Analysis of Wales' comparative advantage in exporting goods: 2015 to 2017 average

Methodology and results from analysis of Wales' comparative advantage in goods exports for 2015 to 2017 average.

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Contents

The results from this analysis have been used as part of the evidence base underpinning the **Export Action Plan** published on 15 December 2020.

Background

To better understand Wales' strengths in the export of goods, trade data was analysed to establish areas of comparative advantage i.e. where Wales outperformed the world average in terms of goods exports in specific sectors. A lack of detailed services data for Wales meant this analysis focused solely on Wales' exports of goods. This analysis was conducted using **HMRC Regional Trade Statistics for Wales'** exports and **UN COMTRADE** for world imports(a), with a three year (2015 to 2017) average used to counteract trade data volatility.

Wales' export performance across sectors and markets was also compared to countries with a similar comparative advantage to Wales.

The economic theory of comparative advantage based on David Ricardo's work draws links between productivity and exports. It argues that countries should focus their resources on producing goods for which they have a comparative cost advantage. The theory states that trade patterns between countries are governed by differences in productivity. Although it has limitations, this theory provides a basis from which trade data can be examined to reveal these differences in productivity and the relative advantage or disadvantage a country has in a certain class of goods. **Annex 1** contains more information on the theory of comparative advantage.

(a) Import data is used to measure the trade flowing between countries, from which the value of exports is calculated. Import data is considered to be recorded with more accuracy by countries as imports may generate tariff revenue whereas exports generally don't, more information on the use of COMTRADE data is available from **The World Bank: World Integrated Trade**

Methodology

Data

This analysis was undertaken using publically available data, **HMRC Regional Trade Statistics for Wales'** exports and **UN COMTRADE** for world imports. A three year average was used to counteract trade data volatility. Originally undertaken in 2019, the analysis was based on the latest available data at the time, and doesn't reflect more up to date data that has since become available. However, volatility checks undertaken based on a longer pre-2017 time-series suggest changes in comparative advantage over time are minimal.

The UN comtrade data is reported in US dollars ($), therefore the following exchange rates were used to convert to £ sterling.

Exchange rate

	2015	2016	2017
£/$	1.529	1.354	1.289

Source: Bank of England

Approach

The analysis involved two stages, the first to identify Wales' comparative advantage (with a focus on exporting strengths) and the second identifying

export value gaps and modelling potential opportunities for increasing Wales' goods exports.

Revealed comparative advantage analysis

Wales' export performance compared to the world average of that sector to identify key areas of strength for Wales' exports. The analysis makes use of international trade value data.

The revealed comparative advantage (RCA) index for good i in Wales was constructed using the following formula:

RCA(i) = [(Wales' exports of good i to world)/(Wales' exports of all goods to the world)]/ [(World's exports of good i to world)/(World's exports of all goods to the world)]

From here, a normalised version of the RCA (called NRCA) was constructed using the following formula:

NRCA(i) = (RCA(i) – 1)/(RCA(i) + 1)

This allowed the results to be easily interpreted as a positive value indicated a comparative advantage whilst a negative value indicated a comparative disadvantage.

Export value gap model

Wales' export performance across sectors and markets compared to that of specified comparator countries to identify an 'export value gap', i.e. the additional value of exports that Wales could achieve, should they improve their performance to match that of the comparator country in that sector and market.

The Export Value Gap model takes Wales level data and matches it to international trade data collected by **UN COMTRADE**. This matching makes it possible to compare Wales' exports to those of a competitor country across different sectors and countries. Where Wales underperforms a similar competitor country, the model quantifies an 'export value gap' i.e. the additional value that could be achieved if Wales were to improve its export performance to that of the competitor.

The model is calculated across 66 goods sectors and 99 countries using a three year average (2015 to 2017).

Choice of comparator countries

The model requires a selection of similar international comparator countries to compare Wales' exports against. The comparators were chosen based on having a similar population, export mix and current trading arrangements with other countries. They are also chosen based on their geographical location; the economic literature strongly supports the notion that the geographical distance between two countries is a major determinant of the amount they trade, so all countries picked are in Europe.

