



**HM Customs and Excise**  
Business Services and Taxes

# **EDICOM REPORT**

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**Development of Statistics by  
Segment of Activity with the  
objective to publish data at a  
community level**

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## Summary

The objective of this study is to explore the feasibility of producing tables of Intra EU trade information that are principally disaggregated by the primary activity of the trader. The primary objective is to create datasets of high quality, which are marketable to customers. This is supported by a secondary objective, which is to use resulting data sets to help improve the quality of the overall data, identifying potential misclassification amongst product/trader descriptions. If such areas can be identified they can be used to improve the quality of the data in subsequent outputs.

### 1). Background

In the UK it is the responsibility of HM Customs and Excise to collect statistical information relating to trade. Intra EU trade is captured via the Intrastat Supplementary Declarations (SDs) system, and Extra EU trade is captured via the CHIEF (Custom's Handling of Import/Export Freight) system.

In order to present detailed and meaningful analysis of trade statistics between countries a number of nomenclatures have been developed. These allow for the detailed description of goods by reporting countries so that discrepancies in particular areas can be identified and later explained through reconciliation exercises (mirror statistics or asymmetry exercises) undertaken as part of a country's quality monitoring work.

#### Existing Nomenclatures for publication of Trade Statistics

Presently there are three main nomenclatures for categorising commodities:

##### *Standard International Trade Classification (SITC)*

The SITC was developed in 1950, and was based on the League of Nation's recommended minimum list of commodities, which was published in 1937. This was the first trade classification to be developed by the UN, and it is the responsibility of the UN to maintain this system.

The SITC system has been revised three times, resulting in SITC Rev.1, SITC Rev.2, and SITC Rev.3, created in 1960, 1975 and 1985 respectively.

The SITC code is a maximum five-digit figure; each additional digit provides more information about the commodity being classified. The digits correspond to Section, Division, Group, Subgroup, and Item classifications. Each revision of the SITC has seen an increase in the numbers of items in the Subgroup and Item classifications.

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### *Harmonised Commodity Description and Coding System (HS)*

The Harmonised System was developed to act as a universal method of organising and classifying trade data; it was developed by the Customs Cooperation Council, now known as the World Customs Organisation.

There are 96 Chapters, organised into 21 sections, which allow users to locate the correct area in which to classify trade. The basic system itself uses six digits, although each country can add more digits for statistical purposes.

The UK uses eight digits for both Arrivals and Dispatches (Intra EU movements) and fifteen digits for both Imports and Exports (Extra EU movements).

As with SITC, the HS can be used in varying levels of detail, at two-digit (Chapter), four-digit (Heading), or six-digit (Sub-heading).

The HS system was implemented to harmonise the external trade statistics of all countries to allow for direct comparisons.

Up until the time of the introduction of the Harmonised System (HS), the SITC structure was the only system that allowed comparisons to be made on a worldwide basis. Now that HS is used throughout most of the world, SITC has declined in importance.

### *The Combined Nomenclature (CN)*

The CN that classifies goods at eight-digit level has been in use throughout the EU as an integrated classification for both Duty purposes and for trade statistics since 1 January 1988. With the introduction of Intra EC trade statistics (INTRASTAT) from 1 January 1993, the Intrastat Combined Nomenclature was compiled. It also provides details of eight-digit classifications and is made available to all businesses required to submit supplementary declarations by the body responsible for collecting Intrastat information. This system expands the HS6 system from a six-digit sub-heading level to an eight-digit commodity level, which allows for more detailed comparisons.

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## Standard Industrial Classification (SIC)

The Standard Industrial Classification (SIC) code is based on the NACE Rev 1 (the classification issued by the Statistical Office of the European Communities, referred to as the European Community Classification of Economic Activity), and is used to discern a trader's primary business. A SIC code is assigned to a trader upon registration for VAT, based on the description that the trader uses to describe their principal business. Principal business is described as the activity that the trader is most principally involved in, for example a university which also makes supplies of catering would be seen as principally a place of education, the catering would be seen as an additional service that the university provides. In some instances it is difficult to establish exactly what the primary business is, however in most cases a companies primary business can be categorised by the SIC system.

An official of HMCE verifies the SIC code during the course of the trader's first visit, and it is checked each time an assurance officer visits a trader's premises in order to ensure that the allocated code is still valid, i.e. that the trader's primary business has not changed in the intervening period.

The UK SIC is a hierarchical five-digit system that is divided into 17 sections, each denoted by a single letter from A to Q. Some sections are, in turn, divided into subsections (each denoted by the addition of a second letter). The letters of the sections or subsections can be uniquely defined by the next breakdown, the divisions (denoted by two-digits). The divisions are then broken down into groups (three-digits), then into classes (four-digits) and again into subclasses (five-digits).

Therefore the UK SIC code itself consists of five-digits, but can be examined at a two, three, four or five digit level, with each additional digit presenting more specific information about the trader's business. There are over 600 different five-digit SIC codes used to classify a trader's primary business.

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## Major Users of UK data

There are a number of different types of customers of UK trade data, both from the private sector and other government departments.

There are a number of regular outputs generated by the Product Development Team within the Statistics and Analysis of Trade Unit (SATU) of HMCE; some of these outputs are generated on behalf of users within SATU, and others are for external customers. Costs for specialised outputs may be charged to the customer.

At present there are around one hundred outputs of various complexities generated on a monthly basis, as well as some outputs that are generated to a quarterly or annual timetable.

### *External Users*

Intrastat data are transmitted to Eurostat for compilation and publication on the Comext database; this database holds detailed trade statistical information for Intra and Extra EU countries in a number of different statistical domains.

There are several government departments that make use of HMCE statistical data, these departments include amongst others:

- The Office for National Statistics (ONS), who use HMCE data in the calculation of National Accounts (NA) and Balance of Payments (BoP).
- The Ministry of Defence (MOD), who receive a cumulative annual file detailing trade in pre-agreed military commodities; this is used by the MOD in their publications of defence trade statistics.
- The Department of Trade and Industry (DTI), who receive monthly outputs containing information relating to movements of petroleum products and coal/coke.

Marketing agents and companies occasionally inquire about the possibility of buying trade data in specific areas or for specific commodities for which they have an interest or responsibility. In addition to this there are user groups of statistical data comprising members of trade associations and government departments who all have a vested interest in a certain type of data. These include the Business Statistics User Group (BSUG) and the International Trade User Group (ITSUG).

The Product Development Team also receives a number of requests to generate outputs on an *ad hoc* basis. These may or may not be possible to produce based on the parameters requested by the customer, and the issues surrounding confidentiality and disclosure. No data are released where a trader's details for trade value or type are visible/disclosed, or where a specific trader's details can be easily identified from a small group of traders.

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These *ad hoc* requests for data vary considerably, some customers would like trade statistics relating to a particular commodity or group of commodities, possibly relating to a specific country. Others request trade data split by for example the Port code or by the Mode of Transport used to enter/exit the country. Some data requests are not directly related to the trade statistics themselves, such as inquiries regarding duty rates for specific commodities.

Where it is possible to generate an output for the customer, the Product Development Team are sometimes asked to establish the output as one of their regular monthly productions.

There are a number of free data downloads available from the [www.uktradeinfo.com](http://www.uktradeinfo.com) website, including high-level import and export data. These datasets are updated monthly. This website also acts as a brochure for data users, showing examples of what sort of data are available. If a request is received for specific type of data this will be passed to the Product Development Team.

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## Existing Major Data Publications/Productions

There are a number of major trade statistics publications that HMCE produce on a regular basis; these include:

### *Overseas Trade Statistics (OTS)*

The Overseas Trade Statistics (OTS) are compiled by SATU and are published monthly, quarterly and annually by HMCE. These publications show the level of UK trade with all Intra and Extra EU partner countries by SITC.

### *Regional Trade Statistics (RTS)*

The Regional Trade Statistics (RTS) is produced quarterly, and shows overseas trade by the location of businesses within the UK at NUTS1 level, such that a weighting of industry type by region can be identified. UK Regional trade statistics were introduced in 1999 to support the economic decision-making of the devolved Scottish Parliament and Welsh Assembly, and regional bodies within England. These statistics provide a useful breakdown of the flows of exports and imports from regions of the UK to and from other countries.

In order to comply with the need to preserve confidentiality for traders there are instances where regional trade values cannot be shown. For instance, if a given region contained one very large trader and several smaller traders, the large trader's total trade might be too easily recognisable within the overall trade for the region. In these cases the trader counts would be published, but the trade values would be suppressed.

### *UK Trade Trends*

UK Trade Trends is produced and published online by SATU each quarter. As an information provider SATU works closely with all its customers to improve the provision of information at every level.

UK Trade Trends is a free, quarterly trade statistics journal. It aims to provide information on UK trade in the global market and contains quarterly import and export trade data tables on:

- Top 50 Trading Partner Countries
- Top 30 Products
- UK Regional Trade in Goods
- UK Trade by Industry, Quarterly and Annual
- Alcohol, Beverage and Tobacco Products, by area and the top 5 trading partners



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Monthly import and export trade data tables are available showing:

- Top 20 Products by Chapter
- Top 20 Products by SIC
- Top 20 Products by SITC
- Top 25 Trading Partners

As can be seen from above, there are some data available showing limited information regarding Trade Class, namely the Top 20 products by SIC. These tables are produced by the ONS on behalf of HMCE, and are reproduced on the UK Trade Info website ([www.uktradeinfo.com](http://www.uktradeinfo.com)).

In order to produce these tables, the ONS provide correlation tables, which map each HS6 level commodity to its principle SIC. For example, all trade within the sub-heading 870323 (Cars with a cylinder capacity between 1500 and 3000 cm<sup>3</sup>) would be mapped to SIC 341 (Manufacture of motor vehicles).

This method of correlation assumes that all goods should map exactly to the SIC of primary manufacture/extraction, so for example it maps all imports and exports of cars to a car manufacturer. However, in practice this is not the case. These tables are created by the ONS for the purposes of National Accounts to determine market penetration of specific goods, and they are not intended to show the relative size of industry types.

#### *Other Non-HMCE statistical publications*

In addition to the sources given above there are a number of other publications within other governments departments that make use of trade data provided by HMCE.

These include, amongst others, ONS, who use HMCE data in the compilation of the National Accounts Blue Book and the Balance of Payments Pink Book, and produce the monthly press First Release).

