



## Sectoral Export and Employment Exposures to External Risks

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This box examines the sectoral export and employment exposures facing the Irish economy in light of the risks posed by a no-deal Brexit and the threat of heightened trade tensions between the EU and the US. Our analysis highlights the critical importance of the US for the pharmaceuticals sector, while the UK is a key market for services and agricultural exports. The agri-food sector employs over 153,000 workers, while a no-deal Brexit could result in disproportionate income or job losses in the sector, which would be unevenly distributed across Ireland.

### Trade Exposures

Trade exposures are a useful metric for assessing the likely impact of certain external risks to the Irish economy. For example, one of the key channels through which a hard Brexit would affect Ireland is through its effect on bilateral Irish-UK trade. Similarly, much of the current global economic policy uncertainty, and consequent global economic slowdown, arises from risks associated with international trade disputes. Moreover, many MNEs are primarily located in Ireland in order to have an “export platform” combining low taxation and access to the EU single market, such that looking at exports can inform our view on which sectors are important and vulnerable to disruption. While this box does not focus on Irish goods imports, Lawless (2018) highlights the importance of the UK as a source of intermediate goods imports which significantly contribute to the export performance of Irish firms.<sup>2</sup>

Turning first to merchandise trade, the EU (excluding the UK) remained Ireland’s largest export destination in 2018, accounting for almost 39 per cent of all goods exports. Table 1 shows bilateral merchandise trade data disaggregated by both region/country and SITC commodity group. The bottom row shows the share of merchandise trade attributable to each country/region, while the right hand column displays each commodity group as a percentage of total merchandise exports. For

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<sup>2</sup> Lawless, M. (2018) “[Intermediate Goods Inputs and the UK Content of Irish Goods Exports](#)”, ESRI, July 2018.



example, *medicinal and pharmaceutical products* and *organic chemicals* are by far the largest categories. These two top-tier categories account for 33 per cent and 19 per cent of total merchandise exports, respectively. Exports of these products are quite concentrated in the US, which reflects the substantial activities of US MNEs in the chemicals and pharmaceuticals sector in Ireland. As such, any tariffs imposed on EU goods in the pharmaceuticals sector, destined for the US, would likely have negative consequences on Irish exports. However, this sector has yet to be the subject of tariff discussions.<sup>3</sup>

The UK remains an important destination for Irish exports, primarily for products relating to food and agriculture. Indeed, the UK is Ireland's third largest goods exports destination, but the sectoral composition of goods exports is quite different to that of the US. In addition to pharmaceutical exports, exports of agricultural and food products, including in the meat and dairy categories, are also substantial. As such, many second tier export categories are highly concentrated in the UK. This may reflect the high exposure of many domestic Irish firms and industries to the UK. It is worth noting that non-tariff barriers (NTBs), such as additional customs procedures and documentary compliance, also pose a sizeable risk to merchandise trade with the UK in a hard-Brexit scenario. Byrne and Rice (2018) show that a potential hard-Brexit related increase in NTBs is associated with a 9.6 per cent decline in bilateral trade between Ireland and the UK, with *agriculture* and *machinery and transportation*, most acutely affected.<sup>4</sup>

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<sup>3</sup> McQuade, P. and Mehigan, C. (forthcoming) "Trade tensions and the composition of Ireland's exports".

<sup>4</sup> Byrne, S. and Rice J. (2018) "[Non-Tariff Barriers and Goods Trade: a Brexit Impact Analysis](#)", Central Bank of Ireland Research Technical Paper, Vol.2018, No.7.



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Table 1: Irish Merchandise Exports by Sector and Region (2018)<sup>5</sup>