Due to difficulties in identifying comparators of a similar size to Wales, those chosen were done so based primarily on export mix and trading conditions. To ensure fair comparison, the export value gaps were adjusted to account for size differentials between Wales and the chosen comparator country.

The most similar competitor was selected from a group of comparators by identifying the country with the most similar NRCA to Wales for each product group. Comparator countries with a substantially greater comparative advantage then Wales were not considered. This was one step in ensuring the value gaps identified remained realistic and comparison wasn't made to countries with a significant advantage over Wales.

This analysis has been completed using the following as comparator countries:

- Norway
- Finland
- Denmark
- Ireland
- Scotland

Table 1: Comparator country GDP and relative size

Country	GDP, 2017 (£bn)	Size difference compared to Wales
Wales	70.3	1.0
Finland	176.9	2.5
Norway (a)	215.4	3.1
Denmark	217.2	3.1
Scotland	156.2	2.2

Source: Eurostat

(a) Latest available data is for 2016.

To make sure that the comparison with each chosen competitor is fair, the choice of competitor is screened to remove contiguous pairs (e.g. it would be an unfair comparison to compare Wales' exports to Germany to those of Denmark, as Denmark shares a land border with Germany). In the case that the chosen competitor and target market are contiguous, the second-best choice competitor

is chosen instead. Information on the competitor country chosen for each product group is available in **Annex 5**.

Export value gap calculation

The 'export value gap' is defined as the difference in value between Wales' exports to a certain market and the exports of the chosen competitor to that same market. Export value gaps' are calculated for each sector-country pair. These can then be aggregated by summing over countries or sectors.

The value gaps identified by the model do not simply look at how much extra value the most similar competitor exports to a particular market. The relative size of total exports between the competitor and Wales are also considered and the value gap adjusted accordingly. For example, Wales' most similar competitor for Iron & Steel is Finland. However, Finland has a larger economy than Wales, so despite having a similar NRCA, Welsh exports of Iron and Steel are only 35% of Finland's. To account for this difference in sector size the value gap between Wales and Finland is reduced to the same percentage. The adjusted value gaps are put into context in the model by presenting the increase in total Welsh sector exports required to close the adjusted value gap.

Factors to consider and limitations

The results of this analysis should be viewed within the context of wider factors that are not directly captured in this work. These are briefly outlined below.

Global growth

Global trade growth has slowed in recent years, partly driven by trade protectionism and an associated rise in global uncertainty, which has been

further exacerbated by the Covid-19 pandemic. **WTO estimates** show that trade was already slowing; merchandise trade volumes fell by 0.1% in 2019, whilst the pace of expansion in global services trade slowed to 2% (down from 9% in 2018). Slower world growth would suggest a weaker demand for exports overall, therefore dampening the potential for Wales to deliver the improved export performance outlined in Table 2.

Sector growth

The growth trajectories within the specific sectors identified need to be considered, as a sector experiencing stable or declining growth indicates that the scope for growing Welsh exports in this sector may be limited.

Substitution effect

Wales is a smaller country relative to some of its competitors, in both size of population and economy. These limits on Wales' capacity mean the scope to deliver a large increase in exports in a short time frame may be challenging. Given this, it's likely that to capitalise on the opportunities identified, some substitution may occur whereby exporters may shift their focus towards specific sectors and away from others. In doing this, the value added of these sectors in terms of Gross Value Added (GVA) and employment should be considered to maximise the impact of these opportunities on the domestic economy.

Trading conditions

The ability of Welsh exporters to enhance their performance will depend on the terms of their trading relationships with other countries i.e. what trade barriers they face. This is a key factor to consider when establishing the true potential of the opportunities identified, particularly in the context of EU Exit.

Elasticities of demand

Analysis by **BEIS** shows that elasticities of demand differ across products and countries, therefore this will need to be considered when interpreting the true value of the potential opportunities for Welsh goods exports.

