] GOV.UK, 2019, Guidance: Common Transit Convention Countries.

transits in certain UK ports, drivers will need to present Transit Accompanied Documents (TADs) at these offices. The UK government intend the transit process to be completed digitally using the Goods Vehicle Movement Service (GVMS) solution, but some ports may still choose to operate a paper-based office of transit.

It is still unclear whether each UK port is capable of hosting the required transit checks, while at the same time mitigating congestion. There is ambiguity around the level of intervention, check times and types of checks. Therefore, it is unclear whether fresh beef exports to the EU26 market via the UK land-bridge will be subject to further delays at the borders. The analysis in this section aimed to investigate various levels of transit checks and to quantify their impact on fresh beef exports to Continental Europe, Table 4. Exports from Ireland to mainland Europe will be subject to transit checks at western UK ports. It is assumed that the number of offices of transit in each port will be two and all will have paper-based transit procedures (i.e. all trucks must to present their TADs and goods upon arrival at the ports).

Table 4: Scenarios of transit check intervention at Ireland/EU and UK ports

Examined scenarios	Checks timing (min)	Comments
As-Is Situation	0	No transit checks.
Limited Transit Check Delay	5	Regular checks on transit-accompanying documents.
Moderate Transit Check Delay	15	More checks are required on the permissions for the operator to transit via UK territory.
High Transit Check Delay	25	All previous checks are applied in addition to immigration checks on drivers from the EU26 (Excluding Irish Drivers). There is a high chance that drivers will periodically submit incomplete transit documents or incorrect declarations, in particular in the period immediately after 1 January 2021. This is factored in.

The model showed a slight interruption to Irish beef exports to mainland Europe via the UK land-bridge in each of the three transit check scenarios. The transportation time increased by around 1.5 hours and 5 hours in the *Moderate-Transit-Check-Delay* and *High-Transit Check-Delay* scenarios, respectively, Figure 2. The remaining shelf-life for beef was reduced by just 1% under the longer transit check scenario. Waiting times at all ports was not significantly affected in the three scenarios. Holyhead Port is the only exception, as truck waiting times increased by up to 50% in the *High-Transit Check-Delay* compared with the *Limited-Transit Check-Delay* scenario, Table 5. It has been explained that the Dublin-Holyhead route is sensitive to any check delays (i.e. SPS, transit, customs checks) due to the large volume of goods which flow along this route, along with the high sailing frequencies which serve this route. Longer

https://www.gov.uk/guidance/common-transit-convention-countries#:~:text=The%20Common%20Transit%20Convention%20is,or%20through%20Common%20Transit%20countries.

transit checks are still a risk that beef exporters must consider – particularly in the absence of practical information on the level and intensity of checks at UK ports following the transition period.

Table 5: Average waiting time of fresh beef trucks at UK checkpoints

	Fresh beef export transit trucks' waiting time at UK ports				
	Heysham	Liverpool	Holyhead	Fishguard	Pembroke
As-Is (No Transit Checks)	0.00	0.00	0.00	0.00	0.00
Limited-Transit-Check Delay	0.00	0.04	0.68	0.16	0.00
Moderate-Transit-Check Delay	0.12	0.04	0.99	0.23	0.00
High-Transit-Check Delay	0.15	0.05	1	0.2	0.01

