

# Cross-Border Supply Chain Report (2015, 2016)

Northern Ireland Statistics and Research Agency  
and  
the Department for the Economy (Northern Ireland)

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***Please note: estimates quoted throughout this report have been subject to rounding where appropriate.***

## 1. Executive Summary

Although existing data sources<sup>1</sup> describe the nature and value of trade between Northern Ireland (NI) and Ireland (IE) at a high level, there is limited information available on the frequency with which goods are moved across the border and the purposes for which they are used. Establishing the degree of interdependence between cross-border businesses is clearly more important than ever in the context of EU Exit. The Department for the Economy commissioned NISRA to undertake a survey of NI businesses trading with IE and an analysis of HMRC microdata with a particular focus on how goods were moved across the border and the nature and extent of supply chain linkages. The main findings from the Cross-Border Supply Chain Report are:

- Provisional estimates indicate that NI VAT and PAYE registered businesses (in the non-financial and non-farm sectors) made some 758,000 cross border export deliveries to IE, estimated to be worth some £3.4<sup>2</sup>bn to the local economy in 2016. In addition there were approximately 410,000 import deliveries in 2015<sup>3</sup> from IE to NI businesses worth nearly £2.0bn in the sectors covered by the survey.
- The majority of those cross-border transactions were made by micro and small businesses, which dominate the NI economy, with approximately 74% of export deliveries involving NI businesses with fewer than 50 employees and 33% carried out by businesses with fewer than 10 employees.
- Northern Ireland businesses exporting to IE made on average nearly 100 deliveries valued at approximately £4,500<sup>4</sup> per trip in 2016. Most businesses tended to make low value deliveries but these accounted for just less than one fifth of the total value of exports. Conversely, just over twenty percent of businesses made deliveries worth more than £4,500 per trip and these accounted for most (82%) of the total value of NI exports to IE.
- Exports to IE accounted for more than 15% of businesses' (NI + IE) sales for five of NI's District Council Areas (DCAs)<sup>5</sup> with most border DCAs showing a greater propensity for trade with IE, than DCA's not adjoining the border.
- Analysis of HMRC trade data indicated that 39% of NI trade (total exports and imports above the respective Intrastat reporting thresholds – see explanatory panel on page 4) with IE was comprised of trade in “intermediate” goods i.e. goods that are used to produce other goods, which may be considered as evidence of supply chain activity.
- When NI businesses who are both exporting and importing agri-food products that are ready for the market (Meat & Fish Products, Foodstuffs, Dairy Products and Beverages) are also included, two-thirds of goods traded with IE can be considered to be part of such supply chain activity. This wider definition of supply chain activity reflects agri-food products that were intensively traded across the border and were frequently time sensitive.
- While trade in intermediate goods or bilateral trade within the same sector are not unequivocal indicators of supply chain activity they nevertheless highlight the critical

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<sup>1</sup> [Northern Ireland and Ireland Position Paper](#), HM Government, 2017; [Additional Data Paper: Northern Ireland Trade Data and Statistics](#), HM Government, 2017; [Overview of Northern Ireland Trade](#), NISRA, 2017

<sup>2</sup> Table 1 <https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/BESES-Publication-2016-Headline-results-pdf.pdf>

<sup>3</sup> The Supply Chain Survey (SCS) uses 2015 BESES imports data as this was the most recent year available at the time of analysis.

<sup>4</sup> Estimates are at producer prices and exclude VAT. This refers to the value of exports of both goods and services, as the (BESES) split between goods and services in 2016 was not available when the analysis was conducted.

<sup>5</sup> Derry City and Strabane, Fermanagh and Omagh, Mid Ulster, Armagh City, Banbridge and Craigavon, and Ards and North Down

importance of North-South business to business inputs for traders above the reporting thresholds.

- As a small open economy NI trade is also integrated into trade with the Rest of the European Union (REU) and the Rest of the World (RoW). Sixty two per cent of trade with the REU met this wider definition of Supply Chain activity as did 53% of NI's trade with the RoW.
- Trade in capital goods can also be considered as a further type of input to the production process. Northern Ireland was much more likely to trade in capital goods with the REU (21% of above threshold trade) and the RoW (23%) than with IE (7%). This is in addition to the wider definition of Supply Chain activity described above and provides further evidence of NI's integration into markets beyond these islands.
- The current research paints a rich picture of the web of cross-border connections and trade between NI businesses and businesses and consumers in IE. This is, however, only a partial picture of the movement of goods across the border, as NI relies heavily on moving and receiving goods through IE ports for its trade with GB. Previous estimates have indicated that NI sales of goods to GB are worth nearly 4 times that of sales of goods to IE<sup>6</sup> of which the current exercise does not take account. North-South supply chains cannot be considered in isolation from trade with GB and this remains an area for further research.

#### **What counted as a cross-border delivery in the research?**

Trade in goods and associated services by NI businesses registered for VAT or PAYE<sup>6a</sup>

- ✓ NI export to Ireland - from a NI business to an IE business or household (758,000)
- ✓ NI import from Ireland - from an IE business to a NI business (410,000)

#### **What's not counted as a cross border delivery?**

- ✗ Cross-border movement of goods within NI (e.g. Fermanagh to Newry via Monaghan)
- ✗ Cross-border movement of goods within IE (e.g. Donegal to Dublin via NI)
- ✗ IE movement of goods to GB through NI ports and vice-versa (e.g. through Belfast, Larne or Warrenpoint ports)
- ✗ NI movement of goods to GB through IE ports and vice-versa (e.g. Dublin port)
- ✗ Hauliers' journeys only indirectly related to cross-border exports and imports
- ✗ Deliveries by IE businesses direct to NI consumers (e.g. by post or home delivery)
- ✗ Deliveries by businesses with turnover below the VAT threshold<sup>6a</sup> (see panel overleaf)

<sup>6</sup> [Broad Economy Sales and Exports Statistics 2016: Goods and Services Results, NISRA, 2018](#) See Table 1.

<sup>6a</sup> The UK VAT threshold for registration for the 2015/16 tax year was £82,000 and £83,000 for 2016/17.

## **What do references to the VAT and Intrastat thresholds mean?**

### **VAT Threshold**

The Supply Chain survey was only issued to a sample of those NI businesses who were registered with HMRC for VAT purposes (and were trading with IE). This means the businesses surveyed had turnover above the “VAT threshold” i.e. greater than £82,000 in 2015/16.

There were about 52,000 NI VAT registered businesses in NI (in the non-financial and non-farm sectors) to which the survey results apply. However, there were another 58,500 businesses in NI with annual turnover below the VAT threshold in 2015 (mainly self-employed or sole traders), and the survey results will not include estimates of their cross border deliveries or supply chain activity.

### **Intrastat Thresholds**

A UK business is only required to submit detailed “Intrastat” product information to HMRC if the total value of exports to the EU is worth more than £250k per year. Similarly, businesses only provide detailed “Intrastat” product information to HMRC if the total value of their imports from the EU as a whole is worth more than £1.5m per year. These are known as “Intrastat reporting thresholds”. Otherwise businesses report the total value of exports and imports by destination and origin to HMRC (but without detailed product information).

The detailed product analysis referred to throughout the report is therefore only possible for those NI businesses whose exports and imports are above the respective Intrastat reporting thresholds. However, the detailed “Intrastat” product information analysed in the report accounted for nearly 90% of the value NI’s exports to IE and 42% of the value of NI’s imports in 2015.

Other analyses of HMRC data referred to in the report include the total value of exports and imports to/from IE and other markets (i.e. taking account of the value of trade both above and below Intrastat reporting thresholds).

## 2. Overview

Ireland (IE) is the single largest export destination for Northern Ireland (NI) accounting for approximately one third (£3.4bn) of the value of goods and services exports by local businesses<sup>7</sup> in 2016 in the non-financial and non-farm sectors. An estimated 11,100 or 21% of NI businesses either exported to and/or imported from IE in 2016<sup>8</sup>. The vast bulk of such trade occurs by road and is a subset of the estimated annual 110m person crossings<sup>9</sup> or 72m vehicle crossings (including 6.4m HGV crossings) in 2016<sup>10</sup>.

The Department for the Economy commissioned NISRA to undertake a survey of NI businesses trading with IE to better understand the nature and extent of such trade, including the extent of supply chain connections, which is more important than ever in the context of EU Exit<sup>11</sup>. The Cross-Border Supply Chain Survey (SCS) results have been integrated with NISRA's Broad Economy Sales and Exports Survey (BESES) to provide a richer picture of the movement of goods and associated services (exports of which to IE were estimated by NISRA to be worth £3.3bn in 2015 and £3.4bn in 2016<sup>12</sup>). The SCS results have also been supplemented where possible with data from HM Revenue & Customs Regional Trade Statistics (HMRC RTS), although NISRA and HMRC trade estimates will differ for methodological reasons<sup>13</sup>.

### The key findings are:

#### Overview (SCS)

- In 2016 it was estimated there were approximately 758,000 goods export deliveries from NI (by VAT or PAYE registered) businesses to customers in IE. Conversely there were approximately 410,000 import deliveries in 2015<sup>14</sup> from IE to NI businesses. Such deliveries can arise for a range of purposes including the fulfilment of cross-border internet sales and home deliveries (to IE only), the movement of products ready for the market to wholesalers or retailers, or business to business inputs as part of a production process.
- Those NI businesses exporting to IE (c. 7,700) made on average nearly 100 deliveries valued at approximately £4,500<sup>15</sup> each in 2016. Although just over three quarters of businesses exporting to IE had a value per trip of less than £4,500, this accounted for just less than one fifth of the total value of exports. Conversely, 22% of businesses made trips worth more than £4,500 per trip and accounted for 82% of the total value of NI exports to IE.
- In terms of volume, most cross border export deliveries from NI to IE consisted of low value consignments (see Figures 3 and 4).
- As might be expected the value of a consignment varied by business size with an average value for small businesses (0-49 employees) of £2,800 compared to an average for medium businesses

<sup>7</sup> [Broad Economy Sales and Exports Statistics, NISRA, 2016](#), and [An Overview of Northern Ireland Trade, NISRA, 2017](#)

<sup>8</sup> [Broad Economy Sales and Exports Statistics, NISRA, 2016](#). The business population is the Inter-Departmental Business Register (IDBR) which contains information on all businesses in the UK which are VAT registered or operating a PAYE scheme. Approximately 70,000 such businesses operate in NI of which the BESES and SCS covers c.52, 000. These surveys excludes some farming sectors (including live animals), financial, pension services and the public sector. Sole traders below the VAT threshold are also omitted from the IDBR.

<sup>9</sup> [Background Evidence on the Movement of People across the Northern Ireland – Ireland Border, DfE, 2018](#)

<sup>10</sup> DfI Transport Model and Internal Analysis of [Transport Infrastructure Ireland](#) data. The 6.4m HGV crossings can include any occurrence of a HGV crossing the NI-IE border regardless of its origin or final destination, and is not exclusively related to NI-IE trade.

<sup>11</sup> See Annex 1 for the extent of cross border transactions covered in the SCS.

<sup>12</sup> [Broad Economy Sales and Exports Statistics, NISRA, 2016](#).

<sup>13</sup> [NISRA and HMRC joint statement regarding methodological differences, 2017](#)

<sup>14</sup> SCS uses 2015 as a reference for imports as BESES imports data was only available for 2015 when SCS analysis was undertaken.

<sup>15</sup> Estimates are at producer prices and exclude VAT. This refers to the value of exports of both goods and services, as the (BESES) split between goods and services in 2016 was not available when the analysis was conducted.

(50-249) of £10,200 in 2016.

### Small and micro businesses (SCS)

- The majority of cross-border transactions were made by micro and small businesses, which dominate the NI economy, with approximately 74% of export deliveries involving NI businesses with fewer than 50 employees and 33% carried out by businesses with fewer than 10 employees. Although cross-border trade is dominated by small businesses in terms of their numbers (93% of exporters to IE) they account for only 46% of the value of such export sales.

#### What's an Export (or Import) Delivery?

Businesses were asked to indicate “the number of export deliveries of goods from your business to the Republic of Ireland in 2015 and 2016” and were told:

*“an export delivery refers to a **single trip** across the border irrespective of the quantity or number of packages or pieces carried. Please count only the number of trips with goods on board.”*

A similar question was asked for import deliveries:

- “Deliveries” will often but not always equate to an individual truck or LGV movement. For example, different goods consignments may be picked up (e.g. by a courier<sup>14</sup>) from different businesses as part of one cross-border journey. From an exporting businesses’ perspective this is still one delivery or consignment.

### Medium and large Businesses (SCS)

- Conversely, although medium and large businesses (with 50 or more employees) only made 27% (201,000) of export deliveries to IE, they accounted for just over half of the value (55% or £1.8bn) of such transactions in 2016. The average value of a delivery by medium sized companies (50-249 employees) was £10,200 and by large companies (250+ employees) was £7,400. This does not necessarily relate to the value of a single truck load as there could be multiple consignments on board for any given cross-border journey.
- Given that small businesses accounted for nearly three quarters of the transactions but under half of the value of exports, it is not surprising that the overall distribution of value per delivery was heavily skewed towards the lower end of the scale with 32% of all NI exporters recording average transactions of £1,000 or less per transaction and 50% of businesses indicating average transactions were less than £1,700 per trip. The 10% of exporters with the highest value deliveries averaged £8,200 per consignment.

### Mode of transport (SCS)

- Businesses used a variety of means to transport goods with 42% of businesses delivering goods to IE through an agent<sup>16</sup> and a further 36% transporting goods using the businesses’ own or rented vehicles. Of those businesses who only used HGVs, the average value of a consignment was £3,800<sup>17</sup>. The value of such consignments varied considerably with the lowest 20% of HGV

<sup>16</sup> Or third party haulier, freight forwarder, fast parcel operator, Royal Mail Group.