Stability over time

Welsh level goods trade data is available from 2007, however HMRC changed its methodology in 2013. Therefore whilst we know that Wales' comparative advantage has remained stable over the last 5 years (2013 to 2017), we know little about how stable it is over a longer time period.

Caveats

Whilst this analysis provides useful information about Wales' export strengths 2015 to 2017, there are numerous caveats that mean these findings are only indicative. These caveats include:

Analysis is based on **HMRC regional trade statistics** which apportion UK goods trade to regions based on employment, the limitations around the apportionment method can mean Wales' strength in certain sectors may be over- or underestimated.

Despite compiling the indices based on a 3 year average to minimise the impact of trade volatility, the fact that Welsh goods exports are based on a relatively small number of companies means that Wales' comparative advantage in some sectors may be closely linked to the activities of a few firms.

Analysis only provides insight into Wales' past comparative advantage, it provides little indication of what Wales' future comparative advantage may be,

although further analysis does indicate that comparative advantage is relatively stable over time.

The analysis is defined at the SITC2 classification level for goods, which is the most detailed level of available data for Welsh goods exports. While this does provide a reasonable level of disaggregation, the categories still contain a range of sometimes quite different products. This implies that it would be possible for the analysis to use a competitor that is somewhat similar to Wales at the broader sector level, but that actually produces goods within that sector code that are quite different to those that Welsh businesses produce. For example, '79 - Other transport equipment' covers trade in railway vehicles, aircraft, ships and boats amongst others. It is therefore important to understand the products a competitor is trading within each SITC2 classification.

Given these crucial limitations, it is important to note that this analysis is intended to point out potential opportunities for growing goods exports from Wales, which should be considered alongside other evidence.

Results

Product groups with a comparative advantage

According to the first step of this analysis, Wales had a comparative advantage in 8 out of the 66 broad product groups over the 2015 to 2017 period. **Annex 2** contains the complete list of product groups and their comparative advantage (or disadvantage) score.

The largest comparative advantage was within 'Coin (other than gold), not being of legal tender' and 'other transport equipment'. A full list of Wales' comparative advantage is detailed in Table 2.

Table 2: Product groups where Wales had comparative advantage (2015 to 2017)

Product groups	Normalised Revealed Comparative Advantage (2015 to 17 average) (a)
96 Coin (other than gold coin), not being of legal tender	0.91
79 Other transport equipment	0.86
71 Power generating machinery & equipment	0.66
67 Iron & steel	0.41
35 Electric current	0.20
02 Dairy products & birds' eggs	0.19
58 Plastics in non-primary forms	0.15
82 Furniture & parts thereof; bedding, mattresses etc	0.12
00 Live animals other than animals of division 03	0.12

Source: WG analysis of HMRC Regional Trade statistics and UN comtrade

(a) A normalised version of comparative advantage was used to aid

interpretation, a positive value indicated a comparative advantage, growing stronger as it approaches 1. To avoid misidentification of comparative advantage, only product groups with NRCA scores of > 1.10 were highlighted as having a comparative advantage. The data limitations and caveats outlines mean these results should to be interpreted using sector and market knowledge to examine their credibility.

Export value gaps

The second part of the analysis involved comparing Wales' goods export performance across individual sectors and markets with that of similar comparator countries based on factors including trading relationships, geographical location and export mix. Wales' relative uniqueness across these factors made choosing suitable comparator countries challenging however the most suitable comparator countries identified were Norway, Finland, Denmark, Ireland, and Scotland. From this group of comparator countries the most similar competitor was selected. This being the country with the closest NRCA to Wales.

The analysis covered 66 goods sectors and 99 (b) countries and enabled the identification of goods export value gaps for Wales (i.e. the additional value of goods exports that a country could secure within a specific sector and market should they improve their performance to match that of their closest competitor country). This helped to identify potential areas of opportunity for growing Welsh goods exports.

(b) Data for 13 of these countries was suppressed, **Annex 3** includes the complete list of countries included in the analysis for which data was available.