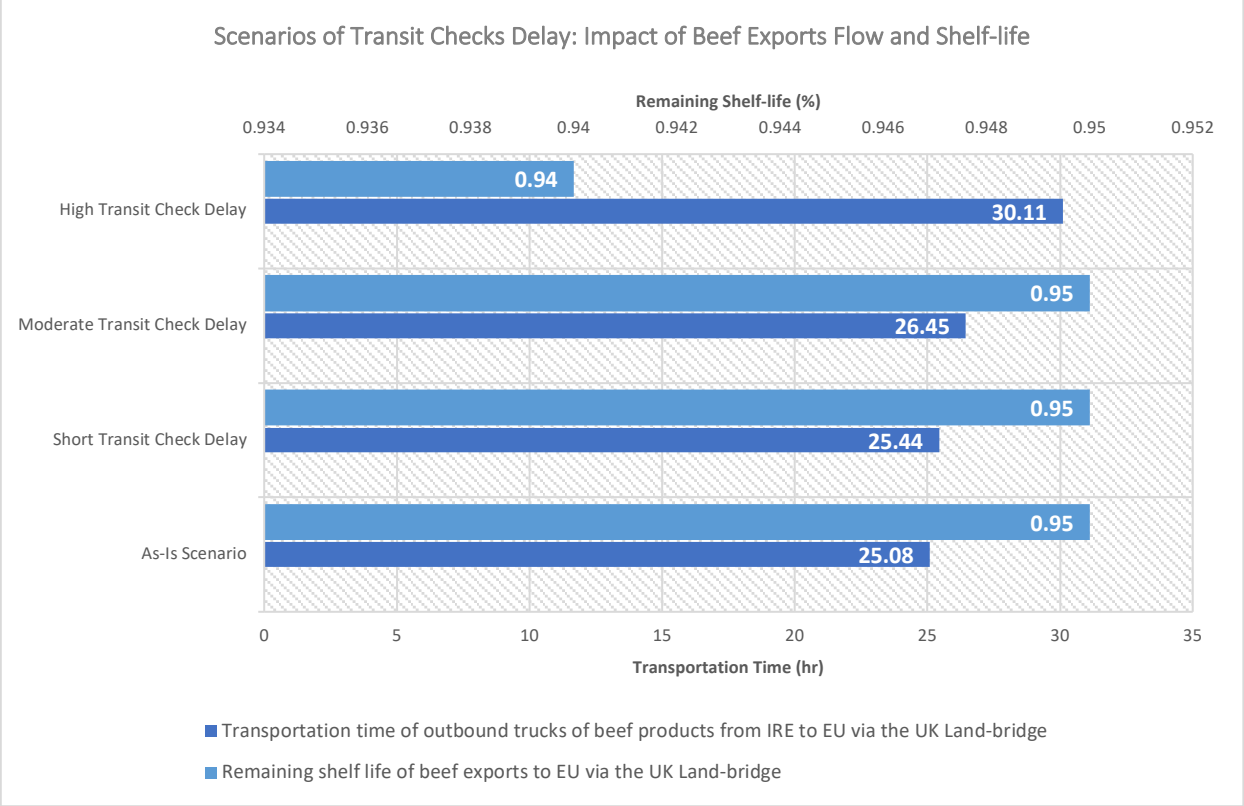

Figure 2: Transit checks implications for export flow of fresh beef products

- *Availability of checks Infrastructure at UK ports*

Irish beef exporters expressed their concerns about UK ports with limited space. They believe that these ports will be unable to develop the necessary check facilities to conduct customs, SPS, immigration and transit checks. Most fresh Irish beef flows to the UK and EU26 markets through Holyhead Port. The Dublin-Holyhead route links Ireland to the middle of the UK and enjoys high sailing frequency, with short sailing time. Liverpool Port is currently the only port in the west of the UK that has adequate space and infrastructure to conduct border checks on Ro/Ro traffic from 1 January 2021. However, the port is located nine hours' sailing time from

Dublin – much longer than to Holyhead. Liverpool could experience bottlenecks if more freight is diverted to it from other ports.

This analysis, therefore, aims to quantify the effects of diverting freight traffic from any of the western UK ports to others, in the case that any of the ports lack the infrastructure to carry out any of the checks. In alignment with the analysis of previous scenarios, if the Dublin-Holyhead route is suspended as a result of the unpreparedness of Holyhead Port to develop adequate checks infrastructure, disruption to beef exports will result – with around six hours delay in truck transportation times to the UK and EU26 markets compared to other scenarios, Figure 3. The scenarios in this analysis are designed under the assumptions that borders and transit check delays to beef exports flowing to the UK and EU26 markets are limited (i.e. *Limited-Check-Delay and Limited-Transit-Check-Delay*), Tables 2 and 3. Any increase in check delay levels at the UK ports will significantly interrupt the exports flow in any of the 'lack of check infrastructure' scenarios, as illustrated in Figure 3.