<sup>17</sup> Such deliveries could be part of a truck load with multiple consignments on board.

consignments having an average value of £460 and the highest 20% of consignments having an average value of £40,100.

### Supply chain involvement (HMRC)

- HMRC estimated the value of NI exports of goods to IE in 2015 as £2.2bn<sup>18</sup>, with nearly 90% of such trade undertaken by those businesses with EU exports valued above the Intrastat reporting threshold<sup>19</sup>. The research classified such goods into whether they represented capital, consumption or intermediate products with the latter taken as a potential indicator of supply chain activity<sup>20</sup>.
- Of those goods sold by NI exporters (above the Intrastat reporting threshold) to IE, approximately 38% (£740m) related to the sale of intermediate goods<sup>21</sup> in 2015. Conversely, intermediate goods accounted for 42% (£550m) of the value of goods (above the Intrastat reporting threshold) imported by NI businesses<sup>22</sup>. This suggests a significant degree of cross border movement of products likely to be associated with supply chain activity.
- Overall, cross border trade in intermediate goods accounted for 39% (£1.3bn) of the total value of such trade with IE (i.e. as a percentage of the sum of both exports and imports above the reporting thresholds, equivalent to £3.3bn)<sup>23</sup>. This highlights the critical importance of cross-border business to business inputs using this measure.
- The above analysis classified Meat & Fish, Foodstuffs, Dairy Products, and Beverages as predominantly final consumption goods. However, the importance of cross-border trade within the Agri-Food sector is widely recognised<sup>24</sup> and DAERA<sup>25</sup> e.g. indicated NI exported £125m raw milk i.e. as an intermediate product and £245m of meat products in 2015<sup>26</sup> to IE. There was evidence in the current research that individual businesses were both importing and exporting such products across the border (bilateral traders), which also suggests there may be considerable supply chain activity in these sectors.
- The research therefore assigned that element of (above reporting threshold) trade in the meat and fish, foodstuffs, dairy products, and beverages sectors that was traded bilaterally by individual companies as evidence of potential supply chain activity. When the value of such products are also included alongside those classified as intermediate goods, then 66% (£2.1bn / £3.3bn) of trade (i.e. NI-IE exports plus imports above the respective HMRC Intrastat reporting thresholds) relates to this wider definition of potential supply chain activity.
- While trade in intermediate goods or bilateral trade within the same sector are not unequivocal

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<sup>18</sup> [Regional Trade Statistics](#), HMRC 2015

<sup>19</sup> HMRC product by destination microdata is only collected for high value EU exporters (total EU Intrastat Despatches greater than £250k exports per year) and high value EU importers (total EU Intrastat Arrivals greater than £1.5m per year) i.e., a business could conduct the majority of trading with France, but some trade is NI to IE. Exports to IE by such traders accounted for 89% (£2.0bn in 2015) of total exports to IE and 66% (£1.3bn in 2015) of total imports to IE.

<sup>20</sup> Capital goods refer to inputs to the production process, consumption goods refer to final products and intermediate goods refer to goods used to produce other products, with some goods remaining unassigned.

<sup>21</sup> The export of intermediate goods is equivalent to 33% of the value of total NI exports of goods to Ireland (£2.2bn) in 2015, though this does not take into account the sale of intermediate goods by NI exporters below the reporting thresholds

<sup>22</sup> The import of intermediate goods is equivalent to 28% of the value of total NI imports of goods from Ireland (£2.0bn) in 2015, though this does not take into account the purchase of intermediate goods by NI importers below the reporting thresholds.

<sup>23</sup> The total value of North South Trade in 2015 was £4.3bn (£2.2bn exports and £2.0bn imports), with above threshold trade accounting for £3.3bn (£2.0bn exports and £1.3bn imports) or 78% of total trade of goods reported by HMRC.

<sup>24</sup> [The Land Border Between Northern Ireland and Ireland, Northern Ireland Affairs Committee, 2018](#)

<sup>25</sup> [Statistical Review of Northern Ireland Agriculture, DAERA, 2016](#). Table 6.5 presents the value of exports, not specified by destination, but raw milk is only exported to IE.

<sup>26</sup> [Statistical Review of Northern Ireland Agriculture, DAERA, 2017](#) Table 6.5 indicates the value of Beef/Sheep-meat; Fish; Pig-meat; and Poultry-meat exported to Ireland in 2015.



indicators of supply chain activity they nevertheless highlight the critical importance of North-South business to business inputs for traders above the reporting thresholds.

### **Sales to Ireland vs Rest of Europe and the Rest of the World (HMRC)**

- More than half (53%) of NI's trade with the Rest of the EU (REU) was comprised of intermediate goods showing evidence of considerable supply chain engagement with this market also. When bilateral trade by individual businesses in meat and fish products, foodstuffs, dairy and beverages is also included the share of REU potentially related to supply chain activity increased to 62% of such trade. This was only slightly less than the share of such NI trade with IE where 66% of NI-IE trade related to either intermediate or bilaterally traded agri-food products. This wider definition of supply chain activity covering both exports and imports was worth about the same (£2.1bn) for each of the IE and REU markets (see Table 2).
- Just under half of NI's trade (49%) with the Rest of the World (RoW) involved intermediate goods (above the respective HMRC reporting thresholds) and this increased to 53% when bilateral trade in agri-food products was included. Such trade was worth some £2.9bn in 2015 when both exports and imports above the reporting thresholds are included.
- Northern Ireland was much more likely to trade in capital goods with the REU (21% or £720m of above threshold trade) and the RoW (23% or £1.3bn) than with IE (7% or £240m of trade). Trade in capital goods can also be considered as a further type of input to the production process and provides further evidence of NI's integration into global markets.

### **Supply chain involvement (SCS)**

- Fifteen per cent of NI businesses (1,600) trading with IE in 2015 indicated that their goods crossed the border in the course of production. The survey based analysis relates to businesses both above and below the HMRC reporting Intrastat thresholds and also indicates a high degree of interdependence between such businesses. Such products made on average 1-2 cross-border movements as part of this process. However, while each individual product crossed the border relatively infrequently, individual businesses in a supply chain could be trading multiple such products with a range of partners across the border as part of their production process.
- Although many businesses had difficulty answering the question nearly half of exporters to IE indicated that they sourced product components (including for resale) from outside the EU.

### **Discussion**

Exports and imports in goods and services between NI and IE was worth £5.7bn<sup>27</sup> in 2016 and £5.3bn in 2015 (for the non-financial and non-farm sectors as reported by BESES)<sup>28</sup>. The importance of cross-border trade to NI businesses is also reflected in the fact that 15% (7,700) of all NI VAT or PAYE registered businesses in these sectors or 90% of exporters sell into Ireland. This increases to just over 1 in 5 (21%) of NI businesses when importers are also considered. An estimated 1.2m (one-way) consignments were delivered to customers or received from suppliers in IE, by NI businesses, excluding cross-border journeys made en route to GB (2015-16). Previous research<sup>29</sup> has examined IE

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<sup>27</sup> Table 2.1 (2016 exports); Table 3.1 (2015 exports) [Broad Economy Sales and Exports Statistics 2016: Goods and Services Results, NISRA, 2018](#) and Table 2.1 (2016 imports); Table 3.1 2015 imports [Broad Economy Sales and Exports Statistics 2016: Purchases and Imports of goods and services, NISRA, 2018](#)

<sup>28</sup> The above estimates differ from the HMRC estimates (e.g. see Table 1) for methodological reasons. A more complete coverage of NI's exports and imports with IE for 2015 can be found in Tables 1 (imports) and Table 2 exports) in [NI Economic Accounts Project – 2014 and 2015 Experimental Results, NISRA, 2018](#)

<sup>29</sup> [Cross-border trade & supply chain linkages report, ESRI, 2018](#)

data to establish the degree of supply chain interdependence, while this study considers HMRC and NISRA sources for such evidence.

The degree of interdependence between NI businesses and customers or suppliers south of the border can clearly vary in intensity from direct deliveries to homes and local shops, to supplying large wholesalers and retailers and other relatively straightforward business to business sales, to being part of an integrated supply chain with potentially critical time dependencies. Unravelling the precise nature of such connections is challenging, particularly given the different data sources.

However, it was clear that most businesses were engaged in relatively low value cross border transactions. This sat alongside high value trade between businesses including a core group who relied on cross-border supply chains for their final products. Some 1,200 businesses either imported or exported intermediate goods and the trade in such goods accounted for 38% of the value of exports and 42% of the value of imports in 2015. This represented 39% of the value of trade above the reporting thresholds or 31% of all exports and imports (the latter figure is an underestimate as it does not take into account trade in intermediate goods for businesses below the reporting threshold).

When this definition is extended to include businesses both exporting and importing final consumption goods within the meat and fish, foodstuffs, dairy products and beverages sectors, the trade in such goods accounted for 61% of the value of exports and 74% of the value of imports in 2015. This represented 66% of the value of trade above the reporting threshold or 51% of all exports and imports (for the reasons explained in the previous paragraph the latter figure is also an underestimate).

Although individual journeys between NI and IE can involve trade of relatively low value, collectively this amounted to £5.7bn<sup>30</sup> of imports and exports of goods and services in 2015. Low value trade of variable frequency with IE is clearly part of a viable business model for many NI businesses selling to this market, as well as the higher value trade referred to above. While the survey was not designed to investigate the geographical location of NI traders relative to the border, it is not surprising that there is evidence of relatively greater export activity among NI businesses closer to the border (see Figure 7). The qualitative aspect of the research also provides a range of quotes highlighting businesses concerns about any obstacles to such trade that might arise from EU Exit.

The current research paints a rich picture of the web of cross-border business connections and sales between NI businesses and other businesses and consumers in Ireland. It should be remembered though that this is only a partial picture of the movement of goods across the border as NI relies heavily on moving and receiving goods through IE ports for its trade with GB. Previous estimates have indicated that NI sales of goods to GB are worth nearly 4 times that of sales of goods to IE<sup>31</sup> of which the current exercise does not take account. North-South supply chains cannot be considered in isolation from trade with GB and this remains an area for further research.

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<sup>30</sup> Table 2.1 (2016 exports); Table 3.1 (2015 exports) [Broad Economy Sales and Exports Statistics 2016: Goods and Services Results, NISRA, 2018](#) and Table 2.1 (2016 imports); Table 3.1 2015 imports [Broad Economy Sales and Exports Statistics 2016: Purchases and Imports of goods and services, NISRA, 2018](#)

<sup>31</sup> [Broad Economy Sales and Exports Statistics 2016: Goods and Services Results, NISRA, 2018](#) See Table 1.

### 3. Introduction

Ireland is the single largest export market for NI, and many businesses report that they rely heavily on integrated cross-border supply chains to sell their goods, particularly those in the agri-food sector. There are an estimated 110m person crossings and some 72m vehicles crossing the border annually of which 6.4m were estimated to be HGVs<sup>32</sup>. Two-way trade in goods and services with Ireland was worth some £5.7bn in 2016 (excluding financial services, the public sector and farm businesses) or just over a third of total export trade (excluding with GB)<sup>33</sup>. However, there is limited information on the nature and value of cross-border trading transactions making up such trade. Understanding the network of such relationships is more important than ever in the context of EU Exit, and NISRA were therefore commissioned by the Department for the Economy to undertake a survey of local businesses to understand the extent of cross-border integration.

The Cross-Border Supply Chain Survey (SCS) was issued in mid-July 2017 to all businesses who indicated that they traded with IE in the 2015 Annual Business Inquiry, c. 2,300 businesses. The survey gathers information on what businesses export to or import from IE; the number, nature, transport method and value of export and import transactions; along with information on the occupational profile of the businesses, which will be reported separately.

It should be noted that businesses were asked specifically about their trade with **IE only**.

**The results relate to only exports/imports and dispatches/deliveries where IE is the origin or final destination of the trade.**

Therefore the cross-border transactions reported **do not** take account of border crossings whereby an NI business is exporting to the Rest of EU or further afield which requires movement of goods from NI through IE and then beyond. **Nor** do the reported deliveries take account of border crossings whereby a good is moved from IE via NI and onto Great Britain (GB).

- In addition to the development of the SCS, NISRA gained approval to receive trade microdata from [HM Revenue & Customs Regional Trade Statistics](#) (HMRC RTS) for the purposes of improving the methodology for measuring NI exports and imports.
- NISRA also produce the [Broad Economy Sales and Exports Statistics](#) (BESES), an experimental annual measure of local businesses' sales and purchases to and from markets outside NI.
- Results from the SCS have been supplemented with data from the HMRC RTS and from the BESES where appropriate.

This Results Paper presents key messages and analysis from the SCS. For further information on the survey, including sampling and response rate, data collection, validation and results preparation please refer to Section 4: Background Notes on page 36.