	UK (%)	EU28 Excl. UK (%)	USA (%)	China (%)	ROW (%)	Value of exports (€ bn)	% share of total merch. exports <sup>6</sup>
Medicinal and pharmaceutical products	5.43	40.98	36.71	1.78	15.10	45.85	32.6%
Organic chemicals	1.73	46.48	33.77	2.66	15.36	26.49	18.8%
Essential oils and perfumes	8.55	30.14	28.50	0.57	32.23	7.87	5.6%
Miscellaneous manufactured articles	8.90	37.72	38.89	3.56	10.93	7.42	5.3%
Professional, scientific and controlling apparatus	3.44	38.21	44.24	3.46	10.66	6.21	4.4%
Electrical machinery	9.06	16.01	30.96	36.84	7.13	5.43	3.9%
Other transport equipment	4.07	14.55	19.65	0.07	61.67	5.10	3.6%
Office machines and automatic data processing equipment	11.23	50.87	4.90	5.43	27.56	4.23	3.0%
Meat and meat preparations	49.95	36.96	0.69	3.68	8.73	4.04	2.9%
Chemical materials and products	8.32	67.96	6.95	0.82	15.95	4.02	2.9%
Dairy products and birds eggs	33.13	41.37	7.70	2.45	15.35	2.62	1.9%
Misc. edible products and preparations	14.37	25.00	0.82	24.40	35.41	1.98	1.4%
General industrial machinery	14.42	43.94	18.22	1.78	21.64	1.97	1.4%
Beverages	20.17	24.22	43.01	0.19	12.41	1.43	1.0%
Photographic apparatus, optical goods, watches and clocks	11.95	9.69	13.30	8.95	56.10	1.35	1.0%
Telecommunications and sound recording	12.71	61.57	8.07	2.92	14.74	1.31	0.9%
Metalliferous ores and metal scrap	16.34	64.51	0.86	0.41	17.88	1.13	0.8%
Power generating machinery and equipment	19.73	38.24	18.03	3.57	20.44	0.85	0.6%
Manufactures of metal	32.30	39.92	12.14	3.18	12.46	0.84	0.6%
Unclassified estimates	60.97	30.46	0.00	0.00	8.57	0.77	0.5%
Machinery specialised for particular industries	27.27	46.86	11.21	1.09	13.57	0.76	0.5%
Petroleum, petroleum products and related materials	48.51	15.58	14.77	7.29	13.84	0.70	0.5%
Fish, crustaceans, molluscs and preparations thereof	8.04	61.47	0.21	9.28	21.00	0.58	0.4%
Commodities and transactions	13.19	14.28	10.80	0.03	61.70	0.50	0.4%
Non-metallic mineral manufactures	80.48	11.85	4.46	0.06	3.16	0.48	0.3%
Plastics in non-primary forms	30.15	29.77	31.90	1.97	6.19	0.48	0.3%
Plastics in primary forms	43.69	29.27	7.00	1.22	18.83	0.46	0.3%
Live animals except fish	75.28	16.62	3.66	0.06	4.39	0.44	0.3%
Cereals and cereal preparations	93.24	3.86	1.66	0.10	1.15	0.43	0.3%
Coffee, tea, cocoa, spices and manufactures thereof	68.61	16.87	7.78	0.08	6.66	0.39	0.3%
Electric current	54.03	45.97	0.00	0.00	0.00	0.36	0.3%
Feeding stuffs for animals, excluding unmilled cereals	69.12	18.79	3.31	0.54	8.24	0.35	0.2%
<b>Total</b>	<b>11.5%</b>	<b>38.9%</b>	<b>27.9%</b>	<b>3.9%</b>	<b>17.9%</b>	<b>140.70</b>	

Source: CSO and authors own calculations

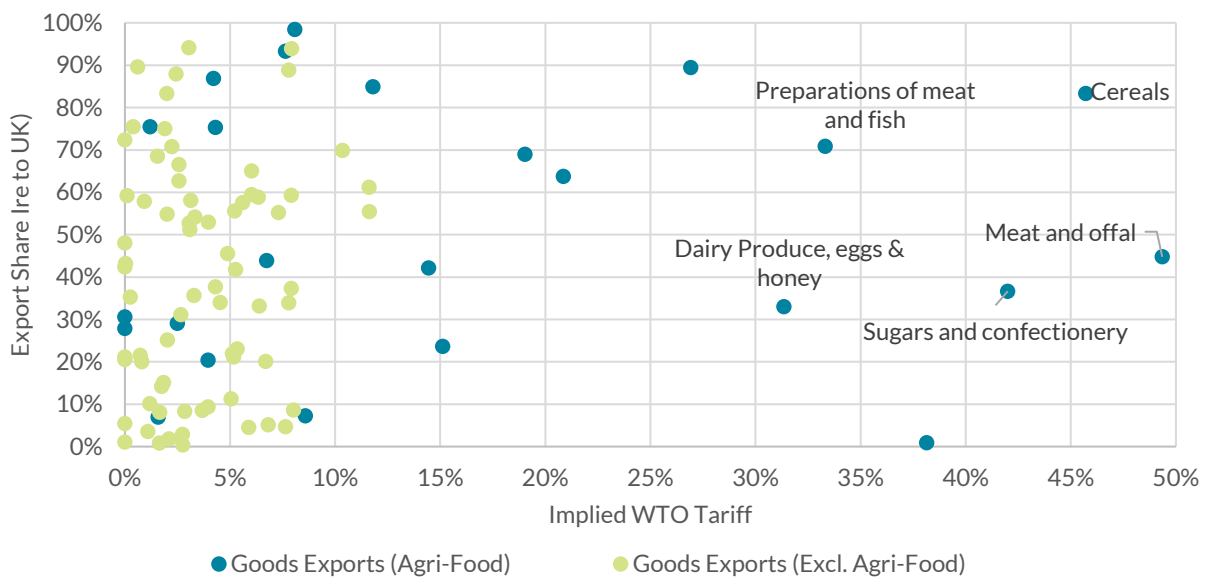
<sup>5</sup> High trade exposures are recorded in red, lower values in blue.

