Imported Intermediates and Irish-UK Trade

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EVENT
Building Stronger Business – Responding to Brexit

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Overview

- Research programme funded by Department of Business, Enterprise and Innovation and Enterprise Ireland
- Two topics investigated:
  1. Intermediate goods inputs and the UK content of Irish goods exports
     - Analysis of firm use of imported intermediates using detailed firm-product level data
  2. Irish-UK Services Trade and Brexit
     - Aggregate assessment of contribution of EU membership to Services trade flows

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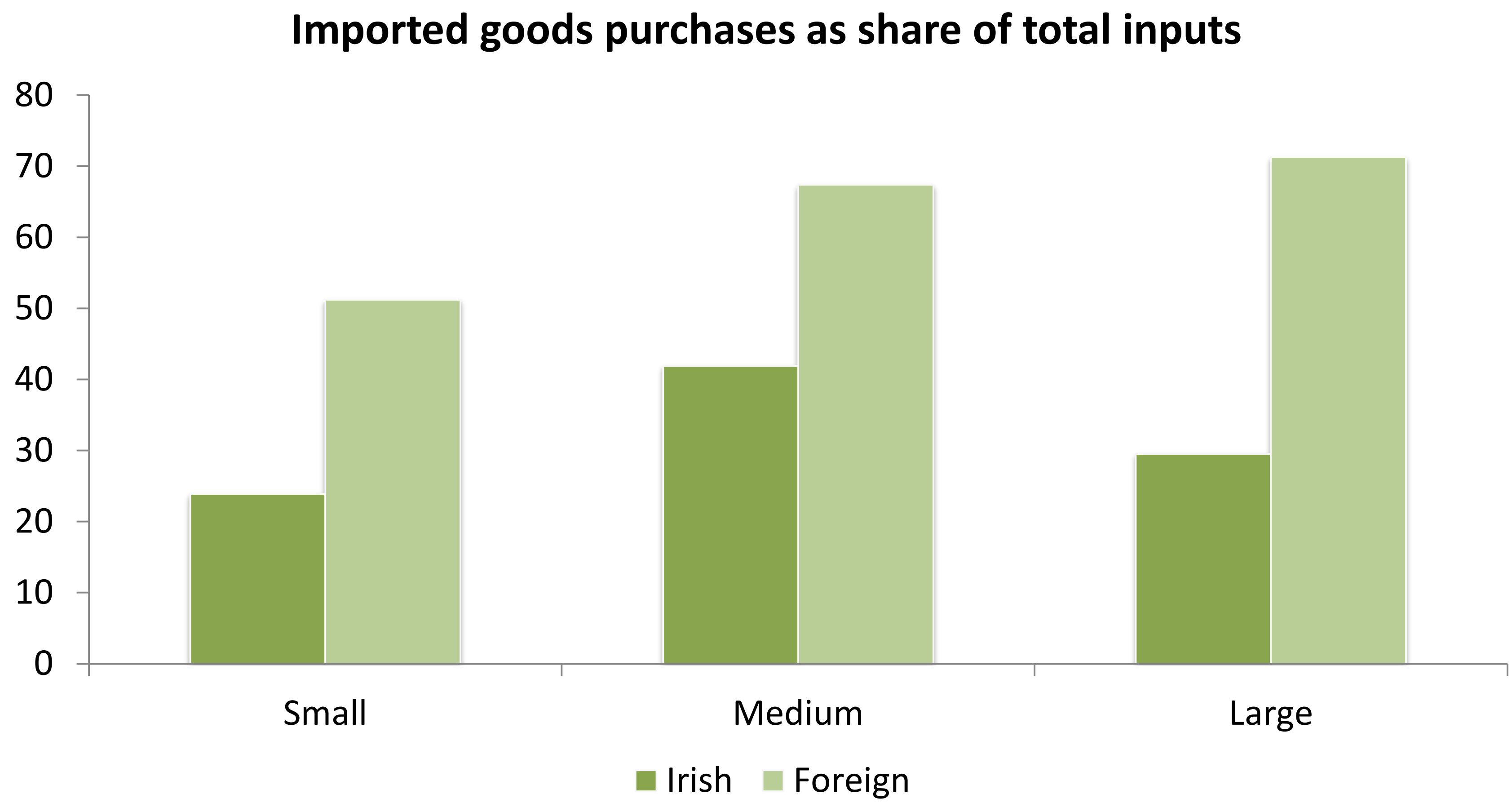
UK and intermediate goods inputs