<sup>32</sup> [Overview of People Movement and Migration in Northern Ireland, NISRA, 2018](#)

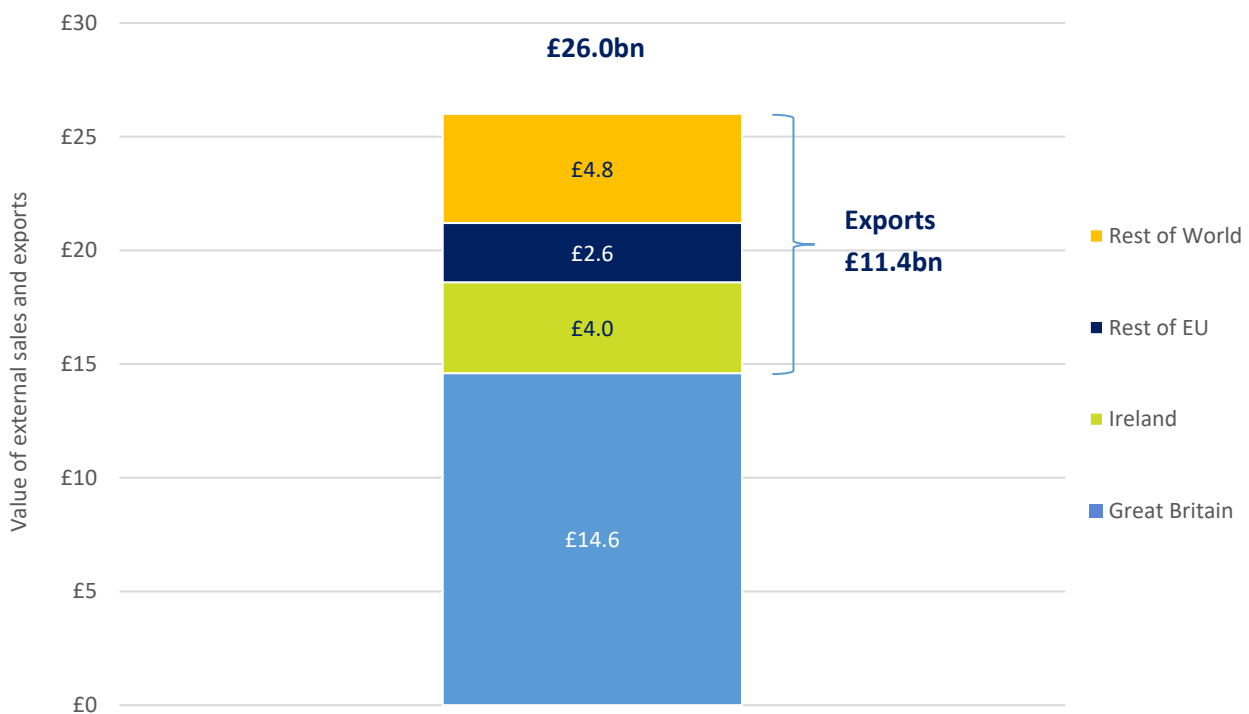
<sup>33</sup> [Broad Economy Sales and Exports Statistics 2016: Goods and Services Results, NISRA, 2018](#) and [Broad Economy Sales and Exports Statistics 2016: Purchases and Imports of goods and services, NISRA, 2018](#)

## 4. Results overview

### 4.1 External sales and exports by destination

In 2016, NI's primary market for external sales was GB. Sales to GB were 1.3 times larger than the total value of exports and 3.7 times more than NI exports to IE. IE is NI's single largest export market, accounting for approximately one third of all exports in 2016 (all sectors including goods and services).

Figure 1: Value of Northern Ireland external sales and exports by destination, 2016 (£bn)<sup>34</sup>



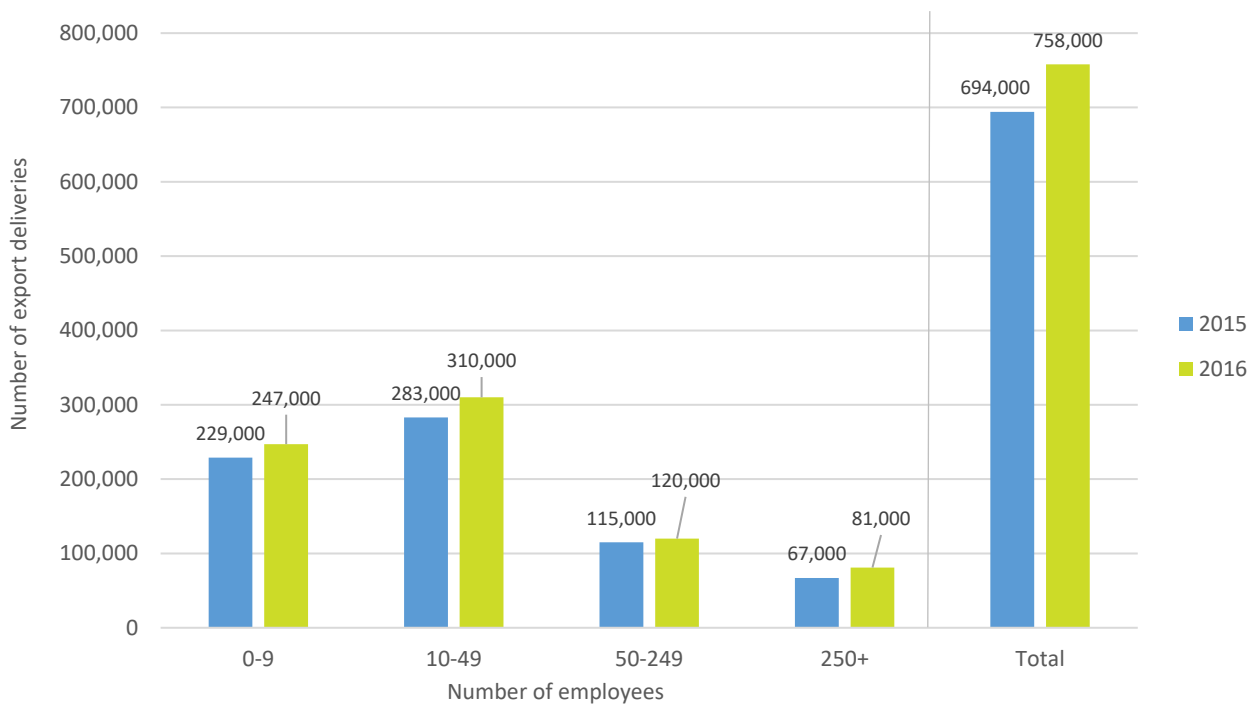
Source: Broad Economy Sales and Exports Survey and other sources

<sup>34</sup> [Overview of Northern Ireland Trade](#), NISRA, 2017

## 4.2 Export deliveries

Estimates from the Cross-border Supply Chain Survey cover the NI non-financial business economy and exclude financial services, farming and the public sector. This accounted for £3.4bn exports and £2.3bn imports in 2016.<sup>35</sup>

Figure 2: Number of export deliveries to Ireland by business employee size band, 2015-16



Source: Cross-border Supply Chain Survey

Note: Figures rounded to the nearest thousand

The SCS indicates that an estimated 758,000 export deliveries from NI businesses to IE took place in 2016, up 9% from 2015 when the total number of deliveries was 694,000. In 2016 three-quarters of the deliveries (74%) were made by small businesses (0-49 employees) with 33% of all deliveries made by micro businesses (0-9 employees).

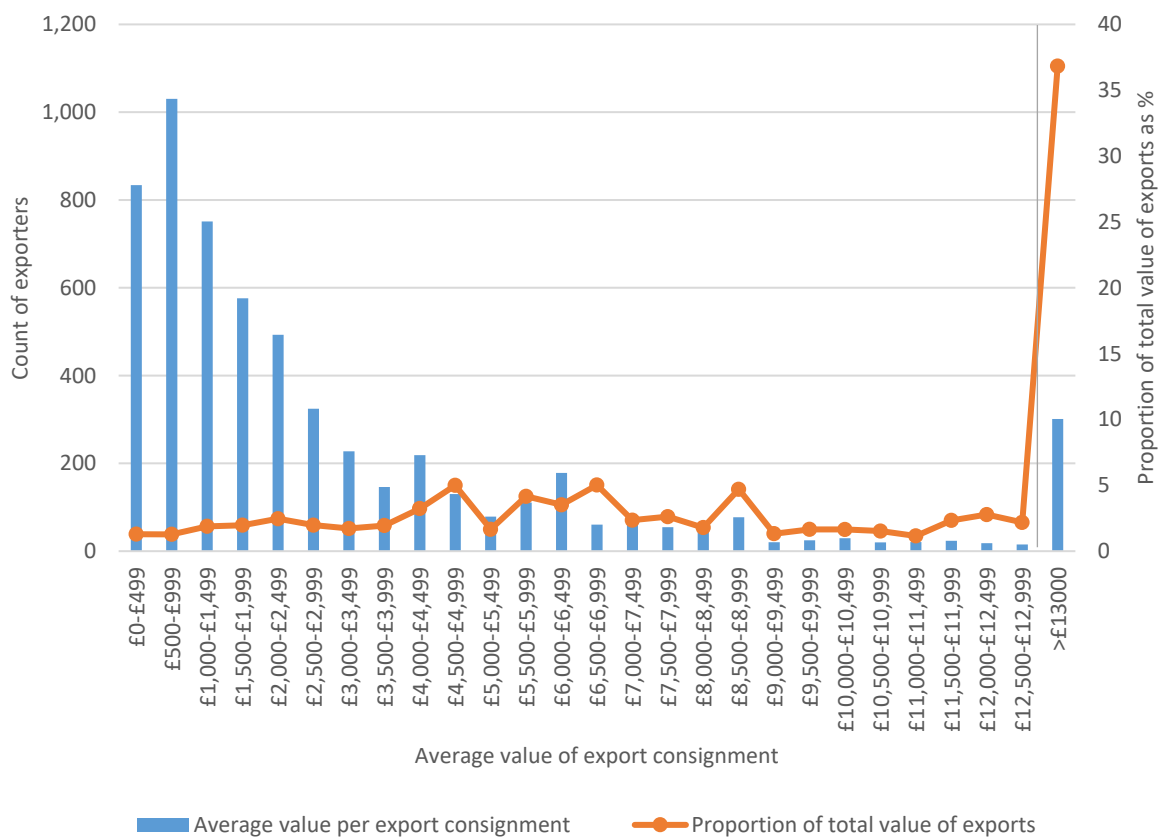
Large businesses experienced the greatest percentage growth in the number of deliveries with a 21% increase between 2015 and 2016. Wholesale and retail trade is the industry section with the largest number of export deliveries in both 2015 and 2016, followed by manufacturing.

<sup>35</sup> [Broad Economy Sales and Exports Statistics 2016: Goods and Services Results, NISRA, 2018](#) and [Broad Economy Sales and Exports Statistics 2016: Purchases and Imports of goods and services, NISRA, 2018](#)

### 4.3 Average value of export consignment

The average value of an export delivery (goods and associated services) was estimated to be worth £4,500 and the distribution of the average value of an export consignment in 2015 is presented below. This shows that the overall distribution of value per transaction was heavily skewed towards the lower end of the scale with 32% of all NI exporters recording transactions of £1,000 or less per transaction and 50% of businesses indicating transactions were less than £1,700 per trip. The average value per consignment of the top 10% of exporters was £8,200 in 2015.

Figure 3: Distribution of average value of export consignments by number of exporters and proportion of total exports, 2015



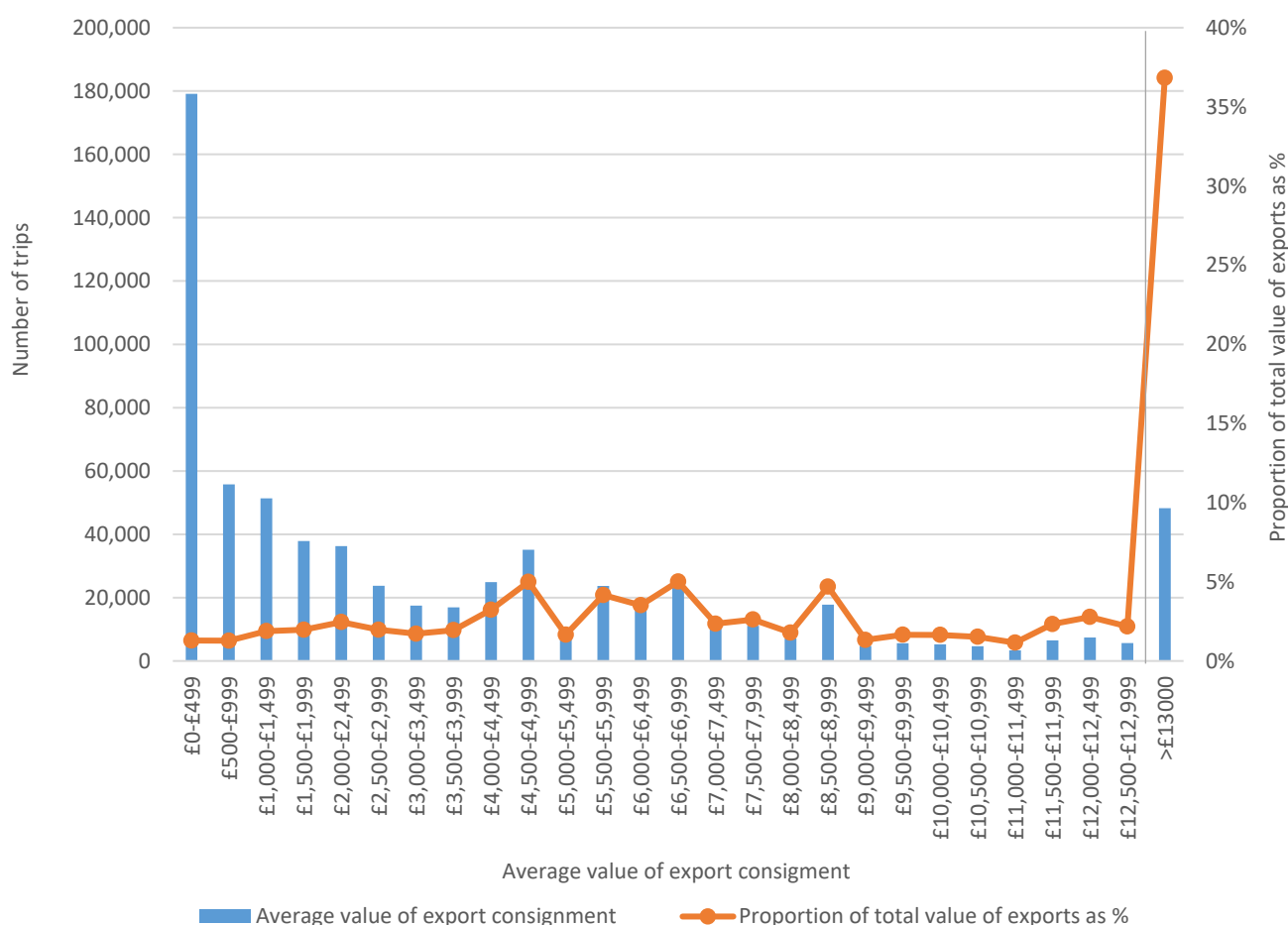
Source: Cross-border Supply Chain Survey

Although just over three quarters (78%) of all businesses reported consignments valued at less than £4,500 per delivery, such deliveries accounted for less than one fifth (18%) of the total value of NI sales to IE. Conversely, higher value deliveries made by 22% of businesses accounted for 82% of the total value of NI exports.

