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Customs and Excise regional trade statistics: a note

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United Kingdom Regional Trade In Goods Statistics, produced by HM Customs and Excise, (Customs and Excise: Quarterly) provide up-to-date quarterly information on exports and imports and were introduced in 1999 “to support the economic decision-making of the devolved Scottish Parliament, Assemblies, and regional bodies within the UK.”¹ Probing and analysis of the data which we undertook indicated a number of problems with the data, not least the wrongful inclusion in the Scottish data of a “catch all” UK category which for some industrial sectors represented almost 70% of the published Scottish data. The data, produced in the scope of National Statistics and “to high professional standards set out in the National Statistics Code of Practice”² were therefore unusable for the stated purpose. In July 2003, a new methodology was introduced by Customs and Excise with the purpose of clearing up earlier data problems. This article considers whether the data are now fit for purpose, and concludes that many problems still exist.

Background and description of the series

The quarterly data series on regional trade had its origin with HM Customs and Excise noting a market opportunity: the creation of the devolved administrations in Scotland, Wales, Northern Ireland, and the nine Government Offices for the Regions and Regional Development Agencies in England had led to a need for more information about the regional economies, including trade information. The trade declarations Customs & Excise already received from importers and exporters provided the most comprehensive record of the UK's international trade. (Note that regional trade refers to goods that have crossed the UK frontier: Customs and Excise do not receive information in respect of goods that move wholly within the UK).

The sources of the trade data are as follows:

For trade with countries in the EU, the basis is the Intrastat system: this was introduced in the European Community (EC) in 1993, and replaced customs declarations as the source of trade statistics within the EC. In total, around 180,000 UK traders are likely to be trading with other EU member states. Trade statistics information is collated from the VAT returns of all VAT registered businesses with total trade in goods with other EU Member States above a set

amount (£233,000 in 2002). For the UK the data covers approximately 30,000 companies, of whom 13,000 report Imports, 8,000 report Exports and 9,000 report both. The data covers 97.5% of the value of UK trade with other EU member states.

For trade with countries outside the European Union, as customs barriers are still there, the data is collated from Customs declarations submitted by companies. Trade is allocated to a country or region within the UK by the postcode associated with a company's VAT registration.

Difficulties with the data

In this section we note the problems with the data between 1999 and July 2003, and why these difficulties arose. Customs and Excise were aware of a number of issues concerning the quality of the data and had set in place systems to minimise the problems arising. These were:

Registering EU exports to the correct region/country within the UK

Exports to, and imports from, countries outside the EU already contain a regional coding, but this is not the case with intra EU trade. Regarding exports to the EC, efforts were made to try to ensure that manufacturing that takes place at branch premises is properly allocated to the country or region where the branch is situated.

Registering EU imports to the correct region/country within the UK

Such adjustments are not possible for imports from the EU and thus it is possible that trade is allocated to the country or region where the head office is situated, although attempts are made by Customs and Excise to clarify the destination of the imports: this is most likely to affect the London Region as many head offices are based there.

Illegible VAT Numbers

Some exports going outside the EU are missing from the regional statistics. The problem arises as some 80% of export declarations are submitted on paper. The VAT registration number (VRN) can then be occasionally either mis-read or mis-keyed or may be missing. Without a valid VRN trade cannot be allocated to a region. Improvements have been made by Customs and Excise to capture any large trade values: adjustments are then made to the programme to ensure such trade is allocated correctly to the region. Customs and Excise cannot say however whether any one region might be more affected than another.

Unallocatable trade

Certain goods, such as North Sea crude oil, ships and aircraft stores, and those not in free circulation, that are shipped to EU countries using traditional Customs declarations, were not allocated to a UK region. Imports and exports relating to overseas companies, registered for VAT in the UK, but with no place of business in the UK, were

Table 1 Value (£m) of UK imports from outside the EU per region

<i>Region</i>	1999	2000	2001	Q1/02	Q2/02	Q3/02
England	76016	91516	93237	21185	22932	21791
Scotland, as published	7659	8902	8698	1938	1825	1731
Scotland amended	6928	7969	7552	1493	1580	1495
"AB11 6GY"	731.6	932	1145.6	244.5	235.8	225.1
UK	88590	106678	107991	24243	26110	24671
Scotland as % UK as published	8.6	8.4	8.1	8.0	7.0	7.0
Scotland Amended % of UK	7.9	7.5	7.1	6.2	6.1	6.1