- The UK accounts for 25.7% of total Irish imports compared to 13.8% of exports
- Many imported products used as intermediate inputs for further processing within Ireland
  - Changes in availability or prices could therefore impact Irish competitiveness and exporting
- Report uses CSO customs level data to examine:
  - How much firms import
  - Types of products involved
  - Extent of reliance on UK as source
  - Extent to which imported goods inputs contribute to firm-level exporting activity
- Break down results by ownership and firm size.

Irish Firms Use Fewer Imported Inputs than MNE



But rely more on the UK as a source

Distribution of import values by UK import reliance and ownership				
	All imports		Intermediates	
	Irish share	Foreign share	Irish share	Foreign share
All Imports from UK	4.4%	0.0%	3.1%	0.0%
90+ % from UK	17.3%	0.3%	17.6%	0.7%
75-89% from UK	9.8%	1.5%	8.6%	1.0%
25-74% from UK	18.4%	10.8%	18.6%	6.3%
<25% from UK	3.0%	0.9%	3.0%	1.2%
Total UK share	**52.9%**	**13.6%**	**50.9%**	**9.3%**

Imported Product Types by Firm Ownership

	Imports from UK		All Imports	
	Irish Firms	Foreign Firms	Irish Firms	Foreign Firms
Capital	5%	37%	10%	24%
Intermediates	57%	36%	59%	52%
Consumer	7%	16%	8%	20%
Food	32%	12%	23%	4%
Sum	100%	100%	100%	100%

Linking Imports to Export Performance

- Use firm-level import and export information to examine common movements in importing and export performance.
    - Controlling for firm ownership (as foreign firms more export-intensive) and size (larger firms more likely to export than smaller ones).
    - Lag import variables to mitigate endogeneity issues
- Why would imports affect export performance?
    - Access to wider range of inputs
    - Potential technology transfer
    - Build contacts/familiarity in foreign markets.

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Results on Import-Export Links

- Imports significantly linked to export performance:
  - 10% more imports are associated with 4.6% more exports.
  - UK-sourced imports play a larger role for Irish than for foreign firms – accounts for half of total effect for Irish firms but one-fifth for foreign firms.
  - Majority of the positive effect of imports on exporting comes from role of intermediate inputs.
  - Range of products also matters: each additional product variety imported increases exports by 2%.
  - Wider import range also associated with wider range of export products – important for diversification.
  - However, number of inputs sourced from UK has lower impact on export scope than non-UK inputs suggesting benefits to diversification of import sources as well.

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Product and Sector Reliance on UK Imports

- We calculate import reliance on the UK by dividing products into five categories according to the share of the UK in total imports of that product:
  - Low reliance (products where less than 25% of imports are from UK)
  - Medium reliance (between 25% and 75% of imports from UK)
  - High (75% to 90%)
  - Very high (over 90% but less than 100%)
  - Complete reliance (all imports of the product come from the UK).
- 48% of total imports have a medium reliance on the UK.
- 7% of import value is in products that are imported only from the UK and a further 6% is in products where over 90% of imports come from the UK.