<sup>6</sup> The total share of exports may not sum to 100%, as some (smaller) categories have been omitted for visual representation purposes. Also, the sum of export values, displayed in column 7, may not sum to €140.7bn for this same reason.



The agri-food sector relies heavily on the UK market as an export destination, while the introduction of tariffs in the event of no-deal Brexit would acutely affect many of these products. Figure 1 illustrates the sectoral concentration of Irish exports to the UK and the implied WTO tariff schedule that would be imposed on each product type in the event of a hard Brexit. Products found on the right-hand side of the chart would see the highest tariffs introduced in a no-deal scenario, while products found in the top half of the chart have a high reliance on the UK market as an export destination. As such, the goods found in the top right hand section of Figure 1 appear to be most exposed to a no-deal Brexit. However, the two dimensional nature of the chart means that it does not show the significance each product in terms of its share of total merchandise exports. For example, cereal products, while highly exposed as per Figure 1, contributed only 0.01 per cent of total goods exports in 2018, significantly lower than many other sectors. Given the fact that agri-food products face the highest tariffs under a no-deal scenario, we focus on meat and dairy products as they are the largest agri-food export sub categories (see Table 1). Both the meat and dairy sector exported a sizeable portion of their produce to the UK in 2018 (43 per cent and 35 per cent of total exports, respectively), while a no deal Brexit would see tariffs in excess of 30 per cent applied to these goods.

Figure 1: Concentration of Irish Goods Exports to the UK and Implied WTO Tariff Schedule<sup>7</sup>



Source: Lawless and Morgenroth (2016), Eurostat and Authors' Calculations

<sup>7</sup> Data on implied WTO tariffs have been extracted from Lawless, M. and Morgenroth, E. (2016) "[The Product and Sector Level Impact of a Hard Brexit across the EU](#)", ESRI Working Paper, No.555.





Services now account for more than half of Irish exports. Irish services exports totalled €160 billion in 2017, some €37 billion more than merchandise exports.<sup>8</sup> The UK market was the largest destination for Irish services exports in 2017, accounting for over 16 per cent of all services exports. Available data suggest that the UK is particularly important for computer services and financial services exports.<sup>9</sup> We focus on the impact of NTBs on services trade, which may subsequently disrupt trade flows between Ireland and the UK, in the event of a no-deal Brexit. Lawless (2018) found that NTBs, such as limits on market access or specific requirements in terms of licencing and recognition of standards, are likely to significantly reduce services trade between Ireland and the UK.<sup>10</sup> These results suggest that EU membership has had a particularly strong effect on the levels of trade in financial and business services, particularly in insurance and telecommunications. Overall, their estimates suggest that removing the EU membership effect on Irish-UK trade in services would reduce services exports to the UK by 49 per cent, equivalent to a 10 per cent reduction on total services exports.<sup>11</sup> While Brexit may result in some pick up in Foreign Direct Investment, it is unlikely that any such increase would offset the adverse trade and employment effects that would materialise under a no-deal scenario. Having explored the key trade exposures facing the Irish economy, we next consider how external risks may affect the labour market by examining employment exposures.

## Employment Exposures

Trade risks also pose a threat to the labour market and employment. Understanding the sectoral composition of employment is important when analysing how external risks may materialise in the labour market. Indeed, employment data provides useful insight into developments in the real economy, and which employment intensive industries are likely to be important for income tax revenues. Table 2 shows the importance of domestically oriented sectors for overall employment, as the *wholesale and retail trade* and *health* sectors are the two largest employment sectors accounting for 13 per cent and 12.5 per cent of total employment, respectively. Of the more tradeable sectors, *industry* and *professional, scientific and technical activities* are the largest employers, accounting for 12.3 per cent and 6 per cent of total employment, respectively.

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<sup>8</sup> Byrne, S. and O'Brien, M. (2015) "[The Changing Nature of Irish Exports: Context Causes and Consequences](#)", Quarterly Bulletin

<sup>9</sup> Due to statistical disclosure requirements, some observations are redacted by the CSO.

<sup>10</sup> Lawless, M., (2018). [Irish-UK Services Trade and Brexit](#). ESRI Working Paper, Issue 595.

<sup>11</sup> The figures provided are based on subtracting the estimated 'EU membership effect', whereby services can be traded freely with no NTBs. As the final outcome of negotiations regarding services trade between the UK and EU remain unclear, these estimates should provide insight into the distribution of exposure across sectors, not a projection/forecast of the final outcome.