DTI use HMCE data as part of the free energy data published on their website, and the MOD publish two books each year detailing defence statistics.

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## Identification of new users

The product development team are approached on occasion by both existing and new customers to enquire about the possibility of delivering specific types of data, either as a one-off or an ongoing basis.

These might include specific breakdowns of trade using one of the more specialised indicators on the trade files, such as Mode of Transport (relating to the method by which the goods entered/left the country) or Port (the port via which the goods entered/left the country).

An output for a specific subset of trade might be requested, showing for instance all trade of a certain type, from a certain region, in a certain period.

One of the popular requests from customers is the availability of trade disaggregated by the Trade Class of the trader. Presently HMCE publish data tables showing the breakdown of all goods correlated to their primary SIC; however this is somewhat limited as it will map goods only to the SIC of primary industry, so for example every single Import or Export of cars would be mapped to the SIC related to the manufacture of cars.

The successful outcome of this project will see an additional output available, allowing users to request a breakdown of trade by SIC. Such an output will have to conform to current policies relating to trader confidentiality, suppressing where necessary any potentially revealing information that might allow a trader to be distinguished.

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## **2). Implementation work plan for the operation**

When considering the work involved in this project, there were three main areas to investigate:

- researching and detailing existing methods and systems;
- developing and testing a new methodology for the production of trade statistics disaggregated in a new format, and
- determining the quality of the output and the feasibility of marketing this product to both existing and new customers.

The main area of work for the project would be the development of a new system allowing the publication of trade statistics split primarily by the traders SIC code. This would require testing and corroboration with existing data sources such as the OTS and the RTS, in order to ensure that all data was captured and represented in the breakdown.

The method of using a trader's SIC code as the principal field of classification clearly relies heavily on the accuracy and completeness of the SIC code. If the SIC code was found to be inaccurate or incomplete on a substantial number of lines then the overall quality of the resulting datasets and outputs would suffer, causing the under/over representation of trade in certain SIC codes.

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### 3). Operation Objective

The main focus of this work is to create a high quality statistical output that shows the levels of trade and trader counts in each SIC code, and further to be able to show the breakdown of all trade at two, three, four or five-digit level SITC for a given SIC code.

The quality of the output produced will depend upon the quality of the underlying SIC code data. If the SIC data is not of a good enough quality to market the resulting output to customers, then the secondary objective of this project is to produce an output that will be of use to the VAT Operations area of HMCE, with a view to improving the overall quality of the SIC data. This can be achieved in two ways.

1. The traders that have a very different trading pattern compared to the other traders within the same SIC code can be identified. This assumes that a trader should be declaring trade in similar SITCs as those of its peers, and that a trader who's trading patterns are markedly different from those of its peers may have been misclassified.
2. Total trade conducted by all members of a given SIC can be examined, and the frequency with which certain SITCs appear amongst the total trade can be found. This means that if a trader has declared an amount of trade in an SITC which no other trader in the same SIC has used, this may indicate either an error in the SIC code, or an error in the SITC code used (misclassification), or alternatively there may be a legitimate explanation for this unusual trade. In these cases a form of compliance indicator will be created to determine the likelihood and validity of such an occurrence.

These outputs should not be disclosive if they are to be released outside of HMCE, i.e. a trader should not be directly identifiable in a group where there are very few traders for a given SIC code. While the actual number of traders within each SIC itself might not be disclosive, any attached information such as annual or monthly Intrastat declarations for a given period may well breach confidentiality rules if there are not enough traders to sufficiently obscure the details for the larger traders.

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#### **4). Human resource used. Any sub-contracting**

There was no sub-contracting. All resources came from within SATU and are detailed in the attached invoice, which gives a breakdown of time spent on the project by each individual.

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## **5). The equipment and software applications or programmes used**

The main application used to generate the outputs for the datasets was the SAS system, version 8.2, running on a Unix mainframe. The SAS system facilitates the manipulation of large volumes of data quickly and efficiently, and as such is the main resource used within SATU to manipulate/interrogate large data sets.

For data reformatting and presentation Microsoft Excel 2000 has been used, running on a Windows NT platform.

This report has been written using Microsoft Word 2000 running on a Windows NT platform.

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## 6). Description of the operation

Initially there was work required to obtain valid and current explanations of SITC goods at two, three, four and five digit level, and SIC breakdown lists at three and five digit level.

Obtaining the SIC information was a little more problematic than SITC as SITC tables are often used in the production of routine outputs. A trader's Trade Class is not recorded on Intrastat declarations, however it can be found in VAT data. A dataset was created, showing VRNs (VAT Registration Number) with Trade Class, so that a match could be made using Intrastat data. This was accomplished by grouping a large number of VAT records together in a database, retaining the VRN and Trade Class.

As the VAT files are created on a monthly basis it is possible for the same trader to appear 12 times over a year, so all duplicates were removed, ensuring that each trader only appeared once.

This provided a comprehensive list of all VAT registered traders, and their Trade Class at five-digit level, so that the matching exercise could be performed.

In order to provide explanations for the SIC groups it was also necessary to create a correlation table between all the possible Trade Classes and their descriptions. Unfortunately this file was not as easy to obtain as the SITC correlation; there were a number of delays and complications.

This information is available on the HMCE internal Intranet as part of the VAT Guidance for HMCE Officers, and is maintained by the VAT Operations area of HMCE. They supplied the SIC/Description correlation tables in the format of text files, so that the information could be easily read in to the SAS database after minor modification. In some cases the Trade Classes stated on the VRN/SIC correlation could not be matched to a description on the SIC/Description correlation table. This situation was due to two separate factors:

1. The VRN/SIC correlation table contained a Trade Class that was not valid, usually an old SIC that had not been updated to reflect a change in the nomenclature.
2. In some cases the SIC code given for a trader from the VAT data used an obsolete code. In many cases of no match, the specific unmatched SICs had been recoded; a particular example of this was in codes used to represent 'other' or elsewhere specified activities. Previously these codes simply used the next available code in the sequence, however the more recent definition seeks to reclassify many of these 'other' areas of industry with a five-digit code ending in a nine. This method

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makes it easier for future classifications/revisions to be added within the sequence, retaining the 'other' area as the last possible part of the industry type, without the need for changing a large number of the previous codes.

In these cases, the relevant correlation table was amended to contain the correct information so that future matches would be made without difficulties. This highlights some of the problems facing the task of matching SIC data from the VAT files to trade data. The quality of the original SIC data obviously underpins the quality of any resulting matched data set, so it was important that as many of the older SICs were updated as quickly and as efficiently as possible. By a series of investigations and lengthy analysis a list of correlations between old and new SICs was developed, this was then fed into the program creating the SIC data such that the older codes were replaced where necessary by the newer codes. This proved to be a problem only at SIC five-digit level; there were no incidences of changes observed at three-digit level.

There were a number of problems encountered where the initial programs did not output files in the correct way, for instance in one case it would only print results where a trader had declared for both Arrivals and Dispatches. These programs were tested repeatedly and debugged to ensure that all trade was captured, and that as much trade as possible was being matched. After this, the trade totals from the output were compared to the overall trade as reported in the corrected main files for the same period, in order to verify that all trade was being matched to a location.

After initial testing, the program was used to output results for one month's data (only generating one month's worth of data in a test rather than a year's worth dramatically reduced the calculation and processing time required). Once the monthly files had been created and checked, an output was generated for one year's data.

- **Was the original objective achieved?**

The principal objective of this exercise was to produce tables of suitable quality to market to external customers, fulfilling the demand for trade statistics disaggregated principally by the trader's SIC or Trade Class, and then detailing the total trade in each of these SICs.

There were several secondary objectives, which could have been achieved independently of the success of the main objective. These included increasing the accuracy of the underlying data, by updating or amending SIC information that appeared to be erroneous. Alternatively, a detailed split of trade within a specified SIC might also help to identify areas where possible misclassification of goods (either intentionally or unintentionally) is affecting the trading pattern or profile for the traders within a specific trade type. Both



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these problems would manifest themselves by causing a given trader within a group to appear out of place amongst their peers, trading in commodities very different from those other businesses within the same sector.

This approach would be subjective, and it would be difficult to design a definitive list of what trade would be expected and what trade would be unexpected for a given SIC. Nevertheless, such a detailed split of trade across SITC sections would form the basis for identifying the traders that sit closer to the 'normal' or expected profile, and which traders seem to be out of place, trading in SITC sections not used by their peers.

Further to this, there was also the possibility of constructing tables that showed the split across various SIC areas for a given commodity. These could prove useful as Intelligence information, allowing HMCE officers to quickly view the type of industries which are home to traders involved in certain high-risk commodities<sup>1</sup>, with a view to identifying traders who may have deliberately misclassified their SIC upon registration for VAT.

While it has been possible to produce the tables of information the quality of the underlying information requires improvement before being released to customers. However, the secondary objectives have all been met; it has been possible to generate a number of tables showing detailed splits of trade type within a given SIC, and also the split across different SIC areas of a single commodity. This has led to several areas of investigation that will ultimately help improve the quality of the underlying data and lead to a product that is marketable to external customers.

- **What were the results?**

There are issues arising out of the confidentiality of traders' Intrastat submissions, as a table of trade data by SIC might potentially reveal or indicate the level of trade of specific traders where, for example, there are only a few traders in a given SIC code for the period of interest.

For this reason the decision was made to suppress both the trade totals and the number of traders in SIC areas where there are three or less traders in a cell. In these cases, the trade total and the trader count will be overwritten as 'Suppressed', although this trade will continue to count towards the grand total of trade for the period of interest (assuming of course that at least two or more such areas are hidden in any one exercise). This means that, in general, the outputs that are displayed with most detail are those where trade has been aggregated over a longer period of time such as a year, and where SIC is at 3-digit level rather than at 5-digit level.

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<sup>1</sup>High-risk commodities might be defined as those commodities around which certain types of fraud or deceit are known to occur. A specific example of these would be mobile phones and computer chips, which are well known as items connected with MTIC (Missing Trader Intra Community) Fraud.

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Where there are sufficient traders in a given SIC code, such that it does not warrant a suppression, it has been possible to generate an output detailing the commodities traded by businesses within the SIC at four or five-digit SITC level.