Table 2 Value (£m) of UK imports from the EU per region

<i>Region</i>	1999	2000	2001	Q1/02	Q2/02	Q3/02
England	87682	93015	96559	24633	24676	25518
Scotland, as published	3366	4574	4218	1018	1168	1165
Scotland amended	2680	3909	2773	567	755	802
"AB11 6GY"	687	752	1444	451	411	362
UK	93887	100843	104370	26583	26810	27698
Scotland as % UK as published	3.6	4.2	4.0	3.8	4.4	4.2
Scotland Amended % of UK	2.9	3.9	2.7	2.2	2.9	2.9

Note further amendment by Customs and Excise to £4,661m for Scottish Trade in 2000

Table 3 Value (£m) of UK exports outside the EU per region

<i>Region</i>	1999	2000	2001	Q1/02	Q2/02	Q3/02
England	47563	56971	57166	13089	14362	13600
Scotland, as published	4389	5664	5798	1365	1539	1424
Scotland amended	4382	5533	5546	1267	1448	1351
"AB11 6GY"	7	131	252	98	91	73
UK	54564	65856	66219	15091	16566	15684
Scotland as % UK as published	8.0	8.6	8.8	9.0	9.3	9.1
Scotland Amended % of UK	8.0	8.4	8.4	8.5	8.8	8.7

Table 4 Value (£m) of UK exports to the EU per region

<i>Region</i>	1999	2000	2001	Q1/02	Q2/02	Q3/02
England	66862	73960	75052	19690	20667	19011
Scotland, as published	11260	12557	13168	2726	2725	2632
Scotland amended	10207	11431	11001	2249	2218	2142
"AB11 6GY"	1053	1126	2167	477	507	490
UK	84159	93027	94933	23949	25064	23179
Scotland as % UK as published	13.4	13.5	13.9	11.4	10.9	11.4
Scotland Amended % of UK	12.3	12.4	11.9	9.6	9.0	9.4

excluded. Channel Islands and Isle of Man trade was also excluded.

A further difficulty existed, however. This arose because some foreign companies have only a skeleton presence within the UK, and Customs and Excise did not deem it meaningful to attribute any related trade flows to place of business. For administrative purposes they were all “parked” in one postcode, (AB11 6GY), which happened to be in Scotland. While trade statistics were only shown at a national UK level, this administrative convention caused no problems: once however the data source was used to provide regional data, the presence of this postcode in the Scottish data artificially inflated the figures. The presence of this category in the Scottish data affected EU and non-EU trade figures, exports and imports, but mostly imports.

Customs and Excise had been thought that this trade was fairly minimal. Requests by us to Customs and Excise for clarification of the size of AB11 6GY, however, led Customs and Excise to carry out a special exercise to extract the AB11 6GY data. This revealed that the trade in this category had had a substantial effect in distorting the Scottish data. (See tables below). Note that official statistics for regional trade published by Customs and Excise up until July 2003 show Scottish data distorted by this effect. Amended data for Scotland, stripping out this rogue postcode, are shown in the four tables below. These figures have been produced by the authors by correcting the HMCE published data using the figures for AB11 6GY produced for us in the above special exercise.

By far the greatest proportional effect of AB11 6GY trade on inflating Scottish trade was in imports from the EU, (Table 2), where in Quarter 1 of 2002, it accounted for 44% of the published trade in Scottish imports, but in all cases it has been both substantial and variable through time. Indeed, an analysis of AB11 6GY trade by sector shows that its imports from the EU in basic metals have been responsible for a large and variable part of Scotland’s published imports; that its clothing imports from the EU have been rising and are very variable, and that its electrical machinery imports from the EU can account for more than 50% of published Scottish imports.

Once the problem of “AB11 6GY” was stripped out of the Scottish data, and for consistency removed from the UK data, it was possible to examine the extent of some of the other problems by looking at what appeared to be anomalies in the data set.