Around 85% of Irish beef exports are shipped to the UK and the EU26 markets through Dublin Port. This causes high demand on the maritime routes that link Dublin with either Heysham, Liverpool or Holyhead ports. Any interruption to these routes because of lack in checks infrastructure causes considerable disruption to the exports flow from Ireland to the UK and EU26. Hence, equipping these routes with adequate infrastructure and facilities to perform the necessary border checks is essential to maintain the flow of Irish beef exports and keep supply chains efficient.

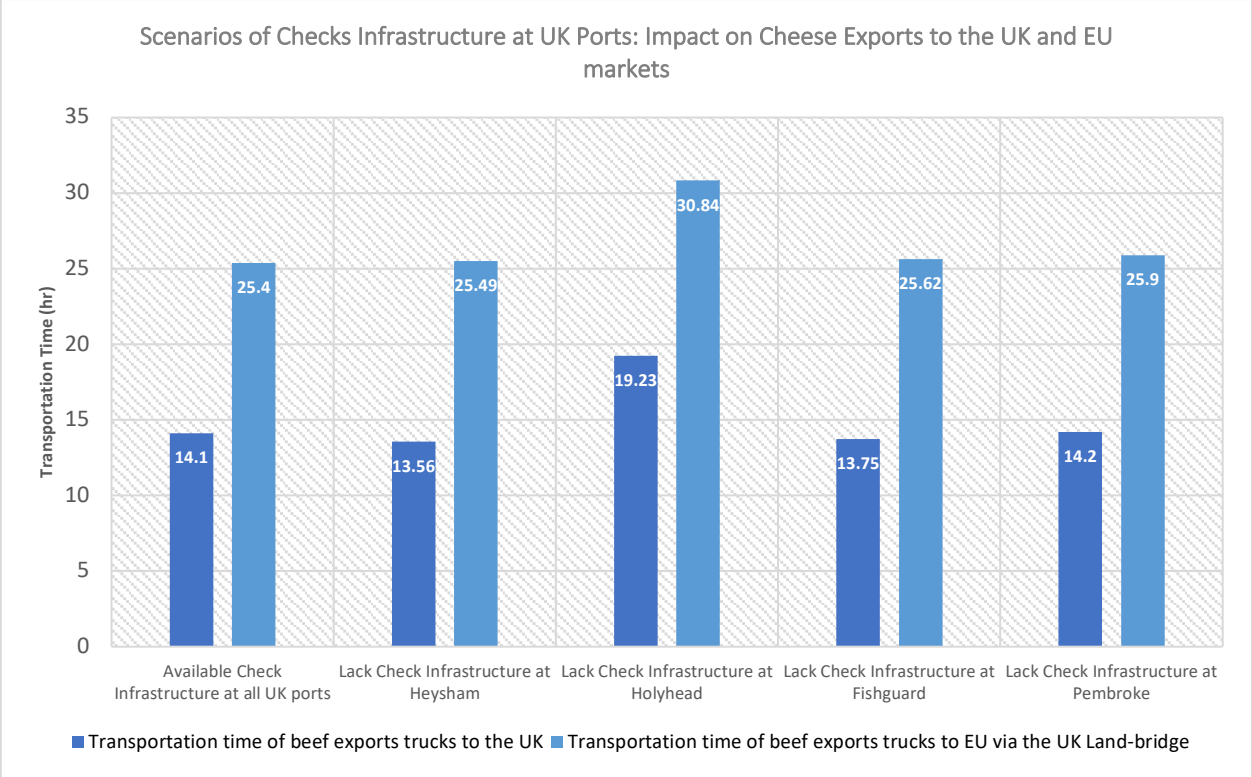

Figure 3: Impact on fresh beef trade flow of lack of checks infrastructure

6. *Industry response*

The analysis suggests that, if border checks are introduced without proper planning in terms of level of check intervention, intensity of checks, accuracy of submitted declarations and transit documents, and preparedness of checks infrastructure and resourcing, Irish beef supply chains and exports will suffer considerable disruption. This section provides a qualitative analysis based on the model results and the perspectives of beef supply-chain stakeholders.