In the production of the annual trade counts there were a number of traders for whom no SIC information could be matched to the VRN (as given in the trade data). This could theoretically occur for a number of reasons which we considered unlikely:

1. The trader may have declared Intrastat trade but not submitted a VAT return in the period of interest. This is unlikely as such a trader would be identified and investigated.
2. Since the SIC data is compiled from stacking monthly VAT data files it is possible that a trader submitted Intrastat trade but that the appropriate VAT return was not used in the creation of the SIC master list, so the trader cannot be matched. This is unlikely as the VAT data used corresponds to the period around the period of interest (for example the file matched against annual Intrastat trade would be made up from the VAT returns for the three years before, during and after the year of interest). In addition should the trader have submitted any VAT returns at all during this time (even if not corresponding directly to the Intrastat return) they would have been detected and matched to a SIC.
3. It is possible that the VAT number given on the Intrastat trade file is incorrect. This is possible but somewhat unlikely as the VAT number given would have to also be a valid VAT number (according to front end credibility checks) to be accepted by the system in the first instance.

There are however a number of likely explanations that could explain where these unknown SIC data lines have come from.

While generally a company submitting Intrastat returns but no VAT returns would be investigated as mentioned previously, this may not be true in all cases. There are a number of 'pseudo-vatregs' that exist representing, for example, other government departments and special VAT numbers under which data keyers can enter information into the trade statistics directly. Often these will have no corresponding VAT returns so will remain unmatched by this process.

There are also a number of lines of trade that enter the Intra-EU Trade Statistics but have not come from Intrastat. Sometimes EU trade is entered as a 'Third Country Diversion', this is trade that has originated from outside of the EU but may have moved to the UK from an intermediary EU country.

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This non-EU trade is not subject to such stringent front-end checks as the trade that has originated from Intrastat submissions, so the VAT field data not be as accurate for the purposes of this kind of matching exercise.

Part of this unmatched information might be regarded as potentially disclosive, as such it has been suppressed in the way that the SIC codes with fewer than four traders have been.

By determining the VRNs not matched initially by the process, and by checking these VRNs manually to determine the correct SIC, it would be possible to produce iterative outputs, with each successive run matching more and more of the previously unclassified SIC lines. This would be a resource intensive process but ultimately could be used to map each VRN to the correct SIC (or in some cases to a 'dummy' SIC if necessary).

Additionally, the Below Threshold Trade Allocations<sup>2</sup> (BTTAs) are entered into the trade statistics with no VRN, obviously the system of matching used here will therefore not be able to match such records to a SIC code. As such the BTTA lines are removed prior to matching, this gives grand totals of trade without the BTTAs. Note that it would be possible to match each line of BTTAs by comcode to the SIC of primary industry to assign them somewhere within the output, however this might be misleading for the purposes of what the output is attempting to show, therefore BTTAs have been removed altogether.

## Outputs

The following pages show a number of example outputs that could be made available to interested customers:

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<sup>2</sup> Below Threshold Trade Allocations are calculated by countries to account for the trade occurring below their own Intrastat threshold (some countries collect all Intrastat trade so do not need to estimate for trade below threshold).

Table 1: Number of Traders within each SIC code for Annual Arrivals in 2003

SIC class at 3-digit level	Description	Number of Traders	Value (£)	Traders as % of total	Value as % of total
011	Growing of crops; market gardening; horticulture	117	206,834,275	0.46	0.17
012	Farming of animals	44	92,733,370	0.17	0.08
013	Mixed farming	9	12,078,797	0.04	0.01
014	Agricultural and animal husbandry service activities, except veterinary activities; landscape gardening	23	14,108,279	0.09	0.01
015	Hunting, trapping and game propagation including related services	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
020	Forestry, logging and related services	5	4,051,130	0.02	0.00
050	Fishing and fish farms and related service activities	11	4,223,003	0.04	0.00
101	Mining and agglomeration of hard coal	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
111	Extraction of crude petroleum and natural gas	15	47,105,636	0.06	0.04
112	Incidental services excluding surveying	19	31,286,296	0.07	0.03
141	Quarrying of stone	12	45,893,642	0.05	0.04
142	Quarrying of sand and clay	11	16,990,474	0.04	0.01
143	Mining of chemical and fertiliser minerals	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
144	Production of salt	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
145	Other mining and quarrying not elsewhere classified	4	9,125,692	0.02	0.01
151	Production, processing and preserving of meat and meat products	128	1,139,478,200	0.50	0.93
152	Processing and preserving of fish and fish products	31	44,691,796	0.12	0.04
153	Processing and preserving of fruit and vegetables	64	302,870,055	0.25	0.25
154	Manufacture of vegetable and animal oils and fats	16	366,272,897	0.06	0.30
155	Manufacture of dairy products	50	536,035,828	0.19	0.44
156	Manufacture of grain mill products, starches and starch products	34	250,667,156	0.13	0.20
157	Manufacture of prepared animal feeds	47	415,033,005	0.18	0.34
158	Manufacture of other food products	204	1,057,812,605	0.79	0.86
159	Manufacture of beverages	66	920,546,413	0.26	0.75
160	Manufacture of tobacco products	5	266,576,106	0.02	0.22
171	Preparation and spinning of textile fibres	44	87,768,184	0.17	0.07
172	Textile weaving	50	73,940,064	0.19	0.06
173	Finishing of textiles	33	114,107,732	0.13	0.09
174	Manufacture of made-up textile articles, except apparel	97	121,943,616	0.38	0.10
175	Manufacture of other textiles	166	294,439,181	0.65	0.24
176	Manufacture of knitted and crocheted fabrics	18	11,548,140	0.07	0.01
177	Manufacture of knitted and crocheted articles	36	23,374,648	0.14	0.02
181	Manufacture of leather clothes	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
182	Manufacture of other wearing apparel and accessories	254	499,797,160	0.99	0.41
183	Dressing and dyeing of fur; manufacture of articles of fur	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
191	Tanning and dressing of leather	25	26,882,877	0.10	0.02
192	Manufacture of luggage, handbags, saddlery and harness	14	11,938,959	0.05	0.01
193	Manufacture of footwear	47	80,886,629	0.18	0.07
201	Sawmilling, planing and impregnation of wood	43	72,643,363	0.17	0.06
202	Manufacture of veneer sheets; plywood, fibre board, etc.	16	49,038,871	0.06	0.04
203	Manufacture of builders' carpentry and joinery	52	101,238,164	0.20	0.08
204	Manufacture of wooden containers	15	8,962,077	0.06	0.01
205	Manufacture of other wood products and articles of cork and straw	40	128,730,694	0.16	0.10
211	Manufacture of pulp, paper and paperboard	87	1,007,937,467	0.34	0.82
212	Manufacture of articles of paper and paperboard	259	1,013,935,003	1.01	0.82
221	Publishing	90	241,853,918	0.35	0.20
222	Printing and service activities relating to printing	199	396,216,942	0.77	0.32
223	Reproduction of recorded media	7	11,490,331	0.03	0.01
231	Manufacture of coke oven products	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
232	Manufacture of refined petroleum products	31	608,723,404	0.12	0.49
233	Processing of nuclear fuel	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
241	Manufacture of basic chemicals	203	1,722,390,471	0.79	1.40
242	Manufacture of pesticides and other agro-chemical products	9	37,795,336	0.04	0.03
243	Manufacture of paints, varnishes, printing ink and mastics	75	261,731,723	0.29	0.21

[needs enlarging please]

SIC class at 3-digit level	Description	Number of Traders	Value (£)	Traders as % of total	Value as % of total
245	Manufacture of soap, detergents, polish, perfumes etc.	75	745,316,329	0.29	0.61
246	Manufacture of other chemical products	194	1,365,884,292	0.75	1.11
247	Manufacture of man-made fibres	17	84,156,948	0.07	0.07
251	Manufacture of rubber products	118	731,337,831	0.46	0.59
252	Manufacture of plastic products	471	1,041,168,444	1.83	0.85
261	Manufacture of glass and glass products	107	249,278,781	0.42	0.20
262	Manufacture of non-refractory ceramic goods other than for construction and of refractory ceramic products	52	97,031,294	0.20	0.08
263	Manufacture of ceramic tiles and flags	9	12,357,974	0.04	0.01
264	Manufacture of bricks, tiles and construction products, in baked clay	19	35,177,300	0.07	0.03
265	Manufacture of cement, lime and plaster	8	59,549,098	0.03	0.05
266	Manufacture of articles of concrete, plaster and cement	45	165,027,405	0.18	0.13
267	Cutting, shaping and finishing of stone	15	15,934,389	0.06	0.01
268	Manufacture of other non-metallic mineral products	46	108,240,939	0.18	0.09
271	Manufacture of basic iron and steel and of ferro-alloys	47	688,373,915	0.18	0.56
272	Manufacture of tubes	25	62,447,335	0.10	0.05
273	Other first processing of iron and steel	39	66,374,547	0.15	0.05
274	Manufacture of basic precious and non-ferrous metals	101	393,016,423	0.39	0.32
275	Casting of metals	35	57,875,579	0.14	0.05
281	Manufacture of structural metal products	100	140,535,116	0.39	0.11
282	Manufacture of metal tanks and containers, central heating radiators and boilers	25	87,956,149	0.10	0.07
283	Manufacture of steam generators, except central heating boilers	18	70,080,685	0.07	0.06
284	Metal forging, pressing, stamping and roll forming, powder metallurgy	44	85,247,981	0.17	0.07
285	Treatment and coating of metals; general mechanical engineering	180	411,499,738	0.70	0.33
286	Manufacture of cutlery, tools and general hardware	74	143,566,262	0.29	0.12
287	Manufacture of other fabricated metal products	228	630,046,015	0.89	0.51
291	Manufacture of machinery for mechanical power, except aircraft, vehicle and cycle engines	202	748,112,593	0.79	0.61
292	Manufacture of other general purpose machinery	316	715,175,720	1.23	0.58
293	Manufacture of agricultural and forestry machinery	61	308,338,962	0.24	0.25
294	Manufacture of machine tools	84	229,151,245	0.33	0.19
295	Manufacture of other special purpose machinery	254	1,038,486,779	0.99	0.84
296	Manufacture of weapons and ammunition	14	33,774,096	0.05	0.03
297	Manufacture of domestic appliances not elsewhere classified	40	325,153,009	0.16	0.26
300	Manufacture of office machinery and computers	97	1,470,275,032	0.38	1.19
311	Manufacture of electric motors, generators and transformers	42	104,447,086	0.16	0.08
312	Manufacture of electricity distribution and control apparatus	67	268,046,166	0.26	0.22
313	Manufacture of insulated wire and cable	40	142,783,967	0.16	0.12
314	Manufacture of accumulators, primary cells and primary batteries	16	38,338,126	0.06	0.03
315	Manufacture of lighting equipment and electric lamps	45	79,757,773	0.18	0.06
316	Manufacture of electrical equipment not elsewhere classified	169	899,139,545	0.66	0.73
321	Manufacture of electronic valves and tubes and other electronic components	109	523,353,595	0.42	0.43
322	Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy	45	356,003,880	0.18	0.29
323	Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods	62	584,358,471	0.24	0.47
331	Manufacture of medical and surgical equipment and orthopaedic appliances	97	294,406,898	0.38	0.24
332	Manufacture of equipment for measuring, testing, navigating etc., except industrial process control equipment	158	287,714,119	0.61	0.23
333	Manufacture of industrial process control equipment	25	73,546,688	0.10	0.06
334	Manufacture of optical instruments and photographic equipment	34	72,188,093	0.13	0.06