However, businesses with the same average value of an export trip could vary considerably in terms of the number of export deliveries made. For example, two businesses could both have an average value of an export trip of £1,000. One of these business could have exports worth £1,000,000 with 1000 deliveries whereas another business could have exports worth £5,000 with 5 deliveries. This would be reflected as two businesses with an average value of a trip of £1,000 (the approach adopted in Figure 3). Another way of looking at this is that there were 1,005 deliveries worth £1,000 each (the approach adopted in Figure 4).

When the latter approach is adopted it can be seen that nearly two thirds of deliveries (64%) fell below the average value (£4,500) and these accounted for 18% of the total value of NI's exports to IE. Conversely just over one-third of deliveries (36%) accounted for 82% of the total value of exports. Both distributions (Figures 3 and 4) are heavily skewed towards the lower end of the scale showing that most businesses make low value trips and most trips are of low value. This suggests there aren't a very high number of high value trips made by relatively few businesses.

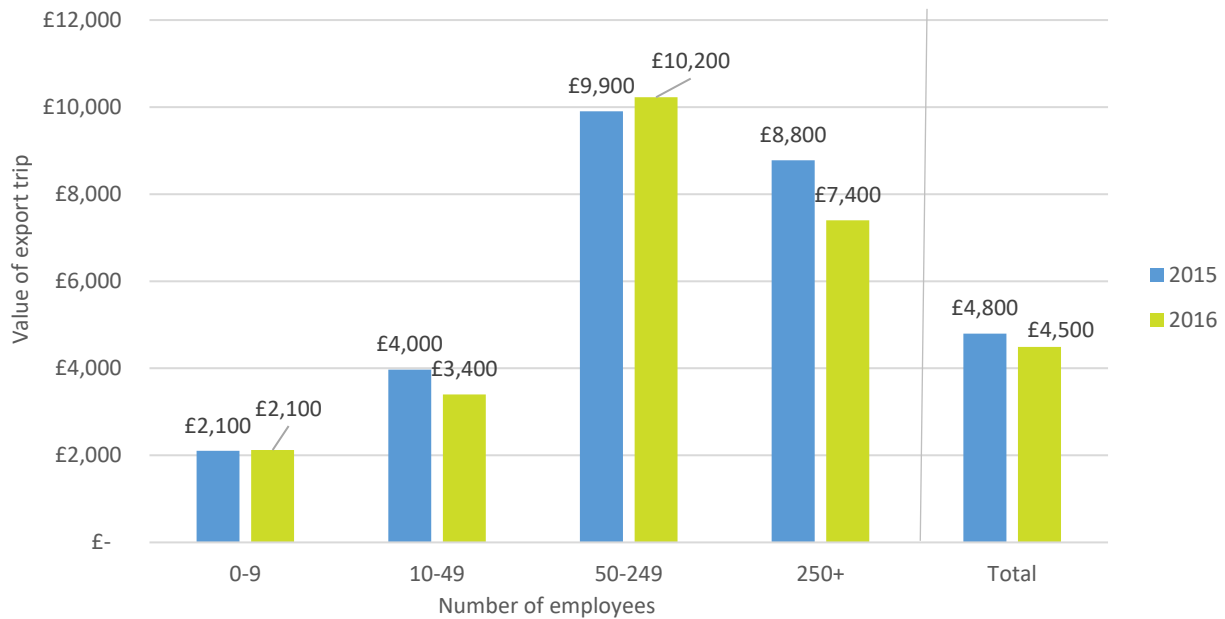
Figure 4: Distribution of average value of export consignments by number of export trips and value of total exports, 2015



Source: Cross-border Supply Chain Survey

A breakdown of the average value of export trip by business size band is presented below. This shows that the average value of export trips in 2015 for large businesses (250+ employees) was more than four times larger than the average trip for micro businesses (0-9 employees). In 2016 the average value per trip for large businesses was approximately three and a half times that of the value of a trip for a micro business. Medium sized businesses (50-249 employees) had the highest average value of export trip in both 2015 and 2016, £9,900 and £10,200 per trip respectively.

Figure 5: Average value of export trip by business employee size band, 2015-16 (£s)



Source: Cross-border Supply Chain Survey

Note: Figures rounded to the nearest hundred

The average value of export trips by turnover size band is presented below. The average value of export trips for businesses with an annual turnover greater than £50m was £9,800 in 2016, this compared with an average of £1,900 per trip for businesses with a turnover of less than £2m.

Figure 6: Average value of export trip by turnover size band, 2015-16 (£s)



Source: Cross-border Supply Chain Survey

Note: Figures rounded to the nearest hundred

A short follow up telephone survey was conducted to better understand the nature of relatively small value export activity (defined as less than £2,000 per trip). Over two thirds of businesses contacted indicated they despatched orders immediately rather than waiting for orders to build up. The products most frequently traded in such trips were identified as machinery, food products, construction



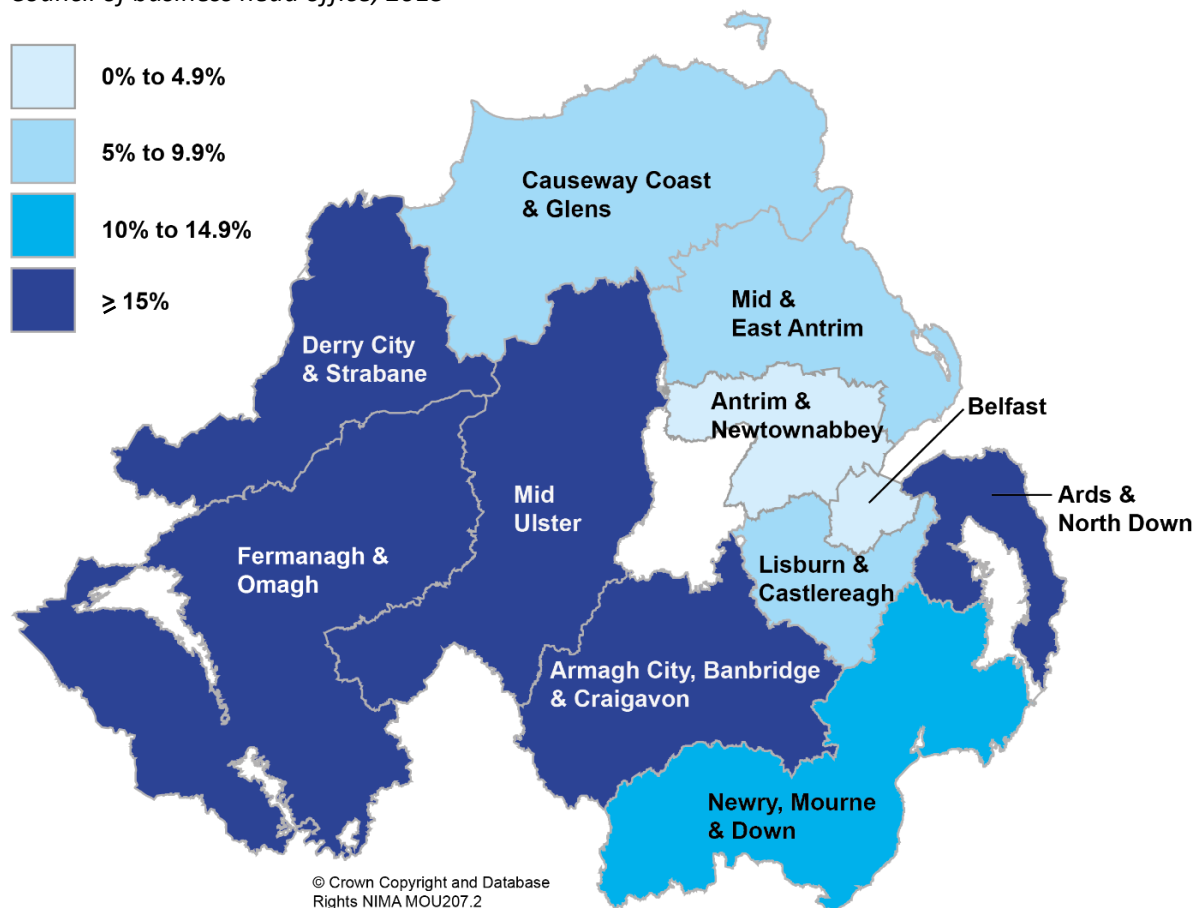
material and equipment. While not necessarily part of a formal supply chain, there was a clear sense that customers expected such materials to be delivered quickly and easily.

Businesses also indicated that the value of a delivery can vary considerably and export values can vary year on year depending on a number of factors. These include cost (in particular currency fluctuation), the changing nature of their trading partners and wider economic circumstance. For example, construction companies will look for opportunities in GB or IE depending on the amount of local construction activity.

Perceived proximity to the border was also cited as a factor in the decision to export small value goods and this could also apply to businesses outside the border regions (e.g. in Lisburn). What initially appeared to the research team as low value export deliveries tended to be high frequency in a number of instances with businesses relying on delivery by mail, courier or as part of a van or truck load with multiple consignments for different customers on board.

As might be expected there is evidence that while proximity to the border increases the propensity to engage in cross border compared to domestic (NI) sales, this is not limited to businesses in the border regions (Figure 7).

Figure 7: Value of exports to IE as a percentage of NI Internal sales and exports to IE by District Council of business head office, 2015

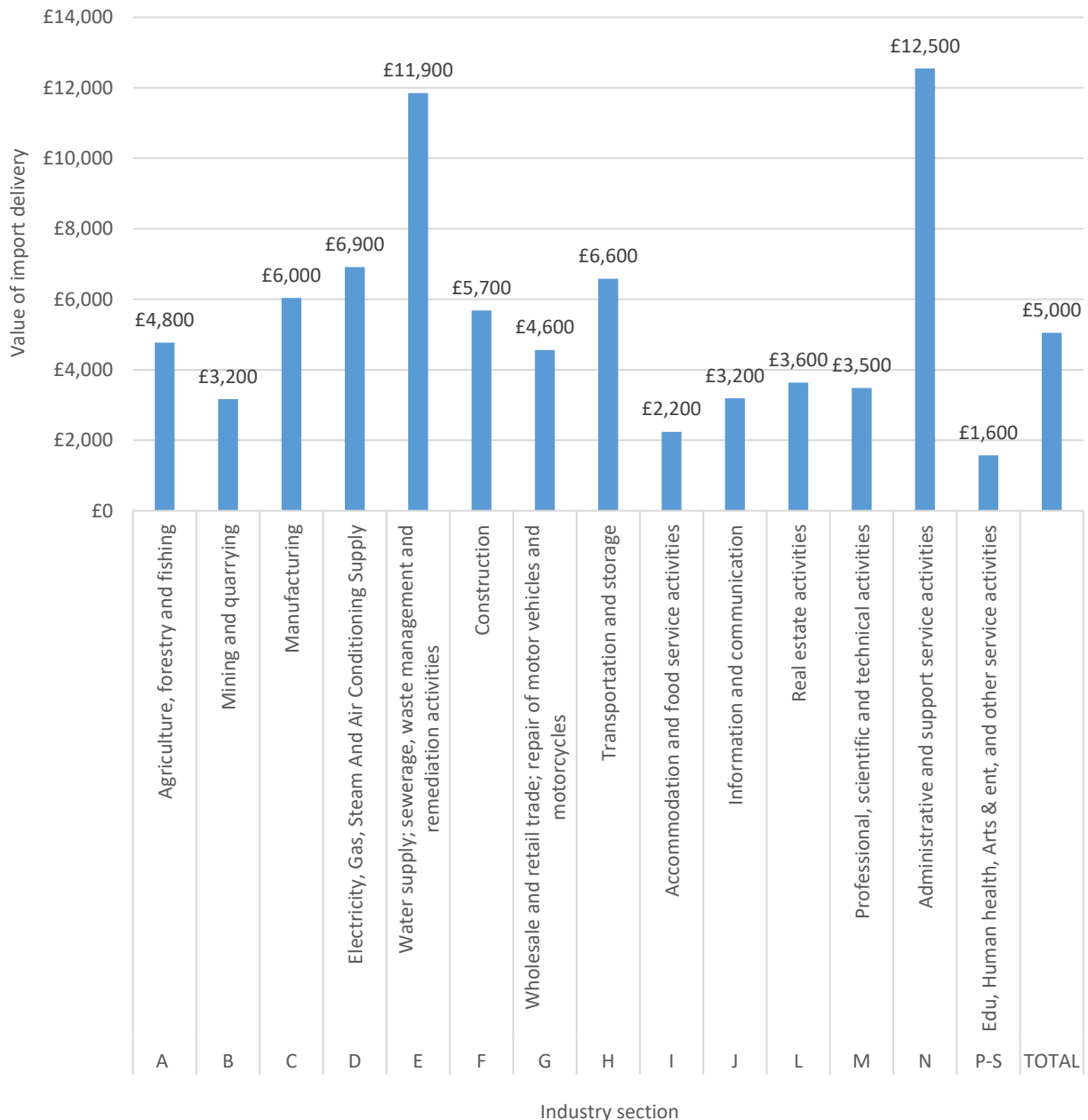


Source: Broad Economy Sales and Export Survey (2015)

## 4.4 Average value of import delivery

An industry breakdown shows that in 2015 the industry with the largest average value per import delivery was Administrative & Support Service Activities followed by Water Supply, Sewerage, Waste Management & Remediation Activities.