The most important point to note was the very low percentage of imports allocated to Scotland from the EU, averaging less than 3% of UK imports from the EU in 2002 as can be seen from Table 2. (Note that Scotland’s population is around 8.6% of that of the UK). More detailed analysis indicates that, at the start of the data collection period in quarter 1 1999, only office machinery was greater than Scotland’s population share. Further, plastics, paper

products and metal products were the only other categories with more than 4.5% of UK imports. Motor vehicles and leather goods allocated to Scotland represented less than 1% of UK imports in these goods from the EU.

There were also unusual movements in the data: for example, clothing imports to Scotland jumped from 3.2% of UK imports from the EC in 2001 quarter 3 to 9.3% in the next quarter with a further jump to 13.2% two quarters later. Leather goods imports to Scotland jumped from 2.2% of UK leather imports in quarter 3 of 2000 to 8.4% in the next quarter and to 17% of UK imports in 2001 quarter 2. Office Machinery imports from the EC were extremely variable accounting for 27% of all office machinery imports to the UK from the EC in 2000 quarter 3 but dropping to 10% in 2001 quarter 1.

Regarding imports from outside the EU, motor vehicle imports to Scotland were again extremely low at 1% or less of UK motor vehicle imports.

All of the above points on the import data suggest that there are severe problems with the regional import data. It seems plausible to suggest that a primary cause of this is likely to relate to the Head Office attribution problem already referred to, although the variability in the data also suggests that there may be data screening issues as well.

The effects of the changes made in July 2003

In this section we examine the changes made to the methodology underpinning the series in July 2003 and examine what effect these have had on the series. A number of the changes made have little effect on the Scottish data. The major changes are:

1. A new “unknown” geographical area has been introduced which holds information on government trade, oil despatched to the EU which does not enter the UK, and the trade of private individuals and non VAT registered entities. Of major importance, however, is that the AB11 6GY trade has now been removed from the Scottish data and allocated to the “unknown” category.
2. As noted, the trade documented in regional trade statistics had referred only to that EU trade above the cut-off value threshold. Overseas Trade Statistics, also produced by Customs and Excise, makes an assessment of the size of below threshold trade for the UK. This method is now used in regional trade statistics to assign below threshold trade to regions and countries within the UK.
3. Continuing surveys are carried out of the top 200 traders by value of exports (EU and non-EU) to estimate the value and proportion of trade generated by their different facilities around the UK and to allocate regional export trade accordingly.

4. There has been a reduction in the incidence of incomplete trader information from around 12% to 4% within export data. Better postcode matching has resulted in a large increase in the coverage of regional trade statistics, and has been responsible for approximately 50% of the overall increase in the UK export data to non-EU countries resulting from the changes made by Customs and Excise.

However, there has been no improvement in the allocation of imports to final point of sale.

The new data set for Scotland (September 2003), comparing it with the earlier Customs and Excise series we amended for AB11 6GY is shown in the table below:

The figures for Scottish imports as a percentage of UK imports suggest that the changes made to the methodology have not overcome the problems identified earlier with the import figures.

It is worth considering the other forms of trade flow data which are available for Scotland in order to judge whether the new data from Customs and Excise does add value to our body of knowledge on the Scottish economy.

First, there is the Survey of Scottish Manufacturing and Exports: this has been conducted by the Scottish Council

Development and Industry since the early 1960s: (SCDI, annual). The companies surveyed are asked to provide information on the value and destination of their exports during the calendar year, however, in some instances, financial years are given. The survey allows detailed analysis of the value, industry breakdown and destination of Scottish exports. It is now supplemented with parallel surveys on primary goods and the service sector. While this is the most comprehensive survey carried out, the most up-to-date data available from it in September 2003 is for the year 2000.

Second, the Scottish Executive produces a Scottish Manufactured Exports series (seasonally adjusted) measuring sales of goods produced for export outwith the UK: (e.g., Scottish Executive, (2003)). The Office for National Statistics collects the data used to produce these figures in their Monthly Production Inquiry: for Scotland, the sample is just under 800 Scottish manufacturing exporters (covers all sizes of unit) in an average quarter. The series does not give an EU non-EU split and there are no figures available on imports.