SIC class at 3-digit level	Description	Number of Traders	Value (£)	Traders as % of total	Value as % of total
335	Manufacture of watches and clocks	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
341	Manufacture of motor vehicles	45	10,801,338,332	0.18	8.77
342	Manufacture of bodies for motor vehicles; manufacture of trailers and semi-trailers	62	214,141,708	0.24	0.17
343	Manufacture of parts and accessories for motor vehicles and their engines	207	1,701,791,245	0.81	1.38
351	Building and repairing of ships and boats	43	86,539,636	0.17	0.07
352	Manufacture of railway and tramway locomotives and rolling stock	8	95,096,205	0.03	0.08
353	Manufacture of aircraft and spacecraft	65	992,746,260	0.25	0.81
354	Manufacture of motorcycles and bicycles	17	39,985,597	0.07	0.03
355	Manufacture of other transport equipment not elsewhere classified	22	146,382,307	0.09	0.12
361	Manufacture of furniture	286	525,977,255	1.11	0.43
362	Manufacture of jewellery and related articles	41	95,681,600	0.16	0.08
363	Manufacture of musical instruments	7	3,128,741	0.03	0.00
364	Manufacture of sports goods	14	18,517,027	0.05	0.02
365	Manufacture of games and toys	20	22,126,203	0.08	0.02
366	Miscellaneous manufacturing not elsewhere classified	496	1,277,345,495	1.93	1.04
371	Recycling of metal and scrap	17	26,835,190	0.07	0.02
372	Recycling of non-metal and scrap	13	8,022,189	0.05	0.01
401	Production and distribution of electricity	27	70,627,523	0.11	0.06
402	Manufacture of gas; distribution of gaseous fuels through mains	13	111,010,953	0.05	0.09
410	Collection, purification and distribution of water	12	31,688,011	0.05	0.03
451	Site preparation	5	799,142	0.02	0.00
452	General construction of buildings and civil engineering works	225	375,444,037	0.88	0.30
453	Building installation	145	256,240,836	0.56	0.21
454	Building completion	131	218,351,228	0.51	0.18
455	Renting of construction or demolition equipment with operator	10	5,232,285	0.04	0.00
501	Sale of motor vehicles	482	13,634,383,342	1.88	11.07
502	Maintenance and repair of motor vehicles	85	106,956,444	0.33	0.09
503	Sale of motor vehicle parts and accessories	347	927,806,471	1.35	0.75
504	Sale, maintenance and repair of motorcycles and related parts and accessories	65	79,360,498	0.25	0.06
505	Retail sale of automotive fuel	14	241,656,543	0.05	0.20
511	Agents involved in wholesale	1,009	3,252,544,450	3.93	2.64
512	Wholesale of agricultural raw materials and live animals	278	679,420,963	1.08	0.55
513	Wholesale of food, beverages and tobacco	1,384	5,666,021,996	5.39	4.60
514	Wholesale of household goods	1,949	8,324,942,834	7.58	6.76
515	Wholesale of non-agricultural intermediate products, waste and scrap	1,458	5,418,193,482	5.67	4.40
518	Wholesale of machinery, equipment and supplies	1,420	6,692,516,139	5.53	5.44
519	Other wholesale	1,840	4,860,222,488	7.16	3.95
521	Retail sale in non-specialised stores	115	2,097,817,675	0.45	1.70
522	Retail sale of food, beverages and tobacco in specialised stores	150	488,304,897	0.58	0.40
523	Retail sale of pharmaceutical and medical goods, cosmetics and toiletries	104	400,842,013	0.40	0.33
524	Other retail sale of new goods in specialised stores	1,801	5,025,452,982	7.01	4.08
525	Retail sale of second-hand goods in stores	60	75,333,649	0.23	0.06
526	Retail sale not in stores	207	702,023,480	0.81	0.57
527	Repair of personal and household goods	31	80,094,341	0.12	0.07
551	Hotels	12	13,116,652	0.05	0.01
552	Camping sites and other short-stay accommodation	7	5,591,497	0.03	0.00
553	Restaurants	30	39,560,218	0.12	0.03
554	Bars	9	6,220,316	0.04	0.01
555	Canteens and catering	14	13,209,056	0.05	0.01
601	Transport via railways	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
602	Other land transport	77	237,271,956	0.30	0.19
611	Sea and coastal transport	10	54,132,683	0.04	0.04
612	Inland water transport	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
621	Scheduled air transport	18	433,443,396	0.07	0.35
622	Non-scheduled air transport	5	19,370,412	0.02	0.02
631	Cargo handling and storage	58	136,477,097	0.23	0.11
632	Other supporting transport activities	44	325,109,938	0.17	0.26

SIC class at 3-digit level	Description	Number of Traders	Value (£)	Traders as % of total	Value as % of total
633	Activities of travel agencies and tour operators; tourist assistance activities not elsewhere classified	5	1,762,708	0.02	0.00
634	Activities of other transport agencies	68	156,650,183	0.26	0.13
641	Post and courier activities	6	10,231,868	0.02	0.01
642	Telecommunications	137	2,177,801,199	0.53	1.77
651	Monetary intermediation	17	101,560,088	0.07	0.08
652	Other financial intermediation	40	385,643,199	0.16	0.31
660	Insurance and pension funding, except compulsory social security	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
671	Activities auxiliary to financial intermediation, except insurance and pension funding	8	15,971,305	0.03	0.01
672	Activities auxiliary to insurance and pension funding	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
701	Real estate activities with own property	21	29,377,501	0.08	0.02
702	Letting of own property	24	48,272,254	0.09	0.04
703	Real estate activities on a fee or contract basis	11	64,974,762	0.04	0.05
711	Car and van rental	19	22,628,218	0.07	0.02
712	Renting of other transport equipment	19	10,709,952	0.07	0.01
713	Renting of other machinery and equipment	80	160,474,169	0.31	0.13
714	Renting of personal and household goods not elsewhere classified	9	4,756,186	0.04	0.00
721	Hardware consultancy	26	23,088,816	0.10	0.02
722	Software consultancy and supply	152	541,258,846	0.59	0.44
723	Data processing	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
724	Data base activities	4	3,588,677	0.02	0.00
725	Maintenance and repair of office, accounting and computing machinery	22	45,036,747	0.09	0.04
726	Other computer related activities	254	1,657,218,914	0.99	1.35
731	Research and experimental development on natural sciences and engineering	47	113,344,978	0.18	0.09
732	Research and experimental development on social sciences and humanities	4	32,023,365	0.02	0.03
741	Legal and accounting activities, etc.; tax, business and management consultancy; market research, etc.; holdings	361	1,457,581,505	1.40	1.18
742	Architectural and engineering activities and related consultancy	77	139,825,371	0.30	0.11
743	Technical testing and analysis	16	47,491,661	0.06	0.04
744	Advertising	21	28,266,571	0.08	0.02
745	Labour recruitment and provision of personnel	12	23,545,759	0.05	0.02
746	Investigation and security activities	17	18,367,195	0.07	0.01
747	Industrial cleaning	5	3,510,925	0.02	0.00
748	Miscellaneous business activities not elsewhere classified	634	2,420,005,191	2.47	1.97
751	Administration of the State and the economic and social policy of the community	13	5,361,531	0.05	0.00
752	Provision of services to the community as a whole	9	20,691,167	0.04	0.02
802	Secondary education	6	14,916,395	0.02	0.01
803	Higher education	18	16,427,231	0.07	0.01
804	Adult and other education	5	12,232,392	0.02	0.01
851	Human health activities	36	91,266,678	0.14	0.07
852	Veterinary activities	9	4,651,537	0.04	0.00
853	Social work activities	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
900	Sewage and refuse disposal, sanitation and similar activities	7	9,996,090	0.03	0.01
913	Other membership organisations	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
921	Motion picture and video activities	18	80,604,598	0.07	0.07
922	Radio and television activities	9	6,621,328	0.04	0.01
923	Other entertainment activities	23	54,246,469	0.09	0.04
924	News agency activities	4	186,281	0.02	0.00
925	Library, archives, museums and other cultural activities	5	4,518,381	0.02	0.00
926	Sporting activities	37	40,225,829	0.14	0.03
927	Other recreational activities	10	3,841,458	0.04	0.00
930	Other service activities	615	1,358,401,882	2.39	1.10
990	Extra-territorial organisations and bodies	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
Unknown	Unknown	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
Total		25,696	123,133,019,218	100.00	100.00