UK Import Reliance by Broad Product Type

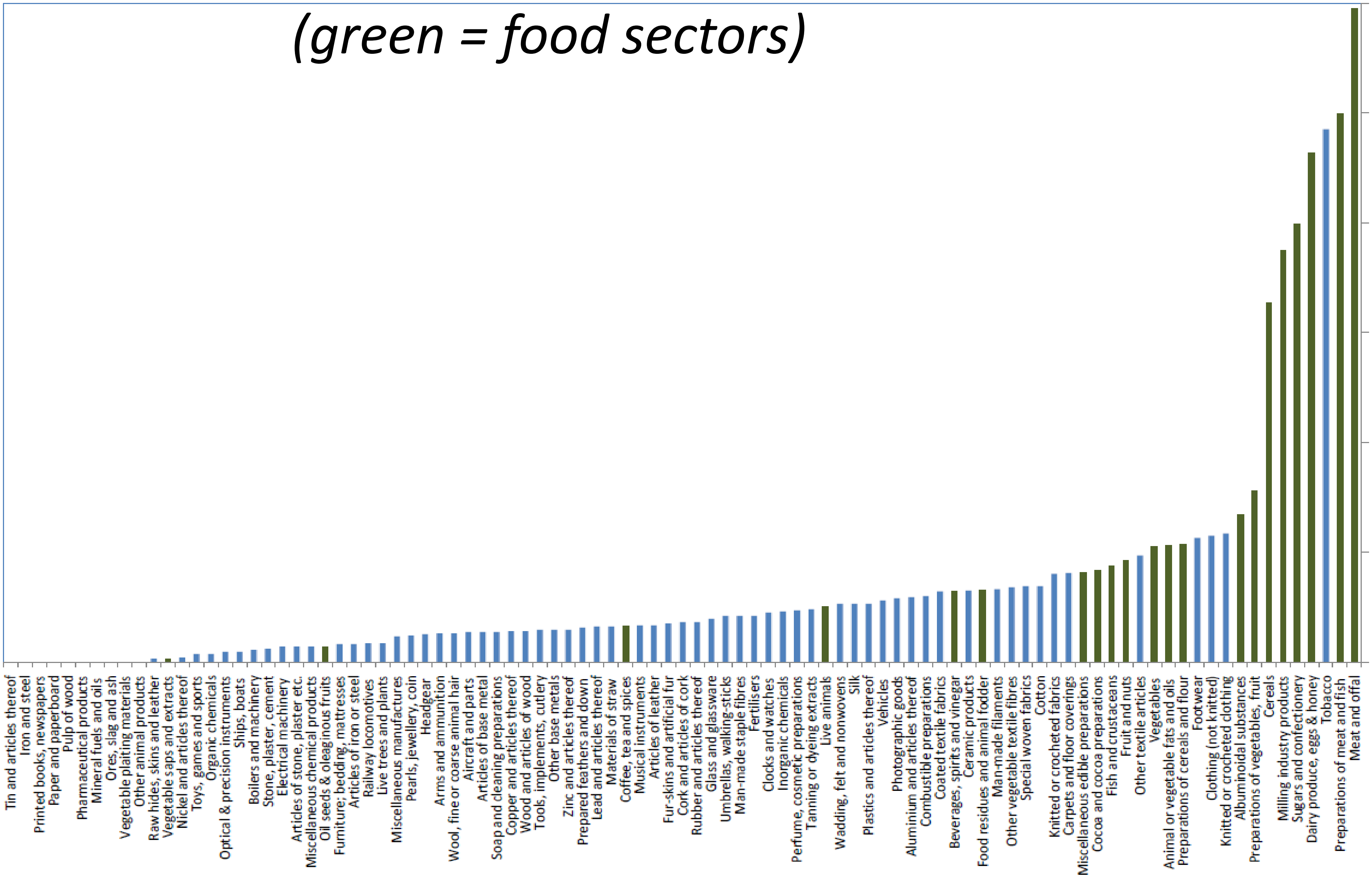
€m	Total trade	Low	Medium	High	Very high	Complete
Live animals	236.8	0.0	188.5	40.6	6.5	1.3
Meat and fish	399.8	10.4	209.8	88.4	72.9	18.3
Dairy	442.2	10.3	210.5	21.4	199.9	0.0
Products of animal origin	279.4	68.1	185.5	5.4	20.3	0.1
Products of milling industry	440.1	44.5	230.0	117.6	47.8	0.2
Sweets, nuts, flour	1,404.3	45.1	802.2	523.1	33.9	0.0
Beverages	318.2	59.7	57.9	200.5	0.0	0.0
Residues of food & tobacco	288.4	34.8	233.0	13.8	6.7	0.0
Minerals	3,552.6	186.1	135.7	1877.9	224.7	1128.3
Pharmaceutical products	492.3	399.4	49.4	43.5	0.0	0.0
Non-organic chemicals	266.3	63.2	183.9	16.9	1.9	0.4
Plastic and rubber	855.7	166.1	611.0	60.2	18.2	0.1
Leather	52.2	12.3	38.8	0.6	0.6	0.0
Wood and paper	838.9	34.5	444.6	160.0	199.8	0.0
Textiles	39.4	8.7	19.5	4.4	3.0	3.7
Carpets, footwear	743.1	248.0	440.7	28.6	25.7	0.0
Cement, glass, ceramic	258.2	38.9	194.0	17.1	8.3	0.0
Machinery	2,359.0	772.3	1409.6	112.1	63.8	1.2
Transport equipment	819.5	299.0	428.4	69.8	21.7	0.6
Miscellaneous	1,445.7	41.6	1358.3	30.8	15.1	0.0
Total imports (excl. unclassified)	15,532.1	2543.0	7431.2	3432.8	970.9	1154.3