Given the difficulty in identifying suitable comparator countries for Wales, a comparison of relative sector sizes between the comparator countries and

Wales were added into the model, adjusting the gap to give a more realistic estimate of the potential value that Wales's exports could increase by, based on the relative size of the economy. The percentage increase needed in Wales' goods export performance to close the gap was also calculated to provide further context.

The opportunities identified for increasing Wales' goods exports can be broken down by country or sector. The top 20 export gaps by value are shown in Table 3 and **Annex 4** includes a summary of export value gap analysis for key markets.

As an example, this analysis showed that Wales' largest export value gap was Iron & Steel to the Netherlands. In matching Finland's performance (the comparator country) in exporting iron & steel to the Netherlands, Wales could have added an additional £280m to its exports. To achieve this, the Welsh Iron & Steel sector would need to increase its exports by 35%.

Table 3: Top 20 adjusted export gaps for Wales by product group and market 2015 to 2017(a)

Product groups (b)	Market	Most similar competitor	Adjusted value gap with competitor (£millions)	Increase in Welsh sector exports to close adjusted value gap
67 Iron and steel	Netherlands	Finland	280.6	35%
77 Electrical machinery, apparatus & appliances, n.e.s & electrical parts thereof.	United States	Ireland	266.2	37%

Product groups (b)	Market	Most similar competitor	Adjusted value gap with competitor (£millions)	Increase in Welsh sector exports to close adjusted value gap
79 Other transport equipment	Norway	Scotland	232.9	6%
33 Petroleum, petroleum products & related materials	Netherlands	Finland	166.6	12%
77 Electrical machinery, apparatus & appliances, n.e.s & electrical parts thereof.	China	Ireland	153.7	21%
67 Iron & steel	Germany	Finland	128.9	16%
33 Petroleum, petroleum products & related materials	Belgium	Finland	116.6	8%
79 Other transport equipment	United States	Scotland	101.5	3%
33 Petroleum, petroleum products & related materials	Latvia	Finland	87.3	6%
79 Other transport equipment	Saudi Arabia	Scotland	75.1	2%

Product groups (b)	Market	Most similar competitor	Adjusted value gap with competitor (£millions)	Increase in Welsh sector exports to close adjusted value gap
77 Electrical machinery, apparatus & appliances, n.e.s & electrical parts thereof.	Israel	Ireland	73.9	10%
33 Petroleum, petroleum products & related materials	Germany	Finland	68	5%
71 Power generating machinery & equipment	Singapore	Scotland	64.7	4%
71 Power generating machinery & equipment	India	Scotland	62.8	3%
71 Power generating machinery & equipment	Malaysia	Scotland	62.2	3%
79 Other transport equipment	India	Scotland	62.1	2%
33 Petroleum, petroleum products & related materials	Estonia	Finland	59.7	4%

Product groups (b)	Market	Most similar competitor	Adjusted value gap with competitor (£millions)	Increase in Welsh sector exports to close adjusted value gap
71 Power generating machinery & equipment	Canada	Scotland	52.4	3%
72 Machinery specialized for particular industries	Norway	Scotland	51.8	17%
68 Non-ferrous metals	Republic of North Macedonia	Scotland	51.2	15%

Source: WG analysis of HMRC Regional Trade statistics and UN comtrade

(a) To ensure fair comparison, the export value gaps were adjusted to account for size differentials between Wales and the chosen comparator country.
(b) n.e.s = not elsewhere specified.

Annex 1: Ricardian model

The economic theory of comparative advantage based on David Ricardo's work provides an argument in favour of countries focusing their resources on producing goods for which they have a comparative cost advantage and export these to the rest of the world. They should, in turn, import those goods which it has a comparative disadvantage in producing. This should, in theory, lead to

increases in total trade and welfare gains, as production is located where it is most efficient.

The Ricardian Model assumes that there are two countries, producing two goods, using one factor of production, usually labour. The model is a general equilibrium model in which all markets are perfectly competitive and all goods produced homogenous across countries. Labour is homogeneous and fully mobile within a country but may have different productivities and is immobile across countries. Full employment of labour is assumed. Goods can be shipped between countries without any transportation costs.