Source: HMCE Intrastat and VAT data



Table 2: Number of traders within each SIC code for Dispatches in 2003

SIC class at 3-digit level	Description	Number of Traders	Value (£)	Traders as % of total	Value as % of total
011	Growing of crops; market gardening; horticulture	24	11,319,188	0.12	0.01
012	Farming of animals	35	153,943,135	0.18	0.15
013	Mixed farming	5	3,690,630	0.03	0.00
014	Agricultural and animal husbandry service activities, except veterinary activities; landscape gardening	18	6,652,139	0.09	0.01
020	Forestry, logging and related services	5	2,460,234	0.03	0.00
050	Fishing and fish farms and related service activities	40	62,696,898	0.20	0.06
101	Mining and agglomeration of hard coal	5	7,848,156	0.03	0.01
111	Extraction of crude petroleum and natural gas	14	878,238,231	0.07	0.86
112	Incidental services excluding surveying	19	53,318,674	0.10	0.05
141	Quarrying of stone	13	45,011,043	0.07	0.04
142	Quarrying of sand and clay	14	180,224,675	0.07	0.18
143	Mining of chemical and fertiliser minerals	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
144	Production of salt	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
145	Other mining and quarrying not elsewhere classified	4	2,795,399	0.02	0.00
151	Production, processing and preserving of meat and meat products	80	406,493,381	0.41	0.40
152	Processing and preserving of fish and fish products	80	179,651,496	0.41	0.18
153	Processing and preserving of fruit and vegetables	51	231,902,302	0.26	0.23
154	Manufacture of vegetable and animal oils and fats	15	441,008,427	0.08	0.43
155	Manufacture of dairy products	34	275,835,601	0.17	0.27
156	Manufacture of grain mill products, starches and starch products	28	136,832,084	0.14	0.13
157	Manufacture of prepared animal feeds	43	229,452,793	0.22	0.23
158	Manufacture of other food products	173	841,093,787	0.88	0.83
159	Manufacture of beverages	70	507,698,585	0.36	0.50
160	Manufacture of tobacco products	6	163,638,425	0.03	0.16
171	Preparation and spinning of textile fibres	46	118,555,633	0.23	0.12
172	Textile weaving	50	111,495,406	0.25	0.11
173	Finishing of textiles	37	132,808,167	0.19	0.13
174	Manufacture of made-up textile articles, except apparel	79	101,523,585	0.40	0.10
175	Manufacture of other textiles	153	318,737,490	0.78	0.31
176	Manufacture of knitted and crocheted fabrics	15	10,403,369	0.08	0.01
177	Manufacture of knitted and crocheted articles	43	50,465,775	0.22	0.05
181	Manufacture of leather clothes	9	3,209,075	0.05	0.00
182	Manufacture of other wearing apparel and accessories	276	433,805,606	1.40	0.43
183	Dressing and dyeing of fur; manufacture of articles of fur	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
191	Tanning and dressing of leather	24	92,451,560	0.12	0.09
192	Manufacture of luggage, handbags, saddlery and harness	26	19,931,491	0.13	0.02
193	Manufacture of footwear	38	60,373,022	0.19	0.06
201	Sawmilling, planing and impregnation of wood	13	15,119,845	0.07	0.01
202	Manufacture of veneer sheets; plywood, fibre board, etc.	12	40,954,109	0.06	0.04
204	Manufacture of wooden containers	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
205	Manufacture of other wood products and articles of cork and straw	33	63,066,232	0.17	0.06
211	Manufacture of pulp, paper and paperboard	68	602,201,050	0.35	0.59
212	Manufacture of articles of paper and paperboard	206	744,483,744	1.05	0.73
221	Publishing	149	588,636,971	0.76	0.58
222	Printing and service activities relating to printing	193	331,793,260	0.98	0.33
223	Reproduction of recorded media	12	49,979,244	0.06	0.05
231	Manufacture of coke oven products	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
232	Manufacture of refined petroleum products	34	1,430,475,162	0.17	1.41
233	Processing of nuclear fuel	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
241	Manufacture of basic chemicals	209	2,103,603,994	1.06	2.07
242	Manufacture of pesticides and other agro-chemical products	14	83,075,054	0.07	0.08



SIC class at 3-digit level	Description	Number of Traders	Value (£)	Traders as % of total	Value as % of total
243	Manufacture of paints, varnishes, printing ink and mastics	76	373,470,907	0.39	0.37
244	Manufacture of pharmaceuticals and medicinal chemicals	123	5,331,130,882	0.62	5.24
245	Manufacture of soap, detergents, polish, perfumes etc.	88	739,193,085	0.45	0.73
246	Manufacture of other chemical products	194	1,817,930,606	0.99	1.79
247	Manufacture of man-made fibres	18	276,241,507	0.09	0.27
251	Manufacture of rubber products	122	638,644,736	0.62	0.63
252	Manufacture of plastic products	472	1,104,951,108	2.40	1.09
261	Manufacture of glass and glass products	70	178,806,460	0.36	0.18
262	Manufacture of non-refractory ceramic goods other than for construction and of refractory ceramic products	73	137,774,554	0.37	0.14
263	Manufacture of ceramic tiles and flags	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
264	Manufacture of bricks, tiles and construction products, in baked clay	14	67,403,918	0.07	0.07
265	Manufacture of cement, lime and plaster	6	67,407,729	0.03	0.07
266	Manufacture of articles of concrete, plaster and cement	35	116,022,916	0.18	0.11
267	Cutting, shaping and finishing of stone	6	1,425,308	0.03	0.00
268	Manufacture of other non-metallic mineral products	42	75,572,009	0.21	0.07
271	Manufacture of basic iron and steel and of ferro-alloys	49	1,414,729,726	0.25	1.39
272	Manufacture of tubes	38	49,704,147	0.19	0.05
273	Other first processing of iron and steel	36	126,953,645	0.18	0.12
274	Manufacture of basic precious and non-ferrous metals	105	1,462,064,121	0.53	1.44
275	Casting of metals	72	219,503,154	0.37	0.22
281	Manufacture of structural metal products	94	145,146,034	0.48	0.14
282	Manufacture of metal tanks and containers, central heating radiators and boilers	32	40,159,177	0.16	0.04
283	Manufacture of steam generators, except central heating boilers	19	37,376,878	0.10	0.04
284	Metal forging, pressing, stamping and roll forming, powder metallurgy	75	135,883,655	0.38	0.13
285	Treatment and coating of metals; general mechanical engineering	259	549,422,521	1.32	0.54
286	Manufacture of cutlery, tools and general hardware	131	282,819,570	0.67	0.28
287	Manufacture of other fabricated metal products	315	628,960,489	1.60	0.62
291	Manufacture of machinery for mechanical power, except aircraft, vehicle and cycle engines	248	1,192,237,664	1.26	1.17
292	Manufacture of other general purpose machinery	374	794,304,289	1.90	0.78
293	Manufacture of agricultural and forestry machinery	66	225,396,147	0.34	0.22
294	Manufacture of machine tools	138	367,192,870	0.70	0.36
295	Manufacture of other special purpose machinery	368	1,679,056,683	1.87	1.65
296	Manufacture of weapons and ammunition	17	16,099,888	0.09	0.02
297	Manufacture of domestic appliances not elsewhere classified	43	224,883,801	0.22	0.22
300	Manufacture of office machinery and computers	136	781,312,859	0.69	0.77
311	Manufacture of electric motors, generators and transformers	65	93,111,262	0.33	0.09
312	Manufacture of electricity distribution and control apparatus	77	189,461,038	0.39	0.19
313	Manufacture of insulated wire and cable	40	190,469,586	0.20	0.19
314	Manufacture of accumulators, primary cells and primary batteries	14	73,321,232	0.07	0.07
315	Manufacture of lighting equipment and electric lamps	57	110,930,994	0.29	0.11
316	Manufacture of electrical equipment not elsewhere classified	220	932,803,185	1.12	0.92
321	Manufacture of electronic valves and tubes and other electronic components	168	1,311,132,945	0.85	1.29
322	Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy	79	404,262,102	0.40	0.40

SIC class at 3-digit level	Description	Number of Traders	Value (£)	Traders as % of total	Value as % of total
323	Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods	96	969,500,317	0.49	0.95
331	Manufacture of medical and surgical equipment and orthopaedic appliances	157	625,674,617	0.80	0.62
332	Manufacture of equipment for measuring, testing, navigating etc., except industrial process control equipment	304	624,482,428	1.54	0.61
333	Manufacture of industrial process control equipment	36	93,934,618	0.18	0.09
334	Manufacture of optical instruments and photographic equipment	55	112,187,085	0.28	0.11
335	Manufacture of watches and clocks	6	5,961,941	0.03	0.01
341	Manufacture of motor vehicles	43	3,752,913,032	0.22	3.69
342	Manufacture of bodies for motor vehicles; manufacture of trailers and semi-trailers	54	140,027,188	0.27	0.14
343	Manufacture of parts and accessories for motor vehicles and their engines	226	1,786,146,121	1.15	1.76
351	Building and repairing of ships and boats	54	180,275,144	0.27	0.18
352	Manufacture of railway and tramway locomotives and rolling stock	5	6,612,642	0.03	0.01
353	Manufacture of aircraft and spacecraft	74	4,292,507,501	0.38	4.22
354	Manufacture of motorcycles and bicycles	12	76,183,457	0.06	0.07
355	Manufacture of other transport equipment not elsewhere classified	24	197,713,663	0.12	0.19
361	Manufacture of furniture	188	238,698,000	0.95	0.23
362	Manufacture of jewellery and related articles	30	43,209,080	0.15	0.04
363	Manufacture of musical instruments	5	10,617,344	0.03	0.01
364	Manufacture of sports goods	39	66,270,536	0.20	0.07
365	Manufacture of games and toys	42	43,936,680	0.21	0.04
366	Miscellaneous manufacturing not elsewhere classified	609	2,002,394,967	3.09	1.97
371	Recycling of metal and scrap	21	88,890,648	0.11	0.09
372	Recycling of non-metal and scrap	13	9,670,176	0.07	0.01
401	Production and distribution of electricity	14	133,281,718	0.07	0.13
402	Manufacture of gas; distribution of gaseous fuels through mains	6	488,461,492	0.03	0.48
410	Collection, purification and distribution of water	4	9,488,347	0.02	0.01
451	Site preparation	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
452	General construction of buildings and civil engineering works	123	194,994,608	0.62	0.19
453	Building installation	79	69,529,665	0.40	0.07
454	Building completion	43	44,322,963	0.22	0.04
455	Renting of construction or demolition equipment with operator	9	8,205,216	0.05	0.01
501	Sale of motor vehicles	160	4,936,432,827	0.81	4.85
502	Maintenance and repair of motor vehicles	45	79,606,507	0.23	0.08
503	Sale of motor vehicle parts and accessories	227	793,064,792	1.15	0.78
504	Sale, maintenance and repair of motorcycles and related parts and accessories	15	6,763,323	0.08	0.01
505	Retail sale of automotive fuel	6	1,076,884,586	0.03	1.06
511	Agents involved in wholesale	594	1,321,299,688	3.02	1.30
512	Wholesale of agricultural raw materials and live animals	98	487,718,709	0.50	0.48
513	Wholesale of food, beverages and tobacco	567	1,986,767,694	2.88	1.95
514	Wholesale of household goods	1,420	5,353,770,677	7.21	5.26
515	Wholesale of non-agricultural intermediate products, waste and scrap	693	4,220,661,446	3.52	4.15
518	Wholesale of machinery, equipment and supplies	904	3,219,416,351	4.59	3.17
519	Other wholesale	1,037	3,734,095,702	5.27	3.67
521	Retail sale in non-specialised stores	41	230,258,028	0.21	0.23
522	Retail sale of food, beverages and tobacco in specialised stores	67	259,206,671	0.34	0.25
523	Retail sale of pharmaceutical and medical goods, cosmetics and toiletries	49	415,805,400	0.25	0.41
524	Other retail sale of new goods in specialised stores	592	3,130,849,948	3.01	3.08