▪ *Trade barriers and Irish beef exports to the UK*

Trade barriers, including tariff and non-tariff barriers, is expected to damage the beef trade partnership between Ireland and the UK. Beef exporters cannot see any opportunity to replace the UK market with other markets, in Europe or beyond, considering that the beef supply chain with the UK is well established and has worked efficiently for many years. The strong ties between the two countries and the level of beef trade with the UK – 50% of Irish beef exports – mean that the UK cannot be replaced with any other countries or trade regions.

Beef processors and traders expressed concerns about the cost of exporting beef if no trade deal is achieved between the UK and EU before July 2020 (i.e. the end of the third stage of the transition period). Tariff, customs and duties, veterinary checks and transportation costs would add to the trade cost and disrupt the demand and supply balance of the Irish beef trade with the UK. Irish beef exporters anticipate demand falling in the UK market since the burden of the new trade costs would fall on consumers and cause a spike in product price. Upstream in the beef supply chain, processors emphasised that any demand decrease would directly cause a considerable surplus production of beef. Reallocating production surplus to other markets immediately after the end of the transition period would be impossible given the major changes required in supply-chain design, transportation modes and trade partnerships.

Beef traders were less concerned about Irish beef competitiveness post-Brexit. Although beef imports from South America (e.g. Argentina and Brazil), New Zealand and eastern Europe to the UK market have recently increased, they are not seen as a critical threat to Irish beef exports. Beef suppliers from these countries cannot compete with Irish suppliers when it comes to product prices and delivery time. They will be subject to similar veterinary and customs checks at UK borders, which eliminates any competitive advantage, except for suppliers from New Zealand who have an equivalence agreement with the UK, which exempts their consignments from most identity and physical checks.

▪ *Non-tariff barriers and veterinary checks*

The beef trade between Ireland and the UK performs with a limited delivery time since the UK is predominantly an importer of fresh beef products. The shelf-life of beef products ranges between one and 40 days based on the product type and the conditions of certain meat products (e.g. minced beef must be processed within six days of slaughtering). While exports of processed beef products (e.g. fresh ready-meals) must be delivered to supermarket shelves

by the next day, other beef products, such as fresh beef, have extended shelf-life of up to 40 days.

The procedures of customs, veterinary and immigration checks at UK ports post-Brexit, and the intensity of these checks (i.e. level of check intervention and check delay), are still unclear, since limited formal information has been provided by the UK authorities. Companies anticipate longer waiting times for their freight at the customs and veterinary check points and transit offices in the UK. According to research estimations, truck delays could increase to ***two days*** if high check interventions with longer check delays are imposed. This delay could disrupt the whole supply-chain operation, particularly for limited shelf-life products. Changes in demand volumes and inventory strategies are foreseen, in order to create a buffer against delay in product delivery. Retailers will plan their demand further in advance to hold more stock and will review the effectiveness of the just-in-time delivery strategy under the new border regimes. Demand for refrigerated trucks and containers will also grow, since beef exporters will seek to maintain product freshness and avoid product spoilage.