A comparison of Customs and Excise results with the SCDI and Scottish Executive data is shown in the table below. These figures only cover the manufacturing sector, and the comparison suffers from the potential that like may not strictly be comparing with like.

Table 5 Value of Scotland trade as per regional trade statistics £million

	1999	2000	2001	Q1/02	Q2/02	Q2/03
Imports non-EU						
- amended for AB11 6GY	6928	7969	7552	1493	1580	1495
- newly revised by C&E	6818	7849	7396	1496	1490	1448
Revised as % of UK*	7.8	7.7	7.1	6.2	5.8	5.9
Imports from EU						
- amended for AB11 6GY	2680	3909	2773	567	755	802
- newly revised by C&E	3221	3539	3008	731	782	732
Revised as % of UK*	3.2	3.4	2.8	2.7	2.9	2.7
Exports to non-EU						
- amended for AB11 6GY	4382	5533	5546	1267	1448	1351
- newly revised by C&E	6474	8360	6996	1498	1664	1649
Revised as % of UK*	11.5	12.5	10.5	9.9	10.0	10.4
Exports to EU						
- amended for AB11 6GY	10207	11431	11001	2249	2218	2142
- newly revised by C&E	11141	11869	9690	2450	2245	2271
Revised as % of UK*	12.4	12.4	10.3	10.0	8.8	9.7

* Where UK trade is that part which can be allocated to regions and countries.

Table 6 Comparison of Customs and Excise Export Data with SCDI and Scottish Executive Data £ million

	1999	2000	2001
Scotland:			
Customs & Excise	17615	20229	16686
SCDI	20420	21056	
Scottish Executive	18497	18274	18605

We note from the table that the Customs and Excise data is lower than that for the other two series in 1999: it records higher export sales than the Scottish Executive in 2000, but drops to a much lower figure in 2001. Note too that the SCDI figures for Scotland are higher in both years than those from Customs and Excise.

Conclusions

We draw four main conclusions from the above.

1. As regards the Customs and Excise data on imports, the figures for imports as a percentage of the UK, (particularly EU imports), look inherently implausible. There is a rational reason to explain why this might be so – namely the difficulty of attributing imports to region given the Head Office problem. Moreover, it appears unlikely that this aspect of the data can be significantly improved, without setting up what would effectively amount to a method of collecting intra-UK data on the flows of goods. We question, therefore, whether this dataset is worth publishing – and also whether it is capable of being improved to publishable quality.
2. As regards the Customs and Excise export data, the data look inherently more plausible, both when assessed as a percentage of the UK, and in relation to the other data sources listed in Table 6. It is also clear, however, that there are very significant differences between the figures from these data sources – although this in itself does not imply that any one source is necessarily markedly inferior to the others. Given that two of the sources are produced by the government, we suggest that there is a clear onus on government to attempt to reconcile the Customs and Excise

and Scottish Executive figures – with a view to bringing the two series on to a consistent basis, or providing advice for users on which source is the more reliable. Clearly, if these two sources of export data could be reconciled, then the timeliness of Customs and Excise data, and the flexibility by which this data can be disaggregated by country and sector, would provide significant benefit for users.

If it were possible to extend the above reconciliation exercise to embrace the SCDI data too, this would be of even greater benefit for users.

3. Given the data quality issues highlighted above, there are clearly lessons to be learned about assessment of quality, fitness for purpose, assessing user requirements, and checking for consistency. It is somewhat surprising, that, despite these quality issues, the Customs and Excise data has been published under the Office of National Statistics kitemark. We suggest that greater attention to the types of issue identified should be inherent in the kitemarking process.
4. We recommend that greater effort should be put into improving trade data for Scotland, rather than abandoning the effort in the light of the kind of difficulties identified here. Accurate and up-to-date information on trade flows is an essential indicator of the overall health of an economy, and a vital early warning system on the emergence of potential problems in individual sectors.

References

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Endnotes

1. UK Regional Trade Statistics Methodology, July 2003, SATU, HM Customs and Excise
2. National Statistics, HM Customs & Excise website.