SIC class at 3-digit level	Description	Number of Traders	Value (£)	Traders as % of total	Value as % of total
525	Retail sale of second-hand goods in stores	51	63,384,794	0.26	0.06
526	Retail sale not in stores	94	562,200,412	0.48	0.55
527	Repair of personal and household goods	22	69,619,096	0.11	0.07
551	Hotels	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
552	Camping sites and other short-stay accommodation	5	7,837,369	0.03	0.01
553	Restaurants	5	2,649,952	0.03	0.00
554	Bars	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
555	Canteens and catering	4	682,490	0.02	0.00
602	Other land transport	62	27,650,939	0.31	0.03
611	Sea and coastal transport	15	106,628,946	0.08	0.10
621	Scheduled air transport	15	87,729,794	0.08	0.09
622	Non-scheduled air transport	5	22,975,124	0.03	0.02
631	Cargo handling and storage	36	76,283,562	0.18	0.08
632	Other supporting transport activities	30	94,353,351	0.15	0.09
633	Activities of travel agencies and tour operators; tourist assistance activities not elsewhere classified	9	12,887,817	0.05	0.01
634	Activities of other transport agencies	119	142,686,857	0.60	0.14
641	Post and courier activities	13	77,462,776	0.07	0.08
642	Telecommunications	224	2,591,050,200	1.14	2.55
651	Monetary intermediation	7	47,298,612	0.04	0.05
652	Other financial intermediation	26	39,638,834	0.13	0.04
671	Activities auxiliary to financial intermediation, except insurance and pension funding	9	10,307,846	0.05	0.01
672	Activities auxiliary to insurance and pension funding	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
701	Real estate activities with own property	11	6,855,934	0.06	0.01
702	Letting of own property	12	25,924,113	0.06	0.03
703	Real estate activities on a fee or contract basis	5	15,274,868	0.03	0.02
711	Car and van rental	5	5,196,058	0.03	0.01
712	Renting of other transport equipment	11	5,373,940	0.06	0.01
713	Renting of other machinery and equipment	62	42,166,180	0.31	0.04
714	Renting of personal and household goods not elsewhere classified	6	8,492,196	0.03	0.01
721	Hardware consultancy	22	77,202,037	0.11	0.08
722	Software consultancy and supply	178	490,262,895	0.90	0.48
723	Data processing	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
724	Data base activities	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
725	Maintenance and repair of office, accounting and computing machinery	13	25,801,030	0.07	0.03
726	Other computer related activities	253	1,890,038,191	1.28	1.86
731	Research and experimental development on natural sciences and engineering	46	37,503,743	0.23	0.04
732	Research and experimental development on social sciences and humanities	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
741	Legal and accounting activities, etc.; tax, business and management consultancy; market research, etc.; holdings	336	1,292,601,534	1.71	1.27
742	Architectural and engineering activities and related consultancy	84	64,908,292	0.43	0.06
743	Technical testing and analysis	17	26,230,533	0.09	0.03
744	Advertising	20	13,752,338	0.10	0.01
745	Labour recruitment and provision of personnel	6	11,256,412	0.03	0.01
746	Investigation and security activities	9	16,122,002	0.05	0.02
747	Industrial cleaning	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
748	Miscellaneous business activities not elsewhere classified	462	2,433,839,580	2.35	2.39
751	Administration of the State and the economic and social policy of the community	6	4,192,392	0.03	0.00
752	Provision of services to the community as a whole	6	6,328,855	0.03	0.01
802	Secondary education	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
803	Higher education	9	1,713,199	0.05	0.00
804	Adult and other education	5	6,372,197	0.03	0.01
851	Human health activities	23	72,065,541	0.12	0.07
852	Veterinary activities	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
853	Social work activities	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
900	Sewage and refuse disposal, sanitation and similar activities	9	9,045,118	0.05	0.01
911	Business, employers and professional organisations	9	13,904,060	0.05	0.01
913	Other membership organisations	5	2,764,465	0.03	0.00
921	Motion picture and video activities	19	26,755,275	0.10	0.03
922	Radio and television activities	12	45,268,464	0.06	0.04
923	Other entertainment activities	29	14,035,345	0.15	0.01
924	News agency activities	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
925	Library, archives, museums and other cultural activities	6	5,033,498	0.03	0.00
926	Sporting activities	20	16,561,765	0.10	0.02
927	Other recreational activities	6	1,533,829	0.03	0.00
930	Other service activities	453	990,374,585	2.30	0.97
990	Extra-territorial organisations and bodies	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
Unknown	Unknown	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
Total		19,690	101,701,527,486	100.00	100.00

Source: HMCE Intrastat and VAT data

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Tables 1 and 2 show a breakdown for the year 2003 of all Intrastat trade, minus BTTAs, sorted and allocated to the SIC of the declarant trader.

Where the number of traders in a given SIC area is less than four, the line has been suppressed, such that the number of traders, trade value, and relative percentage of overall totals that the number of traders and total amount of trade represents have all been suppressed. These values still contribute to the overall total quoted at the foot of the table, but they are not separately identifiable. This method of suppression is consistent with the method used in the production of Regional Trade Statistics, where traders that are potentially identifiable in a region are suppressed; the details for this trader being published only at a higher or more aggregated level.

Fortunately it has not been necessary to suppress many of the SIC Codes in this fashion, only 18 lines for Arrivals and 21 for Dispatches for the year 2003. It would be possible to produce the information split instead by SIC at 5-digit level rather than 3-digit level. However, this would require many more suppressions, as the number of traders in each cell would be lower. Such an output would therefore likely not be of great interest to external customers as the relative amount of information shown would be less than that of the output at the aggregated 3-digit SIC level. However, a more detailed breakdown could prove very useful from an internal analysis point of view.

In addition to these trader counts, it is possible to examine in detail trade within a specified SIC area. Table 3 shows a detailed breakdown of trade within SIC 158, which relates to 'manufacture of other food products'.

The totals for arrivals and dispatches within SIC 158 given in Table 3 correspond to the same totals in Tables 1 and 2; Table 3 is essentially an extension of this specific SIC from these original two tables.

N.B. Originally it was hoped that a 'master table' could be produced which would show the breakdown of trade by SITC for each SIC group, however such an output would take a large amount of time to create and would also be impractically large to view. For these reasons it was decided that while an overall table showing trade at SIC level would be created, SITC level trade within these SIC groups would be generated only as individual outputs.

Table 3 shows what the exercise aimed at producing; a breakdown at SITC level of the trade with a chosen industry sector, the SITC level chosen was SITC2.

One of the largest SITC groups represented in both flows is SITC2 04 - Cereals and cereal preparations. This accounts for around 17 per cent of the trade in arrivals and around 27 per cent of the trade in dispatches.

**Table 3: Summary of all traders for the Year 2003 with a Trade Class of 158**

There are 204 traders involved in arrivals and 173 traders involved in dispatches

SITC shown at the 2-digit level

SIC 158 relates to: Manufacture of other food products

Sitc2	Description	Flow	
		Arrivals (£)	Dispatches (£)
01	MEAT & MEAT PREPARATIONS	77,575,183	13,396,788
02	DAIRY PRODUCTS & BIRDS' EGGS	58,829,150	4,799,095
03	FISH, CRUSTACEANS, MOLLUSCS & AQUATIC INVERTEBRATES & PREPARATIONS THEREOF	32,684,400	15,840,229
04	CEREALS & CEREAL PREPARATIONS	176,409,064	227,181,250
05	VEGETABLES & FRUIT	105,109,546	33,221,876
06	SUGAR, SUGAR PREPARATIONS & HONEY	76,581,462	100,573,135
07	COFFEE, TEA, COCOA, SPICES & MANUFACTURES THEREOF	165,011,591	154,725,792
08	FEEDING STUFF FOR ANIMALS (NOT INCLUDING UNMILLED CEREALS)	15,810,689	56,155,410
09	MISCELLANEOUS EDIBLE PRODUCTS & PREPARATIONS	106,413,589	135,351,888
11	BEVERAGES	47,937,557	7,108,146
12	TOBACCO & TOBACCO MANUFACTURES	627	0
22	OIL SEEDS & OLEAGINOUS FRUITS	23,789,260	2,415,308
24	CORK & WOOD	2,836	0
26	TEXTILE FIBRES NOT MANUFACTURED & THEIR WASTE ETC	26,866	1,498
27	CRUDE FERTILIZERS & CRUDE MINERALS (EXC FUELS ETC)	220,059	608,708
28	METALLIFEROUS ORES & METAL SCRAP	837	0
29	CRUDE ANIMAL & VEGETABLE MATERIALS N.E.S.	17,548,275	4,354,478
32	COAL, COKE & BRIQUETTES	359,041	3,175
33	PETROLEUM, PETROLEUM PRODUCTS & RELATED MATERIALS	148,159	578
41	ANIMAL OILS & FATS	737,202	17,600
42	FIXED VEGETABLE FATS & OILS, CRUDE, REFINED OR FRACTIONATED	1,372,967	27,689,583
43	ANIMAL OR VEGETABLE FATS & OILS, PROCESSED, & WAXES	5,152,657	525,297
51	ORGANIC CHEMICALS	9,665,275	2,969,477
52	INORGANIC CHEMICALS	397,359	4,453
53	DYEING, TANNING & COLOURING MATERIALS	716,398	108,577
54	MEDICINAL & PHARMACEUTICAL PRODUCTS	2,630,261	40,782,335
55	ESSENTIAL OILS & PERFUME MATERIALS; TOILET PREPARATIONS ETC	6,594,443	2,263,530
56	FERTILIZERS (OTHER THAN THOSE OF GROUP 272)	649,618	4,915
57	PLASTICS IN PRIMARY FORMS	676,477	208,190
58	PLASTICS IN NON-PRIMARY FORMS	14,560,515	230,537
59	CHEMICAL MATERIALS & PRODUCTS N.E.S.	12,378,772	5,065,774
61	LEATHER, LEATHER MANUFACTURES N.E.S & DRESSED FURSKINS	62,509	0
62	RUBBER MANUFACTURES N.E.S.	425,646	7,002
63	CORK & WOOD MANUFACTURES (EXCLUDING FURNITURE)	226,820	318,282
64	PAPER, PAPERBOARD & MANUFACTURES THEREOF	16,881,005	684,470
65	TEXTILE YARN, FABRICS, MADE UP ARTICLES ETC	97,820	26,529