Non-tariff barriers will also lead to a significant increase in export and transportation costs. Veterinary checks and sample-taking are expensive and add to border check costs for exporters and importers; they are estimated at €600 per consignment, according to the interviewees. Beef exporters and hauliers will also have to satisfy a range of customs declarations and health certificates to comply with new customs regulations at UK ports. Avoiding missing declarations and incorrect submissions of checks documentation, including transit-accompanied documents, will help to minimise delay and truck transportation time. Preparing the right declarations, in particular in the short period after the transition period, will be an administrative burden for beef traders and will complicate the export process even more. Exporters will find extra costs being added to the operational direct cost, including costs for registering with relevant authorities (e.g. port authorities, revenue and customs), hiring export agents, and third-party logistics or dedicated staff to manage export-compliance documents and regulations. Although the administrative burden of customs compliance is expensive, most of the interviewees mentioned that the cost could be absorbed within the regular staff employment and operational cost.

Finally, more checks delay will result in longer waiting times for the trucks. The waiting time is estimated at approximately two hours per truck in all studied ports except in Holyhead. The *Moderate-Check-Delay* scenario at Holyhead could lead to five hours of waiting time per truck, but, in the *High-Check-Delay* scenario, the period would be extended to six days, Table 3. Every hour's delay at the ports would mean exporters and hauliers paying extra costs for drivers, maintenance and fuel, parking, demurrage and product spoilage. The cost would increase even more in the case of refrigerated trucks, of around €500 per day per truck[10].

[10] UECBV, 2019, The EU Meat Industry in a Hard Brexit Scenario

- *Product accessibility to the EU market*

More than 90% of Irish meat exports to mainland Europe flow via the UK land-bridge. It provides hauliers with more control over transit time and speed delivery to EU26 markets. Introducing new transit checks for trucks entering the UK will complicate freight transit via the UK land-bridge and increase transit cost. Compared to the As-Is situation, transit checks could add to the freight transportation time based on check types, intensity of checks and the capacity of office of transit offices. The UK announced in the latest Border Operating Model Document that transit checks would be limited to Transit Accompanied Documents (TADs), which could be presented digitally through the Goods Vehicle Movement Service (GVMS), or manually if ports selected to operate paper-based offices of transit.

However, it is still uncertain if transit checks post-Brexit will include inspections on the travel permits of EU26 operators, cabotage operations within UK territory, and additional immigration checks for non-Irish or non-UK drivers. In addition, further checks could be conducted on driver licences and operators' transport documentation if mutual recognition of qualifications and documents has not been achieved between the UK and the EU. Hence, Irish exporters have advised their drivers to get valid licences and permissions ready and prepare for any kind of check at UK borders.

The vague position of the UK regarding additional immigration checks for EU26 drivers (not from Ireland or UK) adds to the concerns of beef traders. Covid-19 related procedures at European ports showed an example of what would happen at borders if more forms and checks are required after the end of the transition period. Filling in a simple form manually before crossing to Dover led to miles and miles of trucks queuing at Calais and considerable disruption to the supply chain.

Beef exporters, therefore, have started to rely on refrigerated trucks to maintain longer shelf-life and high-product quality standards, which adds to the transportation cost. According to logistics professionals, the demand for refrigerated trucks is steadily increasing to face the risk of delays at border checkpoints and office of transit.

Interviewed stakeholders also expressed concerns about the capability of Holyhead and Dover ports and their motorway networks to host transit checks without congestion for the in-transit freight. Holyhead has very limited space to build check facilities or provide parking or inspection spaces. Facilities for checking animal and plant-origin products have long since been sold off and replaced with supermarkets and restaurants. Currently, trucks flow directly to the motorway from the vessels. In the light of the current speed and volume of traffic that flow continuously through Holyhead Port, and its limited space, it is seen as a severe bottleneck for the land-bridge route.

Direct shipping services to mainland Europe could provide viable alternatives to the land-bridge. Although it increases transit time, it provides better control over transit times and cost, Figure 4. The Dublin-Cherbourg service is the most suitable option for the short-shelf-life and

just-in-time supply chains. Product delivery time could increase by around seven hours, but the route could ensure more consistent delivery performance as compared to the land-bridge route. The Dublin-Rotterdam and Dublin-Zeebrugge direct services are found to be better options for longer-shelf-life supply chains. Both services are slower and cannot be used for the just-in-time or next-day delivery models. Therefore, beef exporters and haulage companies in limited-shelf-life supply chains mentioned a potential usage of Direct Shipping Services, the multinational freight forwarding and logistics company, if the shipment is directed to France, Portugal or Spain. For other countries in Europe such as Belgium, Germany, the Netherlands or Denmark, using the land-bridge is a must to maintain product freshness and quality.