Figure 8: Average value of import delivery by industry section, 2015 (£s)

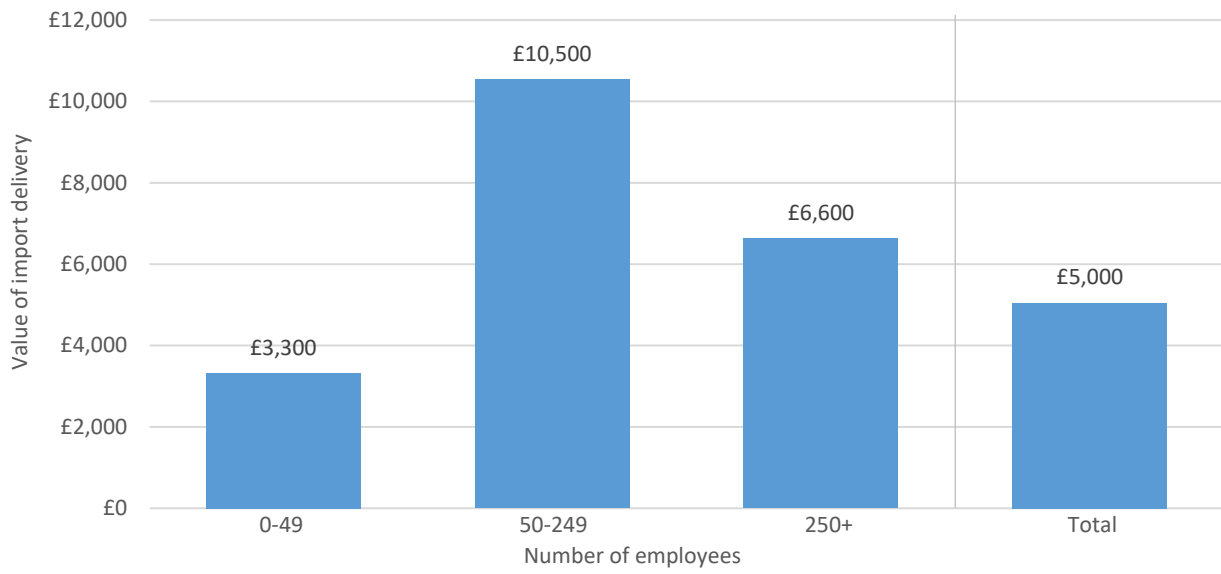


Source: Cross-border Supply Chain Survey

Note: Figures rounded to the nearest hundred

A breakdown of the average value of import delivery by business size band is presented below. This shows that the average value of import delivery in 2015 for large businesses (250+ employees) was two times greater than the average delivery for small businesses (0-49 employees). However, medium sized businesses are estimated to have an average import delivery over three-times greater than the value of deliveries to small businesses.

Figure 9: Average value of import delivery by business employee size band, 2015 (£s)



Source: Cross-border Supply Chain Survey

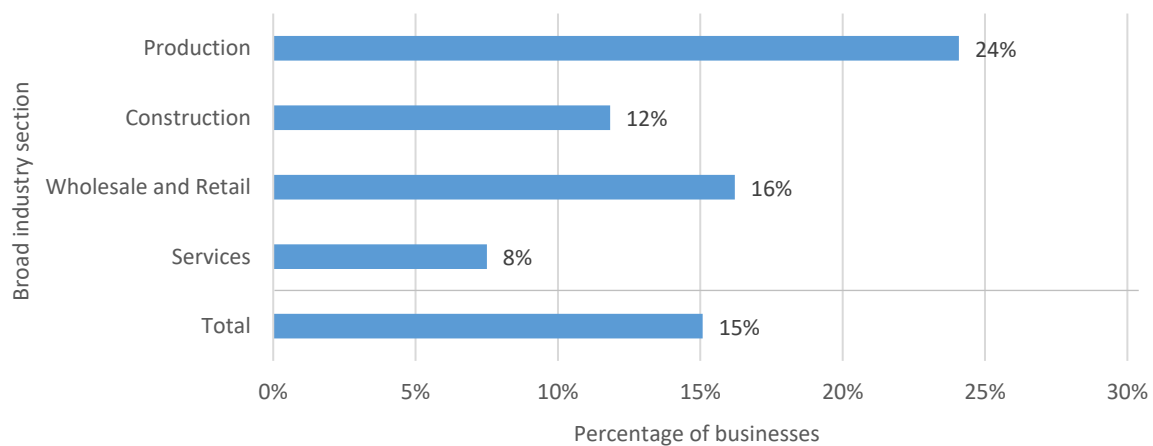
Note: figures rounded to the nearest hundred

## 4.5 Border crossings of products in the course of production

In total, 15% of businesses which export to or import from IE, indicated that their products crossed the border in the course of production. This could be taken as quite a restrictive definition of participation in a supply chain as many businesses may receive or supply “finished” rather than “unfinished” products as part input to their or other businesses processes. There was also evidence in businesses responses to the survey that although they may not contribute directly to a supply chain on the southern side of the border, they supplied or received goods from a NI business who did. Nor do all businesses necessarily know the end use of their product. For these reasons responses to this question are considered as evidence of a relatively high degree of cross-border inter-dependence between businesses. It is considered that responses to this question does not include transactions involving finished products and as such is likely an underestimate of supply chain activity.

The extent of such high levels of inter-dependence varied by sector, with roughly a quarter of IE exporters or importers in the production sector<sup>36</sup> identifying products which crossed the border in the course of production. While a smaller percentage of wholesale and retail businesses are engaged in this process, the total number of businesses in this category is roughly the same between retail and production (due to the larger number of businesses in the wholesale and retail sector). It may appear somewhat anomalous that wholesalers and retailers move products in the course of production, but this likely reflects an artefact whereby some manufacturing businesses with a wholesale or retail branch is classified as a member of this sector because the majority of their employment is engaged in this aspect of the business.

*Figure 10: Percentage of businesses trading products that are part of a supply chain with Ireland by broad industry section (%)*



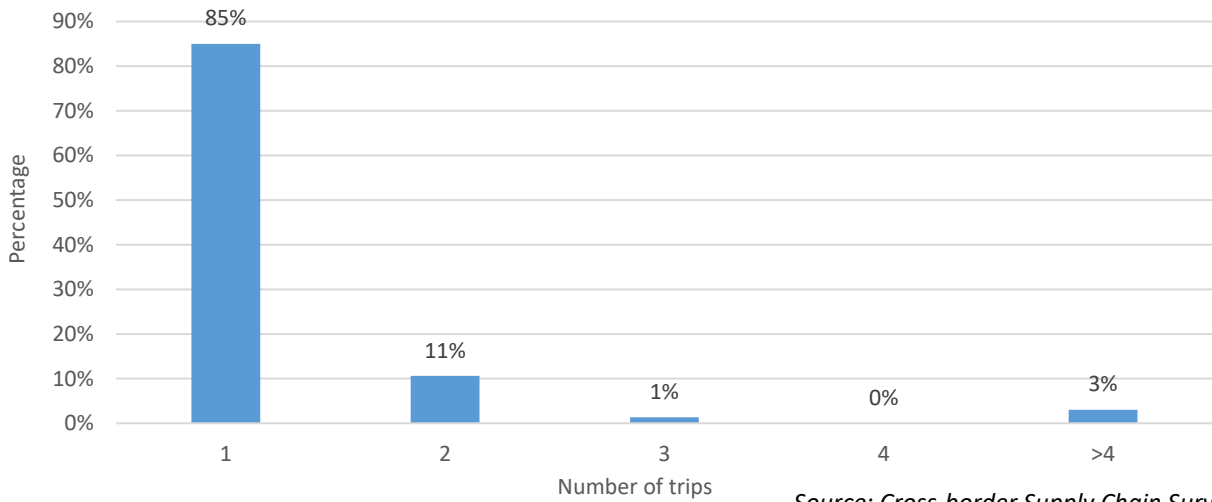
*Source: Cross-border Supply Chain Survey*

Businesses were asked how many times on average had products involved in a cross-border supply chain crossed the border during the course of production. The average number of trips ranged from 1

<sup>36</sup> The production sector is composed of businesses in Mining and Quarrying, Manufacturing, Electricity Generation and Water Supply.

to 144 with the overall average being 2 crossings during the course of production (median value of 1 crossing).

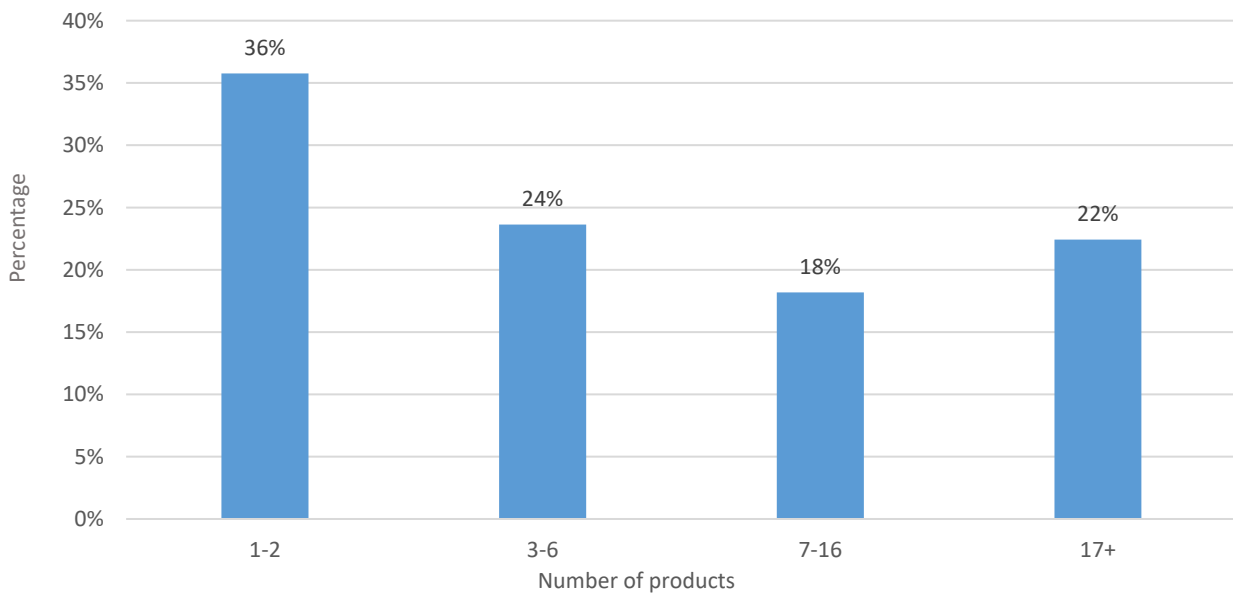
Figure 11: Average number of cross-border trips per product in a supply chain (%)



Source: Cross-border Supply Chain Survey

The chart below shows the number of products exported by businesses with a cross-border supply chain. Thirty six per cent of businesses who indicated they were part of a cross-border supply chain exported 1-2 different products to IE.

Figure 12: Number of products exported by businesses in a cross-border supply chain (%)\*



Source: Cross-border Supply Chain Survey

\*This data is unweighted and reflects only those businesses which responded to this question on the SCS.

Further analysis indicated that while an individual product involved in a supply chain may cross the border relatively infrequently, there may be a number of such intermediate products contributing to the final product. While there are some long and complex supply chains, most appear to be relatively short but require a number of multiple inputs.

## 4.6 Exports by economic classification

Businesses were asked about the nature of their export deliveries to IE in 2015 in terms of whether they were exporting finished goods or unfinished materials/products that would not return to NI.

### **The Broad Economic Category classification scheme categorises trade in goods into:**

- Capital goods – Inputs to the production process that are not used up in the course of production during the accounting period
- Intermediate goods – Goods that are themselves produced and used to produce other goods
- Consumption goods – Final goods which are consumed

The investigation of intermediate goods may therefore provide insight into those businesses trading in products likely to be involved in supply chains. However, it should be noted that this category also contains products more generally thought of as primary commodities, particularly those in the Agri-Food sector.

Most respondents to the Cross-border Supply Chain Survey considered their exports were finished products, with unfinished materials or products only equating to 2% of exports in value terms or 11% of deliveries. However, while businesses may consider outputs as finished products they may still be used as inputs for other production processes. HMRC product data relating to above Intrastat reporting threshold traders<sup>37</sup> was therefore reclassified using the international standard Broad Economic Category<sup>38</sup> (BEC) classification to provide further detail on the end use of goods being traded between NI and IE.

### **Nature of Products traded (HMRC)**

Just over half (53% by value) of NI goods exported to IE (above the reporting threshold) were classified as goods ready for final consumption, with a further 38% relating to intermediate products and 8% relating to capital goods (Table 1 and Figure 13). In contrast, final consumption goods accounted for a lower share of the value of trade to the Rest of Europe (26%) and the Rest of the World (28%) with sales to these markets mostly comprised of intermediate and capital goods.

Indeed, about half of NI's total (i.e. exports + imports) above threshold trade with the Rest of Europe (53%) and the Rest of the World (49%) was comprised of intermediate goods compared to 39% of such trade with IE.

NI businesses were also much more likely to trade in capital goods with the Rest of Europe (21% of REU trade) and with the Rest of the World (23% of RoW trade) than with Ireland (7% of trade with IE). Trade in capital goods can also be considered as a further type of input to the production process and provides further evidence of NI's integration into global markets.

<sup>37</sup> HMRC product by destination microdata is only collected for high value EU exporters (Intrastat Despatches greater than £250k exports per year) and high value EU importers (Intrastat Arrivals greater than £1.5m per year). I.e., a business could conduct the majority of trading with France, but some trade is NI to IE. Exports to IE by such traders accounted for 89% (£2.0bn in 2015) of total exports to IE and 66% (£1.3bn in 2015) of total imports to IE.