Sic2	Description	Flow	
		Arrivals (£)	Dispatches (£)
66	NON-METALLIC MINERAL MANUFACTURES N.E.S.	2,726,677	65,481
67	IRON & STEEL	53,703	0
68	NON-FERROUS METALS	11,249,659	16,237
69	MANUFACTURES OF METAL N.E.S.	8,785,397	20,582
71	POWER GENERATING MACHINERY & EQUIPMENT	4,665	0
72	MACHINERY SPECIALIZED FOR PARTICULAR INDUSTRIES	16,133,728	178,816
73	METALWORKING MACHINERY	7,829	0
74	GENERAL INDUSTRIAL MACHINERY & EQUIPMENT & MACHINE PARTS N.E.S.	14,505,850	1,061,452
75	OFFICE MACHINES & ADP MACHINES	177,064	4,778
76	TELECOMMUNICATIONS & SOUND RECORDING & REPRODUCING APPARATUS AND EQUIPMENT	64,893	0
77	ELECTRICAL MACHINERY, APPARATUS & APPLIANCES & ELECTRICAL PARTS THEREOF N.E.S.	284,297	1,516
78	ROAD VEHICLES (INCLUDING AIR CUSHION VEHICLES)	22,934	1,938,273
81	PREFABRICATED BUILDINGS; SANITARY, PLUMBING, HEATING & LIGHTING FIXTURES AND FITTINGS	2,982	17,336
82	FURNITURE & PARTS THEREOF; BEDDING, MATTRESSES ETC	8,725	6,600
83	TRAVEL GOODS, HANDBAGS & SIMILAR CONTAINERS	3,477	694
84	ARTICLES OF APPAREL & CLOTHING ACCESSORIES	44,570	91,366
85	FOOTWEAR	11,197	.
87	PROFESSIONAL, SCIENTIFIC & CONTROLLING INSTRUMENTS & APPARATUS N.E.S	227,043	28,709
88	PHOTOGRAPHIC & OPTICAL GOODS, N.E.S.; WATCHES & CLOCKS	196	3,137
89	MISCELLANEOUS MANUFACTURED ARTICLES N.E.S.	25,809,882	1,012,702
93	SPECIAL TRANSACTIONS NOT ELSEWHERE SPECIFIED	3,902	2,203
Total		1,057,812,605	841,093,787

Source: HMCE Intrastat and VAT data

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Other areas showing large amounts of trade within SIC 158 include SITC2 01 and 02, comprising meat and dairy produce respectively, SITC2 09 relating to miscellaneous edible products and preparations. Since the SIC relates to manufacture of food these come as little surprise; they are the sorts of commodities/goods that you would associate with the industry. There are however some goods represented that might not be immediately linked to a business manufacturing food products.

Many of these products feature more prominently in the arrivals flow, indicating that they are used in the process of manufacture. These include SITC2 64 - paper, SITC2 72 - machinery specialised for particular industries, and SITC2 89 - miscellaneous manufactured articles not elsewhere specified.

Where a small amount of trade has been detected in an SITC that seems to be unrelated to the SIC of the business it might indicate either misclassification of the trade or misclassification of the trader's SIC (alternatively it is also perfectly reasonable that there may be a legitimate explanation for this apparently erroneous trade). Where it appears that there is the possibility of erroneous trade, a separate table can be produced to examine the number of declarants in each of the SITC subsections, and what sort of percentage this represents. This makes it easy to identify traders who appear to be the sole declarant in a particular type of commodity. In an SIC group containing many traders, the presence of a highly distinguishable trader who appears to operate very differently from an otherwise homogenous looking group of low entropy might be deemed worthy of investigation. Table 4 shows the breakdown and frequency of occurrence of trade in all SITCs at two-digit level for arrivals in SIC 158 in 2003. The frequency column shows a count of the number of traders declaring some trade in the given SITC, this percentage is based on the total number of traders within this period and SIC for arrivals, this is earlier given as 204.



Table 4: Table showing frequency and value of trader declaration in SIC 158  
 All traders for the Year 03 with a Trader class of 158  
 There are 204 traders involved in arrivals  
 SIC 158 relates to: Manufacture of other food products

SITC at 2-digit level	Description	Frequency	Occurrence (%)	Arrivals Value (£)	Arrivals as (%) of total
01	MEAT & MEAT PREPARATIONS	42	20.59%	77,575,183	7.33%
02	DAIRY PRODUCTS & BIRDS' EGGS	64	31.37%	58,829,150	5.56%
03	FISH, CRUSTACEANS, MOLLUSCS & AQUATIC INVERTEBRATES & PREPARATIONS THEREOF	12	5.88%	32,684,400	3.09%
04	CEREALS & CEREAL PREPARATIONS	83	40.69%	176,409,064	16.68%
05	VEGETABLES & FRUIT	90	44.12%	105,109,546	9.94%
06	SUGAR, SUGAR PREPARATIONS & HONEY	76	37.25%	76,581,462	7.24%
07	COFFEE, TEA, COCOA, SPICES & MANUFACTURES THEREOF	83	40.69%	165,011,591	15.60%
08	FEEDING STUFF FOR ANIMALS (NOT INCLUDING UNMILLED CEREALS)	9	4.41%	15,810,689	1.49%
09	MISCELLANEOUS EDIBLE PRODUCTS & PREPARATIONS	104	50.98%	106,413,589	10.06%
11	BEVERAGES	17	8.33%	47,937,557	4.53%
12	TOBACCO & TOBACCO MANUFACTURES	1	0.49%	627	0.00%
22	OIL SEEDS & OLEAGINOUS FRUITS	17	8.33%	23,789,260	2.25%
24	CORK & WOOD	1	0.49%	2,836	0.00%
26	TEXTILE FIBRES NOT MANUFACTURED & THEIR WASTE ETC	1	0.49%	26,866	0.00%
27	CRUDE FERTILIZERS & CRUDE MINERALS (EXC FUELS ETC)	15	7.35%	220,059	0.02%
28	METALLIFEROUS ORES & METAL SCRAP	1	0.49%	837	0.00%
29	CRUDE ANIMAL & VEGETABLE MATERIALS N.E.S.	36	17.65%	17,548,275	1.66%
32	COAL, COKE & BRIQUETTES	1	0.49%	359,041	0.03%
33	PETROLEUM, PETROLEUM PRODUCTS & RELATED MATERIALS	8	3.92%	148,159	0.01%
41	ANIMAL OILS & FATS	11	5.39%	737,202	0.07%
42	FIXED VEGETABLE FATS & OILS, CRUDE, REFINED OR FRACTIONATED	22	10.78%	1,372,967	0.13%
43	ANIMAL OR VEGETABLE FATS & OILS, PROCESSED, & WAXES	21	10.29%	5,152,657	0.49%
51	ORGANIC CHEMICALS	38	18.63%	9,665,275	0.91%
52	INORGANIC CHEMICALS	13	6.37%	397,359	0.04%
53	DYEING, TANNING & COLOURING MATERIALS	10	4.90%	716,398	0.07%
54	MEDICINAL & PHARMACEUTICAL PRODUCTS	17	8.33%	2,630,261	0.25%
55	ESSENTIAL OILS & PERFUME MATERIALS; TOILET PREPARATIONS ETC	59	28.92%	6,594,443	0.62%
56	FERTILIZERS (OTHER THAN THOSE OF GROUP 272)	5	2.45%	649,618	0.06%
57	PLASTICS IN PRIMARY FORMS	15	7.35%	676,477	0.06%
58	PLASTICS IN NON-PRIMARY FORMS	40	19.61%	14,560,515	1.38%
59	CHEMICAL MATERIALS & PRODUCTS N.E.S.	48	23.53%	12,378,772	1.17%
61	LEATHER, LEATHER MANUFACTURES N.E.S & DRESSED FURSKINS	2	0.98%	62,509	0.01%
62	RUBBER MANUFACTURES N.E.S.	11	5.39%	425,646	0.04%
63	CORK & WOOD MANUFACTURES (EXCLUDING FURNITURE)	12	5.88%	226,820	0.02%
64	PAPER, PAPERBOARD & MANUFACTURES THEREOF	54	26.47%	16,881,005	1.60%
65	TEXTILE YARN, FABRICS, MADE UP ARTICLES ETC	17	8.33%	97,820	0.01%