Tariff exposure for Irish imports

- Scenario of WTO schedule tariff rates as default outcome in absence of trade deal
- Previous work (e.g. Lawless and Morgenroth, 2017) combined tariffs with aggregate trade data to examine how exports might be affected across Europe.
- This work combines CSO firm-level import data with WTO tariff schedules to break effect down into more detailed tariff exposure by firm type.
- Extent to which firms would incur tariffs on their imports is strongly driven by the type of goods and, in particular, the share of food products.

EU-WTO Tariff Variation across Products

(green = food sectors)



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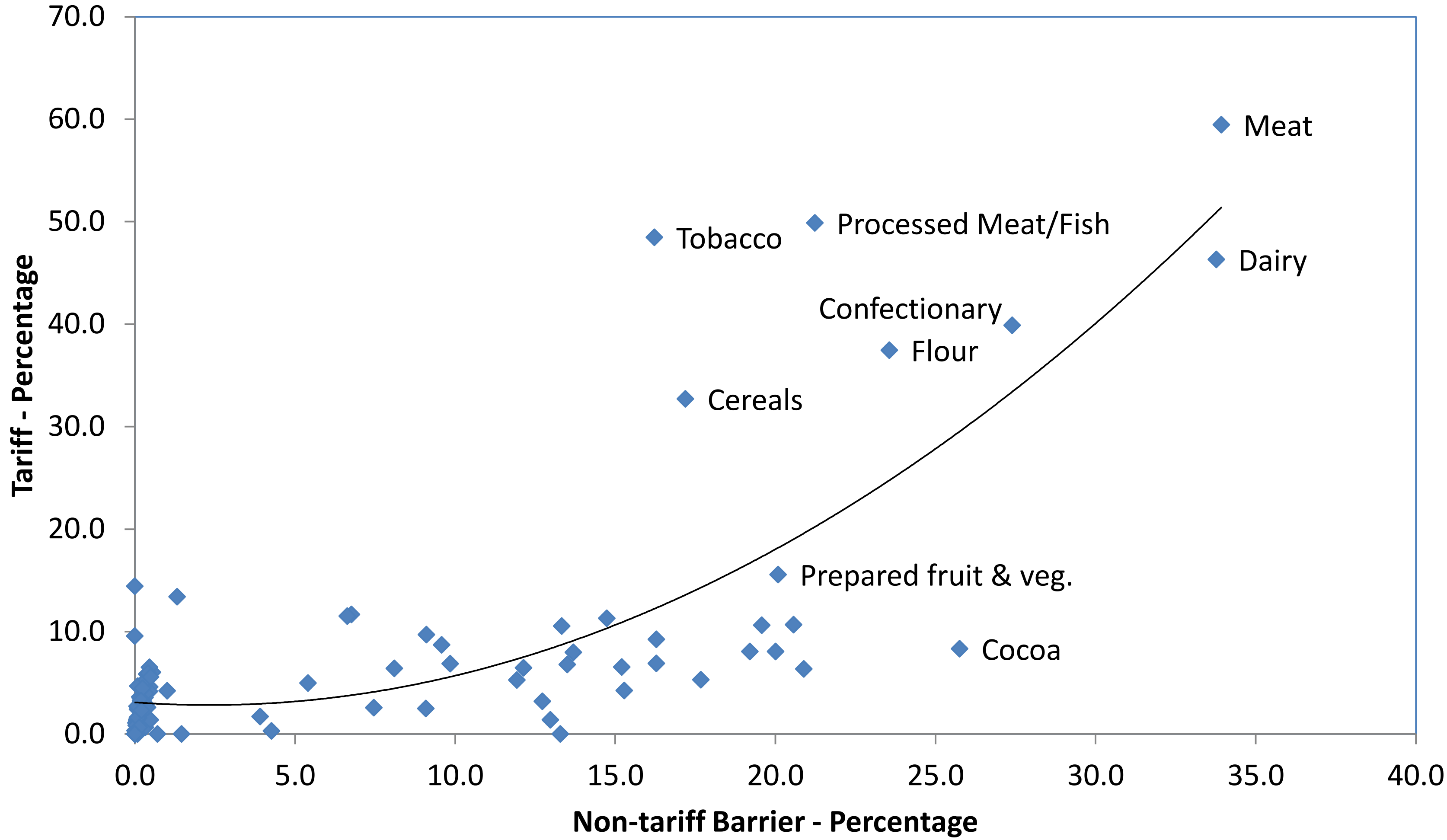
Non-tariff barriers