<sup>38</sup> [The Broad Economic Categories \(BEC\) Rev.5](#) classifies transportable goods according their main end use in terms of capital, consumption intermediate use.

Table 1: Northern Ireland exports and imports to broad destinations by Broad Economic Category and share of value (above threshold traders), 2015 (% , £bn)\*

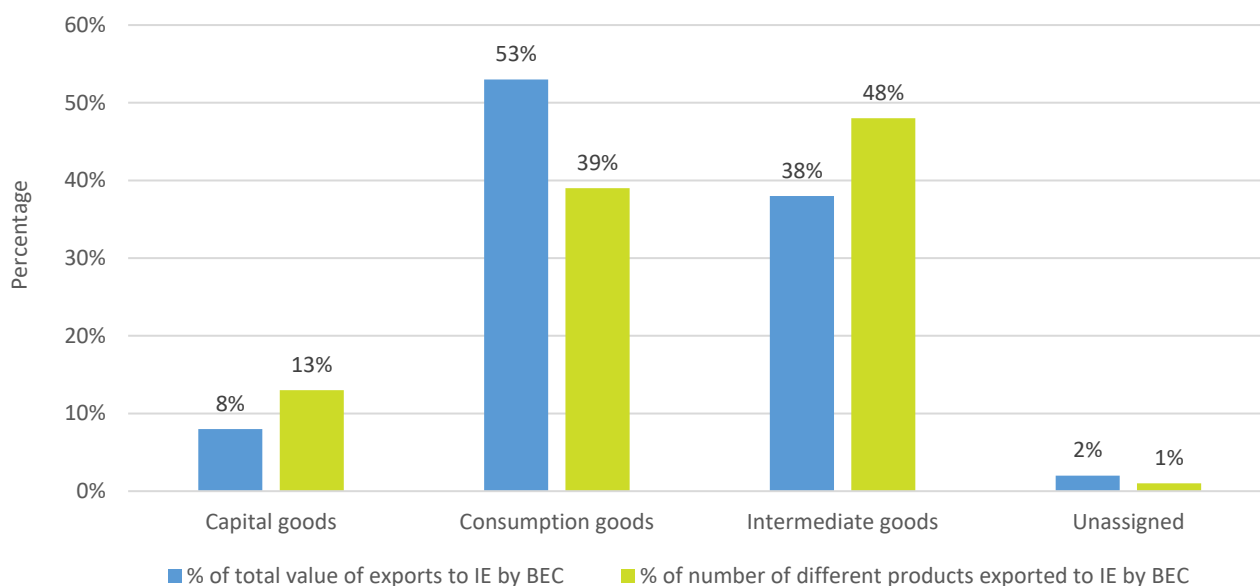
		Exports				Imports				Total (Exports and imports)			
		IE	REU	RoW	Export total	IE	REU	RoW	Import total	IE	REU	RoW	Total (exports and imports)
Broad Economic Category	Capital goods	8%	28%	29%	23%	6%	14%	15%	13%	7%	21%	23%	18%
	Consumption goods	53%	25%	22%	32%	51%	27%	35%	36%	52%	26%	28%	34%
	Intermediate goods	38%	47%	48%	45%	42%	59%	50%	51%	39%	53%	49%	47%
	Unassigned	2%	0%	0%	1%	0%	0%	0%	0%	1%	0%	0%	0%
	Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Total Trade	Value of Trade above reporting threshold	£2.0	£1.6	£3.1	£6.7	£1.3	£1.8	£2.4	£5.5	£3.3	£3.4	£5.5	£12.2
	Above threshold as % of total trade to destination	89%	96%	96%	94%	66%	84%	98%	84%	78%	89%	97%	89%
	Total trade to destination <sup>39</sup>	£2.2	£1.7	£3.3	£7.2	£2.0	£2.2	£2.4	£6.6	£4.2	£3.9	£5.7	£13.7

Source: Author calculations based on HMRC Trade Data

\*Figures may not sum due to rounding

<sup>39</sup> Totals are published [Regional Trade Statistics](#), HMRC 2015

Figure 13: Exports to Ireland by Broad Economic Category, 2015 (%)



Source: Author calculations based on HMRC Trade Data

On first inspection it may seem surprising that trade in intermediate goods accounted for a lower share of trade with IE than with other markets. However, this approach classifies the bulk of NI’s agri-food sector output as consumer goods and does not fully reflect the importance of business to business inter-dependencies in this sector. The next section considers this issue in more detail by looking at the extent to which each product type is used for final consumption, intermediate or capital purposes.

#### 4.7 Trade by product group

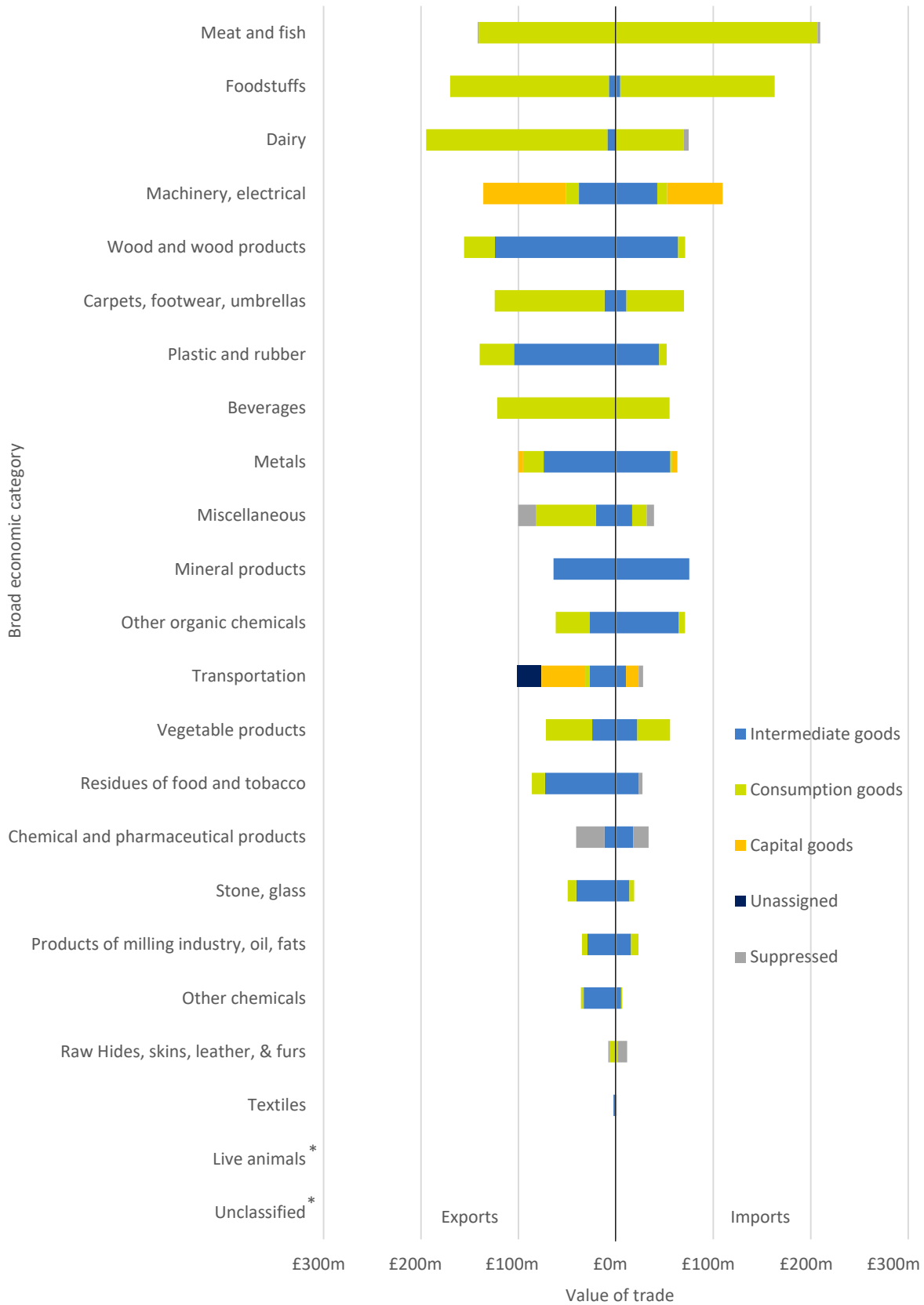
Use of HMRC Trade Statistics allows more detailed analysis of above threshold trade for both exports and imports by product group, Broad Economic Category and destination. Dairy is the single largest contributor to the total value of NI exports to IE, accounting for £190m or 10% of above threshold exports. Together with Foodstuffs (£170m or 9%), Meat & Fish (£140m or 7%) and Beverages (£120m or 6%), this accounts for the bulk of Agri-Food exports. Imports of Meat & Fish (£210m) was the largest Agri-Food import worth 16% of the total value of imports from IE in 2015. Foodstuffs (£160m) and Dairy (£70m) were the next largest categories and accounted for a further 13% and 6% of IE to NI above threshold imports respectively.

In practice the movement of such goods across the land border is likely to be time dependant in terms of getting fresh or freshly chilled goods to market. Such goods may represent an input into another product or play an important part in keeping supermarket shelves<sup>40</sup> stocked with fresh or chilled products. However, as can be seen from Figure 14, over 95% of Meat & Fish, Foodstuffs, Dairy products and Beverages were classified as goods for final consumption under the BEC system (considering exports and imports together) and as such is not reflected in the analysis to date.

<sup>40</sup> [Statistical Review of Northern Ireland Agriculture, DAERA, 2017](#) Table 6.5 indicates the value of Beef/Sheep-meat; Fish; Pig-meat; and Poultry-meat exported to Ireland in 2015.



Figure 14: Value of products exported to and imported from Ireland by Broad Economic Category, 2015 (£m)



Source: Author calculations based on HMRC Trade Data  
 \* Data withheld to prevent disclosure of individual company information

For example “milk” or “chicken breasts” while classified as goods for final consumption by a household, could equally be considered as inputs into other processes (e.g. the production of cheese or ready-made meals). The analysis to date has not therefore taken account of such interdependencies reflecting e.g. the movement of perishable goods that were either being moved to producers on the other side of the border for further processing or were being provided (e.g. as chilled foods) to wholesalers for further distribution or directly to retailers.

## 4.8 Bilateral Trade

The above analysis classified Meat & Fish, Foodstuffs, Dairy Products, and Beverages as predominantly final consumption goods. However, the importance of cross-border trade within the Agri-Food sector is widely recognised<sup>41</sup> and DAERA<sup>42</sup> e.g. indicated NI exported £125m raw milk i.e. as an intermediate product and £245m of meat products in 2015<sup>43</sup> to IE.

In order to reflect the importance of cross-border trade in Agri-Food products which might be part of supply chain activity (i.e. beyond trade in goods classified as “intermediate” in nature) a slightly wider definition was used in line with previous research in this area<sup>44</sup>. The research classified that element of cross-border trade in final consumption goods where a businesses was both buying and selling Agri-Food products within the same sector. Examination of the individual businesses engaging in such bilateral trade indicated that most of them were engaged in supplying Agri-Food products of a time sensitive nature and as such were likely to represent a form of supply chain activity.

As can be seen from Figure 15, £130m of Dairy exports (65% of a total of £190m above threshold exports in this sector) was exported by businesses who were also importing Dairy products. Correspondingly, £60m of Dairy imports (£86% of £70m total imports) were purchased by NI businesses who were also exporting goods in this sector. Both bilateral elements were therefore considered part of this sectors wider supply chain activity, with 71% of total trade in the Dairy sector (exports + imports, £190m of £270m total) accounted for by bilateral traders.

Similarly, 88% of trade in Meat & Fish (£310m of a total of £350m), 78% of Beverages (£140m of £180m total) and 67% of Foodstuffs (£220m of £330m total trade) was conducted by bilateral traders above the reporting threshold. Although Carpets, Footwear, Umbrellas and Vegetable Products also had significant elements of final consumption goods and evidence of bilateral trading these fell below the research threshold used to include final consumption goods as part of supply chain activity (i.e. more than 90% of goods classified as final consumption activity and greater than 66% of goods traded bilaterally within sector). Carpets, Footwear, Umbrellas products were also clearly of a less time sensitive nature.