Key limitations of this theory include unrealistic assumptions around costs i.e. all non-labour production costs are not accounted for, with no consideration given to the role of transport costs. Costs are assumed constant, therefore failing to account for economies of scale effects as production levels increase.

Annex 2: normalised revealed comparative advantage (NRCA) (2015 to 2017 average)

Table 4: NRCA across all SITC 2 product groups, 2015 to 2017 average

Product Group (SITC 2) (a)	Normalised Revealed Comparative Advantage
00 Live animals other than animals of division 03	0.12
01 Meat & meat preparations	-0.09

Product Group (SITC 2) (a)	Normalised Revealed Comparative Advantage
02 Dairy products & birds' eggs	0.19
03 Fish, crustaceans, molluscs & aq.inverts & preps thereof	-0.61
04 Cereals & cereal preparations	-0.37
05 Vegetables & fruit	-0.94
06 Sugar, sugar preparations & honey	-0.64
07 Coffee, tea, cocoa, spices & manufactures thereof	-0.80
08 Feeding stuff for animals (not inc.unmilled cereals)	-0.48
09 Miscellaneous edible products & preparations	-0.07
11 Beverages	-0.46
12 Tobacco & tobacco manufactures	-1.00
21 Hides, skins & furskins, raw	-0.05
22 Oil seeds & oleaginous fruits	-1.00

Product Group (SITC 2) (a)	Normalised Revealed Comparative Advantage
23 Crude rubber (including synthetic & reclaimed)	-0.61
24 Cork & wood	-0.95
25 Pulp & waste paper	-0.85
26 Textile fibres not manufactured & their waste etc	-0.79
27 Crude fertilizers & crude minerals (exc fuels etc)	-0.82
28 Metalliferous ores & metal scrap	-0.22
29 Crude animal & vegetable materials n.e.s.	-0.78
32 Coal, coke & briquettes	-0.83
33 Petroleum, petroleum products & related materials	0.07
34 Gas, natural & manufactured	-0.85
35 Electric current	0.20
41 Animal oils & fats	-0.67

Product Group (SITC 2) (a)	Normalised Revealed Comparative Advantage
42 Fixed vegetable fats & oils, crude, refined, fractionated	-0.97
43 Animal or vegetable fats & oils, processed, & waxes	-0.87
51 Organic chemicals	-0.16
52 Inorganic chemicals	-0.52
53 Dyeing, tanning & colouring materials	0.05
54 Medicinal & pharmaceutical products	0.08
55 Essential oils & perfume materials; toilet preps etc	0.02
56 Fertilizers (other than those of group 272)	-0.83
57 Plastics in primary forms	-0.11
58 Plastics in non-primary forms	0.15
59 Chemical materials & products n.e.s.	0.09
61 Leather, leather manufactures n.e.s & dressed furskins	-0.92

Product Group (SITC 2) (a)	Normalised Revealed Comparative Advantage
62 Rubber manufactures n.e.s.	0.02
63 Cork & wood manufactures (excluding furniture)	-0.72
64 Paper, paperboard & manufactures thereof	-0.07
65 Textile yarn, fabrics, made up articles etc	-0.70
66 Non-metallic mineral manufactures n.e.s.	-0.32
67 Iron & steel	0.41
68 Non-ferrous metals	0.07
69 Manufactures of metal n.e.s.	-0.02
71 Power generating machinery & equipment	0.66
72 Machinery specialized for particular industries	-0.08
73 Metalworking machinery	-0.32
74 General industrial machinery & eqp. & machine pt.n.e.s.	-0.39
75 Office machines & adp machines	-0.50

Product Group (SITC 2) (a)	Normalised Revealed Comparative Advantage
76 Telecomms & sound recording & reproducing app. & eqp.	-0.76
77 Ele machinery, app & appliances & ele pt thereof n.e.s.	-0.35
78 Road vehicles (including air cushion vehicles)	-0.44
79 Other transport equipment	0.86
81 P/fab buildings; sanit., plumbing, heating &lighting fixt.	-0.35
82 Furniture & parts thereof; bedding, mattresses etc	0.12
83 Travel goods, handbags & similar containers	-0.66
84 Articles of apparel & clothing accessories	-0.57
85 Footwear	-0.65
87 Professional, scientific & controlling ins & app n.e.s.	0.01
88 Photographic & optical goods, n.e.s.; watches & clocks	-0.40