Table 2: Sectoral decomposition of employment (Q2 2019)

Sector	Employed (000's)	Percentage of total employment
Agriculture, forestry and fishing	100.9	4.4%
Industry	282.6	12.3%
Construction	146.3	6.4%
Wholesale and retail trade, repair of motor vehicles and motorcycles	297.9	13.0%
Transportation and storage	105.8	4.6%
Accommodation and food service activities	181.1	7.9%
Information and communication	117.9	5.1%
Financial, insurance and real estate activities	112.9	4.9%
Professional, scientific and technical activities	139.1	6.0%
Administrative and support service activities	109.7	4.8%
Public administration and defence, compulsory social security	111.8	4.9%
Education	179.7	7.8%
Human health and social work activities	288	12.5%
Other NACE activities	119.8	5.2%
Not stated	6.7	0.3%
<b>Total</b>	<b>2,300.2</b>	<b>100%</b>

Source: CSO

The pharmaceuticals and life sciences sectors employment share is not proportionate to their share of exports. Pharmaceuticals exports were a critical element of Ireland's recovery from the global financial crisis because Ireland's exports of pharmaceuticals continued to expand in this period, even as external demand and the value of exports in many other categories declined. On the one hand, this is positive as it suggests a relatively low elasticity of demand for these products and highlights Ireland's ability to gain export market share. As such, the exports may be less sensitive to any price/cost increases resulting from the imposition of tariffs. On the other hand, Irish merchandise exports, and export growth, are very heavily concentrated in one subcategory of pharmaceuticals, namely *Antiserum and Blood Factors*.<sup>12</sup> An examination of manufacturing employment levels shows that more than 44,000 people were employed in manufacturing basic pharmaceutical products and pharmaceutical preparations in 2018. While significant, employment in *pharmaceuticals* production

<sup>12</sup> Byrne, S. (2019) "[Strong Pharmaceutical Exports Boost Overall Export Growth](#)", Central Bank of Ireland Quarterly Bulletin 1-2019, Box C



comprises only 2 per cent of total employment, when pharma related exports contributing more than half of all merchandise exports. Indeed, pharmaceutical exports have grown markedly in recent years - driving the growth in overall merchandise exports - without any material increase in employment in the sector.

Employment in pharmaceuticals is likely to be relatively resilient in the event of a no-deal Brexit. Only 5 per cent of all medicinal and pharmaceutical exports go to the UK, while exports of pharmaceuticals products from Ireland have typically exhibited relatively low elasticities of demand. It is not surprising, therefore, that estimated employment losses in the pharmaceuticals sector are modest when compared to some more exposed sectors (Vandenbussche 2019).

In contrast, a no-deal Brexit would have negative consequences for the agri-food sector. Primary agriculture and the food processing sectors (agri-food sector) employ around 153,000 people in Ireland, accounting for almost 7 per cent of all jobs. Lawless and Morgenroth (2016) estimate that the average implied tariff on meat and dairy exports to the UK, in the event of no-deal Brexit, would be close to 50 per cent and 30 per cent, respectively.<sup>13</sup> As outlined in Table 1, meat and dairy are significant Irish export categories, amounting to almost €7 billion, or 5% of all merchandise exports, combined, in 2018. Conefrey (2019) finds that the beef sector is particularly exposed to a no-deal Brexit due to the high tariffs and NTBs that would be applied to exports, in conjunction with the sectors reliance on the UK market and the low profitability in beef farming.<sup>14</sup> Vandenbussche (2019) show that a hard Brexit would have a disproportionately adverse effect on agricultural employment in Ireland, in comparison to other sectors.<sup>15</sup> Moreover, agricultural employment is not equally distributed across regions. For example, only 3 per cent of employment in Dublin is in the agri-food sector compared with one in seven in the Border region in 2016.<sup>16</sup> Regions that are heavily reliant on agricultural employment – such as the south west, midlands, mid-west, mid-east and border regions- are more acutely exposed to potential income or job losses under a no-deal Brexit.

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<sup>13</sup> Lawless, M. and Morgenroth, E. (2016) "[The Product and Sector Level impact of a Hard Brexit across the EU](#)", ESRI Working Paper No.550.

<sup>14</sup> Conefrey, T. (2019) "[New Risks and Old Problems: The Uncertain Outlook for Irish Agriculture](#)", Central Bank of Ireland, Economic Letter, Vol.2019, No.10.

<sup>15</sup> Vandenbussche, H. (2019) "[Sector-Level Analysis of the Impact of Brexit on the EU-28](#)" Report prepared for Flanders Department of Foreign Affairs, Belgium.

<sup>16</sup> Conefrey, T. (2018) "[Irish Agriculture: Economic Impact and Current Challenges](#)", Central Bank of Ireland, Economic Letter Vol. 2018, No. 8.