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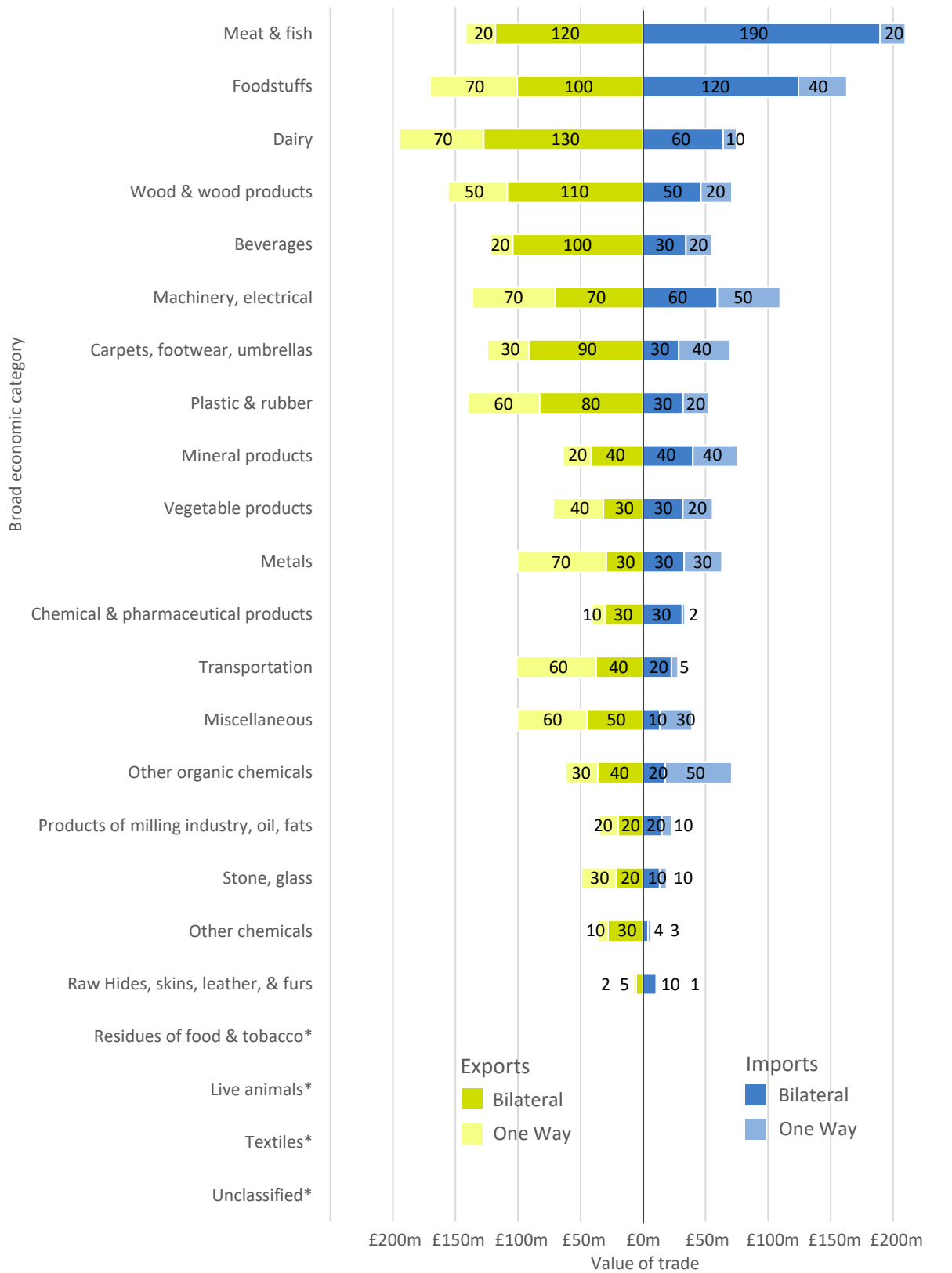
<sup>41</sup> [The Land Border Between Northern Ireland and Ireland, Northern Ireland Affairs Committee, 2018](#)

<sup>42</sup> [Statistical Review of Northern Ireland Agriculture, DAERA, 2016](#). Table 6.5 presents the value of exports, not specified by destination, but raw milk is only exported to IE.

<sup>43</sup> [Statistical Review of Northern Ireland Agriculture, DAERA, 2017](#) Table 6.5 indicates the value of Beef/Sheep-meat; Fish; Pig-meat; and Poultry-meat exported to Ireland in 2015.

<sup>44</sup> [Cross-border trade & supply chain linkages report](#), InterTradeIreland, 2018

Figure 15: Share of within sector trade by one way and bilateral traders, 2015 (£m)\*



Source: Author calculations based on HMRC Regional Trade Statistics  
 \*Where possible figures have been rounded to the nearest ten million

## 4.9 Wider Definition of Supply Chain Activity IE vs REU vs ROW

The research therefore assigned that element of (above the Intrastat reporting threshold) trade in the Meat & Fish, Foodstuffs, Dairy Products, and Beverages sectors that was traded bilaterally by individual companies as evidence of potential supply chain activity. When the value of such products are also included alongside those classified as intermediate goods, then 66% (£2.1bn/£3.3bn) of trade with Ireland (i.e. NI-IE exports plus imports above the respective HMRC Intrastat reporting thresholds) relates to this wider definition of potential supply chain activity (see Table 2 - last row, 9<sup>th</sup> data column).

A similar approach was also adopted with NI trade with the REU and the RoW, which also met the research thresholds to include Meat & Fish, Foodstuffs, Dairy Products, and Beverages into the wider definition of supply chain activity with these destinations. It has not been possible to include the value of individual Agri-Food products traded to these destination because of disclosivity issues. However, in total this added £310m of bilateral Agri-Food trade to REU intermediate trade and similarly £210m to equivalent RoW trade, compared to an additional £860m added to trade in intermediate goods with IE (Table 2).

Overall, using this wider definition (intermediate goods plus bilateral Agri-Food products) 62% (£2.1bn/£3.4bn) of trade with REU and 52% of trade with RoW (£2.9bn/£5.5bn) was classified as indicating likely supply chain activity. While this indicates a high level of interdependence between businesses North and South of the border, it also illustrates a considerable degree of interdependence between NI businesses and those in the REU and indeed in the RoW.

What is missing in the current analysis is an assessment of the extent of NI's supply chain linkages with Great Britain. It is known that NI sold 4 times more goods and services to GB than to IE<sup>45</sup> and purchases nearly 6 times more than it imported from IE<sup>46</sup> in 2016. However, the current data sources do not provide the equivalent detailed level product information on intra-UK trade that is available for trade with countries outside the UK. Further research would be required to complete the picture of NI's supply chain links in this area.

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<sup>45</sup> [Northern Ireland Broad Economy Sales & Exports Data 2011-2016](#), NISRA, 2018 see Table 2.1

<sup>46</sup> [Northern Ireland Broad Economy Sales & Exports Data: Purchases & Imports of Goods and Services 2011-2016](#), NISRA, 2018 see Table 2.1

Table 2: Northern Ireland exports, imports and total trade to broad destinations – wider definition of supply chain activity analysis (above threshold traders), 2015 (£m)\*\*

		Exports				Imports				Total (Exports and imports)			
		IE	REU	RoW	Export total	IE	REU	RoW	Import total	IE	REU	RoW	Total (exports and imports)
Agri-food bilateral trade	Beverages	£100	*	*	£270	£30	*	*	£60	£140	*	*	£340
	Dairy	£130	*	*	£180	£60	*	*	£70	£190	*	*	£250
	Foodstuffs	£100	*	*	£120	£120	*	*	£190	£220	*	*	£310
	Meat & Fish	£120	*	*	£220	£190	*	*	£270	£310	*	*	£490
	Total	£450	£160	£180	£790	£410	£150	£40	£600	£860	£310	£210	£1,390
Total Trade	Intermediate trade	£740	£760	£1,510	£3,010	£550	£1,060	£1,180	£2,790	£1,280	£1,820	£2,690	£5,800
	Intermediate + Agri-food	£1,190	£920	£1,690	£3,800	£960	£1,210	£1,220	£3,390	£2,150	£2,130	£2,910	£7,190
	Total value of trade above reporting threshold	£1,960	£1,620	£3,130	£6,710	£1,300	£1,820	£2,390	£5,510	£3,260	£3,440	£5,520	£12,220
	% wider definition (Intermediate + Agri-food)	61%	57%	54%	57%	74%	67%	51%	62%	66%	62%	53%	59%

Source: Author calculations based on HMRC Regional Trade Statistics  
 \* Data withheld to prevent disclosure of individual company information  
 \*\*Figures rounded to the nearest ten million

## 4.10 Origin of materials/products

Businesses were asked on the SCS about the origin of the product components - 630 businesses responded to this question.

47% of respondents (n=294) reported that they sourced product components (either products they imported for resale, or goods/materials purchased as part of their processing operation) originating from outside the EU. Conversely, 53% of respondents stated they source zero percent of their product components from outside the EU. A breakdown of these responses by size band is provided below.

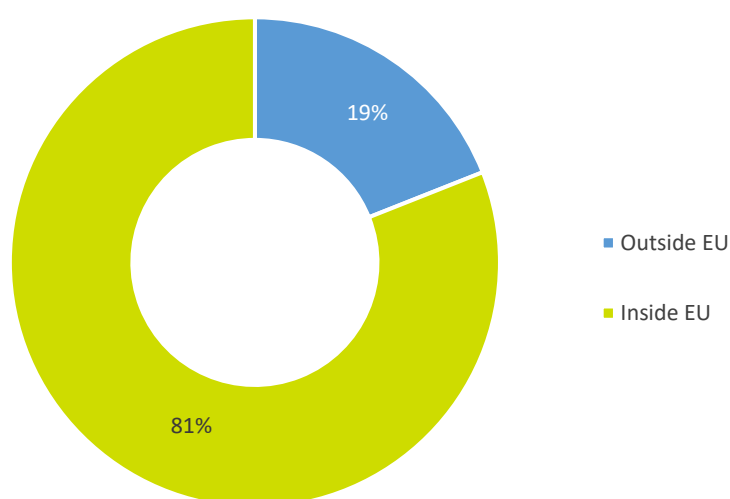
*Table 3: Firms sourcing product components from outside the EU by business size band, 2015 (%)*

	Business size band (number of employees)							
	0-49		50-249		250+		Total	
	Count	%	Count	%	Count	%	Count	%
Firms that source products from outside EU	225	45%	61	55%	8	35%	294	47%
Firms that do <u>not</u> source products from outside EU	271	55%	50	45%	15	65%	336	53%

*Source: Cross-border Supply Chain Survey*

Of those that source from outside the EU the median percentage of their product components coming from outside the EU is 30%, with the average being 19%.

*Figure 16: Average origin of product components, 2015 (%)*



*Source: Cross-border Supply Chain Survey*

Of those businesses that reported zero of their product components were sourced from outside the EU (n=336) almost half were from the Manufacturing industry (Section C). An industry breakdown of those that reported zero percent of their product components are sourced from outside the EU is presented below.

Table 4: Firms that do not source product components from outside the EU by industry, 2015 (%)

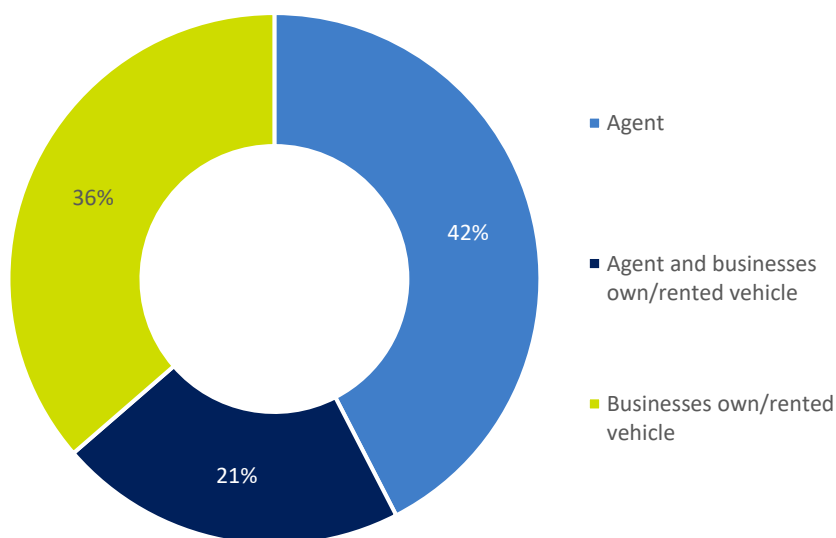
Section	Description	%
A	Agriculture, forestry and fishing	1%
B	Mining and quarrying	3%
C	Manufacturing	47%
D	Electricity, Gas, Steam And Air Conditioning Supply	0%
E	Water supply; sewerage, waste management and remediation activities	2%
F	Construction	6%
G	Wholesale and retail trade; repair of motor vehicles and motorcycles	33%
H	Transportation and storage	0%
I	Accommodation and food service activities	1%
J	Information and communication	3%
L	Real estate activities	0%
M	Professional, scientific and technical activities	1%
N	Administrative and support service activities	1%
P	Education	0%
Q	Human health and social work activities	1%
R	Arts, entertainment and recreation	0%
S	Other service activities	1%
Total		100%

Source: Cross-border Supply Chain Survey

#### 4.11 Method of delivery

The majority of respondents (42%) delivered goods to IE through an agent, with 36% transporting goods using businesses own or rented vehicles, and 21% reported that they use a combination of both methods.

Figure 17: Method of delivery to Ireland, 2015 (%)



Source: Cross-border Supply Chain Survey

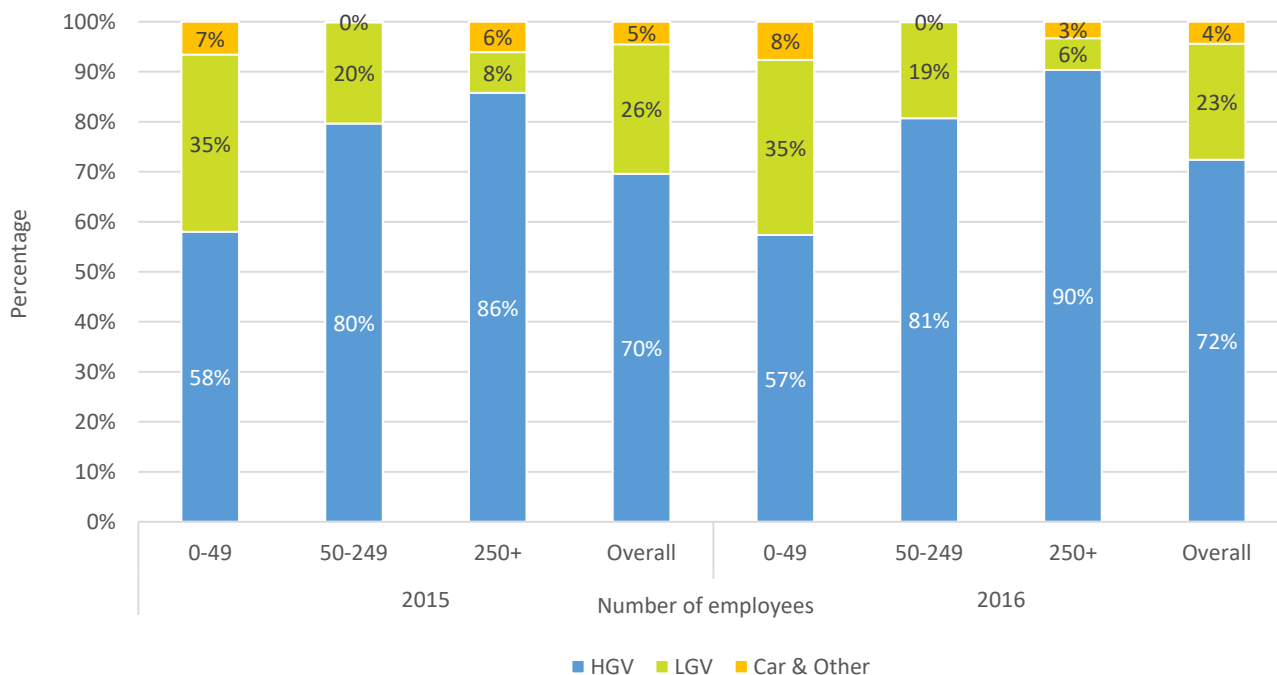
## 4.12 Cross-border trips by agents

For those businesses that used an agent only to export their goods the median<sup>47</sup> number of trips made by an agent was 78 in 2015 and 79 in 2016. Of those businesses that engaged an agent, the most common type employed in 2016 was a haulier (68% in 2016 & 69% in 2015), followed by a fast parcel operator (24% in 2016 & 24% in 2015).