Product Group (SITC 2) (a)	Normalised Revealed Comparative Advantage
89 Miscellaneous manufactured articles n.e.s.	-0.15
93 Special transactions and commodities not classified according to kind	-0.70
96 Coin (other than gold coin), not being of legal tender	0.91
98 Military arms and ammunition	…

Source: WG analysis of HMRC Regional Trade statistics and UN comtrade

(a) n.e.s = not elsewhere specified.

Annex 3: countries included in the export value gap analysis

Export value gap countries

Algeria	Dominican Rep	Kuwait	Russia
Angola	Ecuador	Latvia	Saudi Arabia
Argentina	Egypt	Lithuania	Senegal

Australia	Estonia	Luxembourg	Serbia
Austria	Ethiopia	Malaysia	Singapore
Azerbaijan	Finland	Malta	Slovakia
Bahrain	France	Mauritius	Slovenia
Bangladesh	Georgia	Mexico	South Africa
Belgium	Germany	Morocco	Spain
Brazil	Ghana	Netherlands	Sri Lanka
Bulgaria	Greece	New Zealand	Sweden
Cameroon	Hungary	Nigeria	Switzerland
Canada	Iceland	Norway	Republic of North Macedonia
Chile	India	Oman	Thailand
China	Indonesia	Pakistan	Trinidad and Tobago
Hong Kong	Irish Republic	Panama	Turkey
Colombia	Israel	Peru	Ukraine
Costa Rica	Italy	Poland	UAE

Croatia	Japan	Portugal	Uruguay
Cyprus	Jordan	Qatar	United States
Czech Republic	Kazakhstan	South Korea	Vietnam
Denmark	Kenya	Romania	

Annex 4: overview of export value gap analysis for key markets

Wales' export performance across sectors and markets has been compared with other global competitors to identify potential areas of opportunity for Welsh export, otherwise known as 'export value gaps'. This analysis can be used to help determine the key priority countries for Welsh exports, for example, looking at the top 10 export markets for 2019, plus those where Welsh Government has an office.

Germany

Top destination for Welsh goods exports (£2.87bn). Value gaps identified across multiple sectors, including Iron & steel, Furniture and Plastics where Wales has a moderate comparative advantage.

France

No. 2 destination for Welsh goods exports (2.81bn). Value gaps identified across

multiple sectors, including Power generating machinery where Wales has a strong comparative advantage.

United States of America

No.3 destination for Welsh goods exports (2.74bn). Value gaps identified across multiple sectors, including Other transport equipment where Wales has a strong comparative advantage and Plastics with a moderate comparative advantage.

Ireland

No.4 destination for Welsh exports (£1.69bn). Value gaps identified across multiple sectors, including Other transport equipment and Power generating machinery where Wales has a strong comparative advantage.

Netherlands

No.5 destination for Welsh exports (£0.97bn). Value gaps identified across multiple sectors. Iron & steel exports to The Netherlands has the largest value gap across all market-sector combinations. Power generating machinery, where Wales has a strong comparative advantage, also shows a value gap.

Belgium

No.6 destination for Welsh exports (£0.54bn). Value gaps identified across multiple sectors, including Power generating machinery where Wales has a strong comparative.

Spain

No.7 destination for Welsh goods exports (£0.46bn). Value gaps identified across multiple sectors, including Plastics and Furniture where Wales has a moderate comparative advantage.

United Arab Emirates

No.8 destination for Welsh goods exports (£0.46bn). Value gaps identified across multiple sectors, including Other transport equipment where Wales has a strong comparative advantage and Iron & steel with a moderate comparative advantage.

China

No.9 destination for Welsh goods exports (£0.41bn). Value gaps identified across multiple sectors, including Power generating machinery where Wales has a strong comparative and Iron & steel with a moderate comparative advantage.