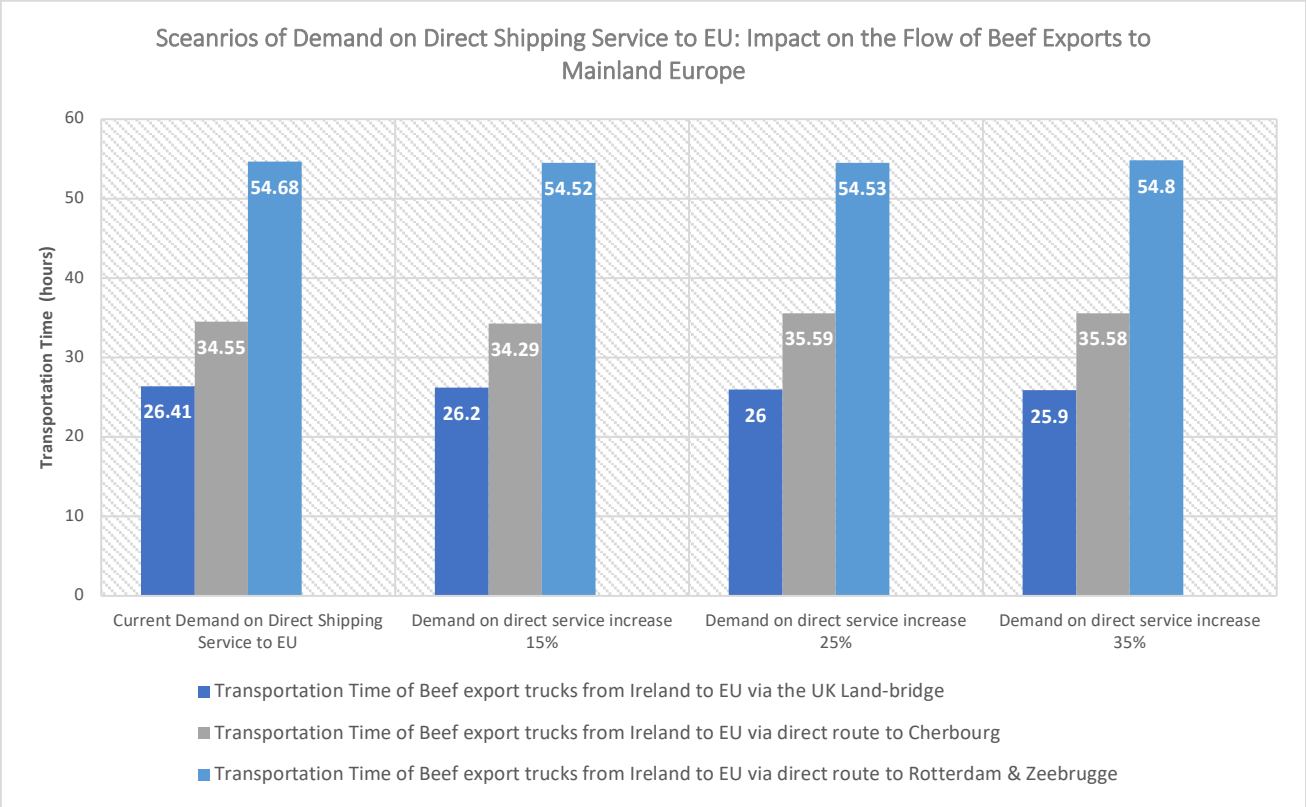

Figure 4: Beef export flow via direct route to Continental Europe