- Non-tariff barriers comprise any obstacles to trade that are not direct tariffs
    - E.g. quotas, regulatory or technical requirements such as licensing, labelling, standards and rules designed to protect health and food safety.
    - Customs inspections and documentation also part of non-tariff barriers.
- Much more difficult to measure.
- Impact linked to regulatory requirements/divergence.
- May be more onerous initially if learning and adaptation costs required.
- Estimates from World Bank suggest NTBs can be as large as tariffs and tend to fall on similar products/sectors.

Correlation of Tariffs and Non-tariff Barriers



Tariff exposure by type of good

TRADE AND AVERAGE TARIFFS BY BROAD ECONOMIC CATEGORY			
	Tariff Rate	Share of trade	Share of total tariff revenues
Food	18%	24%	70%
Consumer goods	4%	22%	13%
Intermediate goods	2%	42%	12%
Capital goods	3%	12%	5%
Totals	6%	100%	100%

Tariff exposure by Firm Type

Estimated tariff rates by firm size and ownership			
	Small	Medium	Large
Irish firms			
Average import tariff	4.3%	6.3%	11.3%
Median import tariff	2.6%	2.8%	3.5%
Average export tariff	5.6%	10.5%	25.2%
Median export tariff	2.5%	3.0%	16.9%
Foreign firms			
Average import tariff	3.3%	3.6%	2.7%
Median import tariff	1.7%	2.3%	2.1%
Average export tariff	4.0%	5.1%	1.3%
Median export tariff	1.7%	1.8%	0.1%

- Potential negative impact of tariffs on imports from the UK is lower than the potential impact on exports from Ireland to the UK.
- The import tariff exposure of Irish-owned firms is considerably larger than that of foreign-owned firms due to different patterns of imported products

Exporter Processing Tariff Exemptions

Hypothetical Effective Import Tariff for Exporting Firms			
	Small	Medium	Large
Irish-owned			
Mean	3.4%	5.4%	6.9%
Median	2.0%	2.0%	3.5%
Foreign-owned			
Mean	2.4%	2.2%	1.7%
Median	0.9%	1.2%	1.0%

- Where Inward-Processing exemptions apply, some imports that will be used for processing into exports for non-EU markets may not incur a tariff liability.
- This table assumes hypothetical exemption for a firm’s UK imports according to its EU/non-EU+UK share of exports.
- However, costs from non-tariff barriers could still impact two-way traders.

Policy Implications (1)

- Considerable variation in exposure to Brexit across firms and sectors from an importing (supply chain) perspective.
- Food products particularly exposed with a relatively high dependence on the UK market as import source and high tariffs and potential rates of non-tariff barriers on certain products.
- Mineral fuels and energy highly reliant on UK
- Overall, tariffs on imported intermediates are relatively low, especially compared to tariffs on food products.
- Uncertainty and learning challenge of dealing with regulatory divergence and new non-tariff barriers likely to be bigger issue for many firms.

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Policy Implications (2)

- Assessment of exposure by firms should be a first step in planning on how best to take action to mitigate negative effects of Brexit.
- Identification of alternative supply sources and assessment of switching costs needed as more certainty develops about how the trade environment will be affected.
- Policy role in provision of information to support firms in Brexit preparedness assessment.
- Particular effort likely to be needed in providing information on dealing with customs procedures and non-tariff barriers.