Turkey

No.10 destination for Welsh goods exports (0.34bn). Value gaps identified across multiple sectors, including Other transport equipment where Wales has a strong comparative advantage and Iron & steel with a moderate comparative advantage.

Japan

No.11 destination for Welsh goods exports (£0.30bn). Value gaps identified across multiple sectors, including Power generating machinery where Wales has a strong comparative and Iron & steel with a moderate comparative advantage.

Canada

No.14 destination for Welsh goods exports (£0.23bn). Value gaps identified across multiple sectors, including Power generating machinery and Other transport equipment where Wales has a strong comparative advantage.

Qatar

No.17 destination for Welsh exports (£0.20bn). Export performance already exceeds our competitors in sectors where we have a comparative advantage. Multiple other sectors show a value gap against our competitors.

India

No.21 destination for Welsh goods exports (£0.13bn). Value gaps identified across multiple sectors, including Power generating machinery and Other transport equipment where Wales has a strong comparative advantage.

Other countries to consider from export value gap analysis. Looking at selected sectors where Wales has a comparative advantage reveals export value gaps with the following countries:

Iron and steel

Wales has a moderate comparative advantage.

Comparing to Finland, our most similar competitor, reveals export value gaps > £10million for these additional countries; Italy, Russia, Poland, Denmark, Norway.

Power generating machinery

Wales has a strong comparative advantage.

Comparing to Scotland, our most similar competitor, reveals export value gaps > £10million for these additional countries; Singapore, Malaysia, Hong Kong, Thailand, Norway.

Other transport equipment

Wales has a strong comparative advantage.

Comparing to Scotland, our most similar competitor, reveals export value gaps > £10million for these additional countries; Norway, Saudi Arabia, Brazil, Oman, Italy, Malaysia, Turkey.

Annex 5: comparator countries for SITC 2 product groups

Table 5: Wales' most similar competitor for each product group

Product Group (SITC 2) (a)	Most similar competitor
00 Live animals other than animals of division 03	Scotland
01 Meat & meat preparations	Scotland
02 Dairy products & birds' eggs	Finland
03 Fish, crustaceans, molluscs & aq.inverts & preps thereof	Finland
04 Cereals & cereal preparations	Finland
05 Vegetables & fruit	Norway
06 Sugar, sugar preparations & honey	Scotland
07 Coffee, tea, cocoa, spices & manufactures thereof	Scotland
08 Feeding stuff for animals (not inc.unmilled cereals)	Finland
09 Miscellaneous edible products & preparations	Norway

Product Group (SITC 2) (a)	Most similar competitor
11 Beverages	Finland
12 Tobacco & tobacco manufactures	Norway
21 Hides, skins & furskins, raw	Scotland
22 Oil seeds & oleaginous fruits	Norway
23 Crude rubber (including synthetic & reclaimed)	Finland
24 Cork & wood	Scotland
25 Pulp & waste paper	Scotland
26 Textile fibres not manufactured & their waste etc	Norway
27 Crude fertilizers & crude minerals (exc fuels etc)	Scotland
28 Metalliferous ores & metal scrap	Finland
29 Crude animal & vegetable materials n.e.s.	Finland
32 Coal, coke & briquettes	Ireland
33 Petroleum, petroleum products & related materials	Finland

Product Group (SITC 2) (a)	Most similar competitor
34 Gas, natural & manufactured	Finland
35 Electric current	Denmark
41 Animal oils & fats	Finland
42 Fixed vegetable fats & oils, crude, refined, fractionated	Scotland
43 Animal or vegetable fats & oils, processed, & waxes	Ireland
51 Organic chemicals	Finland
52 Inorganic chemicals	Denmark
53 Dyeing, tanning & colouring materials	Denmark
54 Medicinal & pharmaceutical products	Scotland
55 Essential oils & perfume materials; toilet preps etc	Denmark
56 Fertilizers (other than those of group 272)	Finland
57 Plastics in primary forms	Finland
58 Plastics in non-primary forms	Denmark