## 4.13 Form of transport

Respondents reported that the most common form of transport used to make their export deliveries were heavy goods vehicles (72% of trips in 2016 & 70% in 2015), followed by light goods vehicles (23% in 2016 & 26% in 2015). The distribution by business size band is presented below.

Figure 18: Form of transport used to deliver to Ireland by business employee size band, 2015 (%)



Source: Cross-border Supply Chain Survey

<sup>47</sup> Median figure based on calculating the median (excluding zeros) number of export trips for those businesses that said that they used an agent only.



## 4.14 Cross-border supply chains - comments from respondents

Respondents to the SCS were given the opportunity to answer two open ended questions related to their supply chain involvement within NI, UK, IE, REU and RoW, and their trade with IE specifically.

Of the 636 businesses who commented on how their company fits within NI, UK, IE, REU and RoW supply chains, the majority were from the manufacturing and wholesale & retail trade sectors with a combined total of 71% of responses. Looking at business size, 77% of respondents are classified as small businesses (0-49 employees), with just 4% of comments from large businesses (250+ employees). A number of key themes emerged following comment analysis, including exports & imports, border crossings, Brexit and supply chains. A selection of comments is provided below.

### BORDER CROSSINGS

*“Although we buy the majority of our raw material from ROI companies, it is delivered by boat to the nearest dock rather than crossing the land border. We are located on the border and have significant cross border sales and land border crossings on a weekly basis” (Small Firm)*

*“As we are situated at the border with ROI we are continuously crossing the border, at least once a day would our own company vehicles cross over. We sell to both NI and ROI and we deliver to both ROI and NI. We also purchase a lot from ROI so couriers/companies are regularly delivering to our yard, crossing the border in doing so” (Small Firm)*

*“We source raw material items from within NI, UK, ROI, EU and rest of the world, and manufacture them into finished goods locally. Finished goods are then sold to all of these markets. There is no cross-border activity during production” (Medium Firm)*

*“As a company based in Newry on the border with ROI, cross border trade is a very important part of the business” (Medium Firm)*

*“We have a connected company based in the ROI. We transfer finished goods between both companies North and South. We have two vans that travel twice weekly and they transport goods between stores” (Large Firm)*

*“ROI represents a very important market... Products only cross the land border once however we have a significant level of trade with ROI” (Large Firm)*

### SUPPLY CHAINS

*“Our cross border supply chains are very simple. We order from 4 suppliers based in the ROI and this makes up our imports. We sell to about 50 customers in the ROI. We are a trade distribution company and so only deal in finished goods ready for sale” (Small Firm)*

*“... has a wide geographical extended supply chain, with raw materials coming from a number of countries and continents, including UK, Europe, America and Asia” (Large Firm)*

*“As a company based in NI we import most of our raw material from outside the EU. We are not part of any complex supply chain” (Large Firm)*

## BREXIT SPECIFIC COMMENTS

*"I rely on ROI greatly. A border will either close me or I will move to the South..." (Small firm)*

*"Our supply chain is such that we will have to consider our position once NI leaves the EU. We believe the business will be unsustainable and we may look at relocation should our EU customers make it an issue, which they are indicating they will do so. That's our plan for now" (Small Firm)*

*"We import machines from ROI every week and have seen our prices rise by 20% post Brexit. Brexit is a huge challenge for our business going forward especially if our ROI customers have to pay VAT at point of entry" (Small Firm)*

*"As a Northern Ireland business we do have customers in ROI, but if Brexit fails us, we can service these customers from our site in ROI. We feel we are best placed as any business can be in terms of Brexit. With processing sites both sides of the border we think we will be best placed to withstand the Brexit turbulence" (Large firm)*

## EXPORTS AND IMPORTS

*"We provide software services throughout the UK, Ireland and Europe. We have employees based in NI and GB and we use sub-contractors located around Europe. Our ability to seamlessly service our European based customers is essential to our business and to sustaining our NI based business" (Small Firm)*

*"Around 70% of our sales are within NI involving no cross border traffic, however the remaining 30% of our sales are exported to ROI. Within the exported portion a large percentage is imported from ROI to process and export back to ROI" (Medium Firm)*

*"We supply goods within NI by road transport and to ROI also via road transport to customers via a number of weekly deliveries. We supply goods to... via road freight initially and then either air freight or across the Irish sea, then to final destination via road. We purchase the vast majority of our product from Italy which is transported via ship to Belfast or Dublin" (Medium Firm)*

*"Our company imports goods (both raw materials and finished parts/products) and services worldwide in order to produce ..., spare parts, design and engineering services to our customers whom are also based all over the world. We try to source from the local offerings (both NI, ROI and GB) where possible in order to reduce carbon footprint and costs as well as support local businesses and reduce turnaround time" (Large Firm)*

Of the 326 businesses who commented on their trade with IE, the majority were again from the manufacturing and wholesale & retail sectors with 60% of responses. Small businesses provided 80% of returned comments.

Responses tended to emphasise the importance of trade with IE and prospects for the future. A selection of comments is provided below.

## IMPORTANCE OF TRADE WITH IE

*"Trade with ROI is a major part of our business and doing this with ease is vital" (Small Firm)*

*ROI trade is very important to our company. We are situated in a border town within NI and therefore a large percentage of our recent turnover has been in ROI" (Small Firm)*

*As a small business based in NI, ROI forms a substantial part of our export market and we would welcome the current trading arrangement continuing in the future" (Small Firm)*

*Our entire supply chain is based on open borders with ROI as we use shipping facilities from ROI" (Small Firm)*

*We rely heavily on ROI suppliers for our purchases and do not want to return to a hard border situation with increased administration expenses incurred as a result" (Small Firm)*

*A valuable amount of our business is operated in ROI. We have a vast number of customers whom we supply daily throughout the whole year. We have at least two of our own lorries per day that leave the premises here in... and travel to ROI" (Small Firm)*

## PROSPECTS FOR THE FUTURE

*"Our trade with ROI is key to our business success. NI is more competitive than ROI steel manufacturers. Cross border barriers (customer tariffs or border checks) will inevitably lose us business in the long run. Brexit is a very bad idea for NI" (Small Firm)*

*"Most of the time we order the goods from an EU country and get it delivered to the UK and R.O.I. So there are no real complications with crossing land borders. This may change however when N.I leaves the EU as most of the deliveries to the R.O.I come through a UK port pre-dominantly" (Small Firm)*

*"Our company operates in a highly competitive market and any additional costs to exporting will put our company at risk. Our products do not travel well, so we have no alternative markets" (Small Firm)*

*"Although we rarely supply goods to the ROI we get a significant amount of goods from ROI. A hard border with customs, regulatory standards and immigration checks may prove to be a significant challenge when it comes to trading with the Republic post Brexit" (Small Firm)*

*"If there is a hard Brexit and tariffs and customs clearance on movements then this business/branch would probably have to close. On a volume basis the material sold has a very low value/tonne" (Small Firm)*

*"Not relevant, we only sell c.£1,000 to ROI. However, with all the paperwork, exchange rate, bank charges, Government Surveys, etc. We will not be marketing to ROI or the rest of Europe. It's just not worth it, we will also be considering whether we continue with our current customers in ROI. Too much paperwork, too time consuming" (small firm)*

*"If our ROI customers have difficulty importing goods via paying VAT at point of entry they will source elsewhere within the EU and we lose our jobs" (Small Firm)*

*"We have customers throughout the world now but have a strong home market. We are price sensitive in regards to purchasing and will change supplier in order to remain competitive" (Medium Firm)*

*"We do not want to see any change to the current system at the border. We do not need any additional bureaucracy or delays in the system or additional costs" (Large Firm)*

## 5. Case Studies

### Derry Refrigerated

Derry Refrigerated provides a chilled distribution and warehousing service for businesses in Northern Ireland and Ireland. The business collects and delivers mixed origin produce to a range of leading retailers, wholesalers and food manufactures. This results in around 100 cross border trips per day, including from point of production to Portadown for re-packaging and onward to retail distribution centres.

This movement of goods represents cross border economic activity that is not readily captured in trade data. For example, Derry Refrigerated could collect produce in County Cork (Ireland) which is re-packaged at Portadown (Northern Ireland), and then delivered to supermarkets across Ireland. Traditional trade data would describe these sales as intra-Ireland economic activity without necessarily capturing the role of Northern Ireland businesses and the centrality of the land border to the movement of goods in the all-island economy.

Derry Refrigerated is an expanding business in a growing sector contributing to the NI economy through employment, investment and business purchases. The frequency of border crossings, complexity of the origin of goods and level of regulation that is traditionally applied to these products aptly illustrate the relevance of this business model to the UK's exit from the EU.

### Quinn Building Products

Quinn Building Products are a high value trader located close to the border in Fermanagh with some 30% of its employees reported to live in the Republic of Ireland. They trade a range of building products from cement to roof tiles and estimate that their trucks cross the border some 350 times per day <http://www.bbc.co.uk/news/uk-northern-ireland-44202832>

Not all of these trips meet the definitions adopted in the current report, but the company provides a striking example of the intensity of the cross border movement of goods and materials.

## 6. Background Notes

### Summary

The Cross-border Supply Chain Survey was issued mid-July (2017) to all businesses who had indicated they export/import to/from IE in the 2015 Annual Business Inquiry (ABI), c.2,300 businesses. The survey gathers information on what businesses export/import to/from IE; the number, nature, transport method and value of export/import trips; along with information on the occupational profile of the businesses.

### Sampling and response rate

The survey was sampled from the 2015 ABI from all businesses who had indicated they export/import to/from IE in the 2015 Annual Business Inquiry, c. 2,300 businesses. At the time the survey was issued the most recent year for which NISRA held complete Annual Business Inquiry (ABI) data for sampled NI businesses was 2015 – data for the Broad Economy Sales and Exports Statistics (BESES) is sourced from the ABI. As the sample for the survey was based on ABI businesses we sought to ensure consistency across the surveys for figures relating to 2015.

However, on the 14th December 2017 NISRA published new Broad Economy Sales and Exports Statistics (BESES) for 2016 and revised 2015 figures. Where applicable, consistency has been ensured between the results from this survey and the BESES.

Common variables on the ABI and this survey are the values of imports from, and exports to IE. The coverage of this survey relates to the “Broad Economy” as defined by the NI Annual Business Inquiry. This excludes agriculture, financial services and tourism related trade, and the public sector.

A total of 1,615 responses were received, a response rate of 70%, a breakdown by business size band is provided below.

*Table 5: Sample size and responses received by business size band*

Business size band (number of employees)	Sampled	Returned	Response rate
0-49	1,771	1,264	71%
50-249	440	284	65%
250+	112	67	60%
Total	2,323	1,615	70%

### Data collection and validation

As the Cross-border Supply Chain Survey and the Broad Economy Sales and Exports Survey were completed at different times, some businesses provided different figures on the two forms. Where this occurred the following procedures were followed:

1. If the difference was within an acceptable range i.e. +/- 20% we replaced the response to this survey with the previously validated ABI value (which were part of published results).

2. If the difference was greater than +/- 20% we contacted the business to explain that the same variables on two different surveys did not match and asked for confirmation on which figure to use. The survey data was then updated as appropriate.

## Results preparation

The population level results for exports to IE for 2015 and 2016 are based on official statistics published in the [Broad Economy Sales and Exports Statistics publication](#) on the 14<sup>th</sup> December 2017. 2015 imports figure are sourced from [Northern Ireland Broad Economy Sales & Exports Data: Purchases & imports of goods and services, 2011 - 2015](#) (this is an official statistic).

As the survey was sampled from the 2015 ABI the weights from that survey have been used to gross the number of trips and values of exports for the results in this report. Note that as part of the 2016 BESES publication the 2015 data was revised and incorporated into these results.

In some sections of the report detailed analysis is presented by business size band, for example on the value of exports and the number of export trips. These figures are based on grossed population level estimates produced using the BESES 2015 weights. As this survey was sampled from the 2015 ABI, the 2015 weights have also been applied to 2016 figures in this report and therefore the 2016 results from this survey will not be fully aligned with the 2016 BESES results.

Direct imports were calculated by applying the ratio of total imports to direct imports from the survey responses to the published 2015 imports figure (**the SCS imports estimates are not considered official statistics because of the high level of imputation**).

The results are considered provisional because the report involves a new survey of businesses and novel research involving HMRC microdata. The report may be updated on receipt of views from users. If the report is amended, NISRA will ensure that this is suitably noted in any future publications.