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Irish-UK Services Trade and Brexit

- Several studies estimating the potential effects of Brexit on UK, Irish and European economies, mainly focusing on macroeconomic effects or goods trade.
- Option of reverting to EU's WTO tariff schedule gives a clear benchmark to anchor scenarios on goods trade.
- Services trade has no clear fall-back position so setting parameters of how large trade impacts could be is more difficult and has gotten less attention.
- This paper estimate the contribution that EU membership has made to services trade.
- Not a forecast of Brexit on services but shows range and variation in exposures across sectors.

Data and Approach

- International balance of payments data from Eurostat on total services and component subsectors.
    - Covers trade between 28 reporting countries and over fifty partner countries.
- Estimate drivers of services trade between countries using a "gravity" model of push and pull factors contributing to trade flows.
- Estimate of EU membership premium to services trade then used to construct a counterfactual impact of Brexit by removing this premium from Irish-UK services trade flows.
- Approach rests on the critical assumption that the size of the loss of membership would be symmetric with the gains

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Explanatory variables

- *GDP per capita* capturing income and development levels
- *GDP* to capture market size
- *Distance,* provides a broad proxy for trade costs and similarity of the countries.
- *EU membership* is an indicator variable which is set equal to 1 if both countries in a trading pair are members of the European Union and 0 otherwise.
- *Contiguity* (sharing a land border)
- *Common language*
- *Colonial link*

Patterns of Irish Services Trade

Irish Services Trade, 2014				
€millions	UK	EU28	RoW	Total
Imports	11,361	46,566	62,810	109,376
Exports	20,176	58,282	43,470	101,752
Share	UK	EU28	RoW	Total
Imports	10%	43%	57%	100%
Exports	20%	57%	43%	100%

- Overall, Ireland imports more services than it exports.
- The UK accounts for twice as big a share of Irish services exports as of imports.
- Imports of R&D licences dominate Irish services imports but very little of this originates in the UK.
- Trade, business and financial services are main sectors for Irish-UK services flows

Determinants of Services Trade

	A: Total Services Trade	B: Pooled Sector-level Results
1% increase in:	Affects trade flows by:	
Distance	-0.82%	-0.45%
GDP per capita (origin)	0.87%	0.71%
GDP per capita (destination)	0.49%	0.30%
GDP (origin)	0.68%	0.46%
GDP (destination)	0.75%	0.43%
Change from 0 to 1 in indicator:	Affects trade flows by:	
EU Member	26%	19%
Contiguity	49%	51%
Common Language	43%	152%
Colonial Link	137%	15%

Variation in EU Membership Effect by Sub-sector

	Estimated percentage increase in trade	Statistically significant?
Accommodation	13%	No
Advertising and publishing	41%	Yes
Architectural, engineering	0%	No
Audio-visual services	55%	Yes
Computer services	70%	Yes
Financial Services	54%	Yes
Freight	42%	Yes
Legal, accounting, management	49%	Yes
Licences for R&D outcomes	-23%	No
Manufacturing services	56%	Yes
Operational leasing services	39%	Yes
Other business services	51%	Yes
Direct insurance	125%	Yes
Other personal services	13%	No
Personal, cultural and recreational	5%	No
Other services	22%	No
Passenger transport by air	36%	Yes
Passenger transport on sea	14%	No
Reinsurance	50%	Yes
Research and development services	36%	Yes
Supporting and other services	-9%	No
Trade-related services	6%	No
Waste and agricultural	-27%	Yes
Direct R&D	54%	Yes

Brexit Effect on Irish-UK Services Trade

- Estimated reduction in imports from UK of 33%
  - Equal to reduction in total services imports of 3.5%
- Estimated reduction in exports to UK of 45%
  - Equal to reduction in total services exports of 9%

- Largely driven by effects on insurance and operational leasing
- Effect on computer services also important on export side.
- Some sectors unaffected (e.g. R&D).
- Important to note estimate is based on no policy change or mitigating actions such as market diversification.

Policy Implications

- Risk assessment and contingency planning should take into account the wide range of sector-specific exposures.
- Provision to avoid disruption of currently existing services contracts should be a priority.
- Information provision for firms on areas that may be most exposed will be important,
- A focus on counteracting any negative impact of Brexit through diversification.