Product Group (SITC 2) (a)	Most similar competitor
59 Chemical materials & products n.e.s.	Denmark
61 Leather, leather manufactures n.e.s & dressed furskins	Norway
62 Rubber manufactures n.e.s.	Finland
63 Cork & wood manufactures (excluding furniture)	Scotland
64 Paper, paperboard & manufactures thereof	Denmark
65 Textile yarn, fabrics, made up articles etc	Norway
66 Non-metallic mineral manufactures n.e.s.	Denmark
67 Iron & steel	Finland
68 Non-ferrous metals	Scotland
69 Manufactures of metal n.e.s.	Scotland
71 Power generating machinery & equipment	Scotland
72 Machinery specialized for particular industries	Scotland
73 Metalworking machinery	Denmark

Product Group (SITC 2) (a)	Most similar competitor
74 General industrial machinery & eqp. & machine pt.n.e.s.	Ireland
75 Office machines & adp machines	Scotland
76 Telecomms & sound recording & reproducing app. & eqp.	Norway
77 Ele machinery, app & appliances & ele pt thereof n.e.s.	Ireland
78 Road vehicles (including air cushion vehicles)	Denmark
79 Other transport equipment	Scotland
81 P/fab buildings; sanit.,plumbing, heating &lighting fixt.	Norway
82 Furniture & parts thereof; bedding, mattresses etc	Norway
83 Travel goods, handbags & similar containers	Scotland
84 Articles of apparel & clothing accessories	Finland
85 Footwear	Finland
87 Professional, scientific & controlling ins & app n.e.s.	Denmark
88 Photographic & optical goods, n.e.s.; watches & clocks	Denmark

Product Group (SITC 2) (a)	Most similar competitor
89 Miscellaneous manufactured articles n.e.s.	Scotland
93 Special transactions and commodities not classified according to kind	Scotland
96 Coin (other than gold coin), not being of legal tender	Finland
98 Military arms and ammunition	None

Source: Source: WG analysis of HMRC Regional Trade statistics and UN comtrade

(a) n.e.s = not elsewhere specified.

Notes on the use of statistical articles

Statistical articles generally relate to one-off analyses for which there are no updates planned, at least in the short-term, and serve to make such analyses available to a wider audience than might otherwise be the case. They are mainly used to publish analyses that are exploratory in some way, for example:

- introducing a new experimental series of data
- a partial analysis of an issue which provides a useful starting point for further research but that nevertheless is a useful analysis in its own right
- drawing attention to research undertaken by other organisations, either commissioned by the Welsh Government or otherwise, where it is useful to highlight the conclusions, or to build further upon the research

- an analysis where the results may not be of as high quality as those in our routine statistical releases and bulletins, but where meaningful conclusions can still be drawn from the results

Where quality is an issue, this may arise in one or more of the following ways:

- being unable to accurately specify the timeframe used (as can be the case when using an administrative source)
- the quality of the data source or data used
- other specified reasons

However, the level of quality will be such that it does not significantly impact upon the conclusions. For example, the exact timeframe may not be central to the conclusions that can be drawn, or it is the order of magnitude of the results, rather than the exact results, that are of interest to the audience.

The analysis presented does not constitute a National Statistic, but may be based on National Statistics outputs and will nevertheless have been subject to careful consideration and detailed checking before publication. An assessment of the strengths and weaknesses in the analysis will be included in the article, for example comparisons with other sources, along with guidance on how the analysis might be used, and a description of the methodology applied.

Articles are subject to the release practices as defined by the **release practices protocol**, and so, for example, are published on a pre-announced date in the same way as other statistical outputs.

Missing value symbols used in the article follow the standards used in other statistical outputs, as outlined below.

.. The data item is not available
. The data item is not applicable
- The data item is not exactly zero, but estimated as zero or less than half the

final digit shown

* The data item is disclosive or not sufficiently robust for publication

Contact details

Statistician: Matt Evans
Tel: 0300 0252032
Email: **stats.trade@gov.wales**

Media: 0300 025 8099