SITC at 2-digit level	Description	Frequency	Occurrence (%)	Arrivals Value (£)	Arrivals as (%) of total
66	NON-METALLIC MINERAL MANUFACTURES N.E.S.	21	10.29%	2,726,677	0.26%
67	IRON & STEEL	9	4.41%	53,703	0.01%
68	NON-FERROUS METALS	18	8.82%	11,249,659	1.06%
69	MANUFACTURES OF METAL N.E.S.	36	17.65%	8,785,397	0.83%
71	POWER GENERATING MACHINERY & EQUIPMENT	5	2.45%	4,665	0.00%
72	MACHINERY SPECIALIZED FOR PARTICULAR INDUSTRIES	75	36.76%	16,133,728	1.53%
73	METALWORKING MACHINERY	2	0.98%	7,829	0.00%
74	GENERAL INDUSTRIAL MACHINERY & EQUIPMENT & MACHINE PARTS N.E.S.	72	35.29%	14,505,850	1.37%
75	OFFICE MACHINES & ADP MACHINES	7	3.43%	177,064	0.02%
76	TELECOMMUNICATIONS & SOUND RECORDING & REPRODUCING APPARATUS AND EQUIPMENT	1	0.49%	64,893	0.01%
77	ELECTRICAL MACHINERY, APPARATUS & APPLIANCES & ELECTRICAL PARTS THEREOF N.E.S.	17	8.33%	284,297	0.03%
78	ROAD VEHICLES (INCLUDING AIR CUSHION VEHICLES)	2	0.98%	22,934	0.00%
81	PREFABRICATED BUILDINGS; SANITARY, PLUMBING, HEATING & LIGHTING FIXTURES AND FITTINGS	4	1.96%	2,982	0.00%
82	FURNITURE & PARTS THEREOF; BEDDING, MATTRESSES ETC	5	2.45%	8,725	0.00%
83	TRAVEL GOODS, HANDBAGS & SIMILAR CONTAINERS	2	0.98%	3,477	0.00%
84	ARTICLES OF APPAREL & CLOTHING ACCESSORIES	10	4.90%	44,570	0.00%
85	FOOTWEAR	2	0.98%	11,197	0.00%
87	PROFESSIONAL, SCIENTIFIC & CONTROLLING INSTRUMENTS & APPARATUS N.E.S	17	8.33%	227,043	0.02%
88	PHOTOGRAPHIC & OPTICAL GOODS, N.E.S.; WATCHES & CLOCKS	1	0.49%	196	0.00%
89	MISCELLANEOUS MANUFACTURED ARTICLES N.E.S.	86	42.16%	25,809,882	2.44%
93	SPECIAL TRANSACTIONS NOT ELSEWHERE SPECIFIED	13	6.37%	3,902	0.00%

Source: HMCE Intrastat and VAT data

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As Table 4 shows, there are a number of commodities that appear infrequently amongst the trade declared within SIC 158.

SITC2 09 - miscellaneous edible products trade was declared by more than half of all the traders within this group, and SITC2 01 - meat and meat preparations trade was declared by just over a fifth of all traders in this group for this flow. These are areas in which one might expect to see trade, given that the industry relates to manufacture of food products. However there are a number of other areas in which trade has been declared by very few of the declarants. SITC2 61 relates to leather and leather manufactures, trade in this area has been declared by two of the 204 traders in this sector and flow, accounting for around one per cent of the trader population. Several other SITC areas have a very low representation in this way, including 78, 83 and 85, relating to road vehicles, travel goods and footwear respectively.

The addition of the value column (taking figures seen in Table 3) would allow an analysis of SITCs that appear with *low* frequency and *high* value; this might indicate one-off large declarations of significant values, highlighting an area for further investigation.

In order to determine the validity of traders declaring trade in these goods we might look separately at trader level at all goods declared by that trader. Where a trader appears to have a significantly different trading profile from the others in the same trade sector we might wish to contact the trader to verify their Trade Class or ensure that the trade they declared has been allocated the correct SITC.

Thresholds can be assigned to investigate the lesser-traded SITCs, initially we might choose to look at SITCs in which *fewer* than fifteen per cent of traders declared trade, but where the total contribution of that SITC is *greater* than two per cent to the overall trade. Using the example in Table 4, these restrictions would highlight SITC2 03, 11, and 22. If the constraints were tightened to look at SITCs in which *fewer* than ten per cent of traders declared trade, but where the total contribution of that SITC is *greater* than three per cent, one of these groups is filtered out to leave only SITC2 03 and 11. SITC2 03 relates to fish, and SITC2 11 relates to beverages; there were twelve and seventeen traders declarant in these SITCs respectively. In the case of these two SITCs the descriptions could be argued relevant to the SIC trade description of 'food preparations'. Further to this the specific example of SIC 158 might have a wider variation of trade than other SICs as it relates to 'Manufacture of other food products', so is essentially describing trades not easily specified distinctly.

Obviously this comparison can also be performed at a greater level of SITC detail. At full SITC5 level any significant differences in trade would be even more noticeable, and large value declarations will be even more apparent.

Further to these analyses, it may also be useful to observe all traders declaring in an SITC group with less than a given threshold percentage of frequency, possibly one or even one half of a percent, and then checking to see if the same trader appears in more than one area. Where traders are declaring trade in a large number of unusual SITC groups for their industry type it will likely indicate an incorrect SIC. Table 5 shows a similar example:

Table 5: Table showing frequency and value of trader declaration in SIC 252  
 All traders for the Year 03 with a Trader class of 252  
 There are 471 traders involved in arrivals  
 SIC 252 relates to: Manufacture of plastic products

SITC at 2-digit level	Description	Frequency	Occurrence (%)	Arrivals Value (£)	Arrivals as (%) of total
05	VEGETABLES & FRUIT	1	0.21%	166	0.00%
06	SUGAR, SUGAR PREPARATIONS & HONEY	2	0.42%	36,138	0.00%
07	COFFEE, TEA, COCOA, SPICES & MANUFACTURES THEREOF	1	0.21%	120	0.00%
09	MISCELLANEOUS EDIBLE PRODUCTS & PREPARATIONS	2	0.42%	36,842	0.00%
23	CRUDE RUBBER (INCLUDING SYNTHETIC & RECLAIMED)	16	3.40%	4,758,463	0.46%
24	CORK & WOOD	4	0.85%	1,224,004	0.12%
25	PULP & WASTE PAPER	3	0.64%	475,255	0.05%
26	TEXTILE FIBRES NOT MANUFACTURED & THEIR WASTE ETC	3	0.64%	131,978	0.01%
27	CRUDE FERTILIZERS & CRUDE MINERALS (EXC FUELS ETC)	8	1.70%	312,176	0.03%
28	METALLIFEROUS ORES & METAL SCRAP	2	0.42%	16,108	0.00%
29	CRUDE ANIMAL & VEGETABLE MATERIALS N.E.S.	3	0.64%	114,746	0.01%
32	COAL, COKE & BRIQUETTES	2	0.42%	23,610	0.00%
33	PETROLEUM, PETROLEUM PRODUCTS & RELATED MATERIALS	5	1.06%	98,887	0.01%
34	GAS, NATURAL & MANUFACTURED	2	0.42%	262,784	0.03%
42	FIXED VEGETABLE FATS & OILS, CRUDE, REFINED OR FRACTIONATED	1	0.21%	177,027	0.02%
43	ANIMAL OR VEGETABLE FATS & OILS, PROCESSED, & WAXES	5	1.06%	298,159	0.03%
51	ORGANIC CHEMICALS	37	7.86%	130,210,293	12.51%
52	INORGANIC CHEMICALS	15	3.18%	1,335,627	0.13%
53	DYEING, TANNING & COLOURING MATERIALS	80	16.99%	17,941,135	1.72%
54	MEDICINAL & PHARMACEUTICAL PRODUCTS	6	1.27%	164,385	0.02%
55	ESSENTIAL OILS & PERFUME MATERIALS; TOILET PREPARATIONS ETC	27	5.73%	1,223,533	0.12%
56	FERTILIZERS (OTHER THAN THOSE OF GROUP 272)	2	0.42%	36,956	0.00%
57	PLASTICS IN PRIMARY FORMS	233	49.47%	234,349,302	22.51%
58	PLASTICS IN NON-PRIMARY FORMS	233	49.47%	183,655,586	17.64%
59	CHEMICAL MATERIALS & PRODUCTS N.E.S.	81	17.20%	14,592,514	1.40%
61	LEATHER, LEATHER MANUFACTURES N.E.S & DRESSED FURSKINS	3	0.64%	2,220	0.00%
62	RUBBER MANUFACTURES N.E.S.	75	15.92%	6,128,526	0.59%
63	CORK & WOOD MANUFACTURES (EXCLUDING FURNITURE)	39	8.28%	5,074,821	0.49%
64	PAPER, PAPERBOARD & MANUFACTURES THEREOF	88	18.68%	27,588,302	2.65%
65	TEXTILE YARN, FABRICS, MADE UP ARTICLES ETC	101	21.44%	32,054,654	3.08%
66	NON-METALLIC MINERAL MANUFACTURES N.E.S.	53	11.25%	13,160,425	1.26%
67	IRON & STEEL	52	11.04%	3,709,366	0.36%
68	NON-FERROUS METALS	70	14.86%	11,158,845	1.07%
69	MANUFACTURES OF METAL N.E.S.	155	32.91%	19,312,629	1.85%

SITC at 2-digit level	Description	Frequency	Occurrence (%)	Arrivals Value (£)	Arrivals as (%) of total
71	POWER GENERATING MACHINERY & EQUIPMENT	29	6.16%	779,787	0.07%
72	MACHINERY SPECIALIZED FOR PARTICULAR INDUSTRIES	170	36.09%	58,872,578	5.65%
73	METALWORKING MACHINERY	30	6.37%	2,178,626	0.21%
74	GENERAL INDUSTRIAL MACHINERY & EQUIPMENT & MACHINE PARTS N.E.S.	141	29.94%	56,503,299	5.43%
75	OFFICE MACHINES & ADP MACHINES	18	3.82%	4,558,845	0.44%
76	TELECOMMUNICATIONS & SOUND RECORDING & REPRODUCING APPARATUS AND EQUIPMENT	9	1.91%	1,676,734	0.16%
77	ELECTRICAL MACHINERY, APPARATUS & APPLIANCES & ELECTRICAL PARTS THEREOF N.E.S.	94	19.96%	20,974,327	2.01%
78	ROAD VEHICLES (INCLUDING AIR CUSHION VEHICLES)	45	9.55%	24,262,544	2.33%
79	OTHER TRANSPORT EQUIPMENT	5	1.06%	720,890	0.07%
81	PREFABRICATED BUILDINGS; SANITARY, PLUMBING, HEATING & LIGHTING FIXTURES AND FITTINGS	16	3.40%	5,810,742	0.56%
82	FURNITURE & PARTS THEREOF; BEDDING, MATTRESSES ETC	16	3.40%	6,784,956	0.65%
83	TRAVEL GOODS, HANDBAGS & SIMILAR CONTAINERS	4	0.85%	57,690	0.01%
84	ARTICLES OF APPAREL & CLOTHING ACCESSORIES	18	3.82%	4,023,415	0.39%
85	FOOTWEAR	4	0.85%	32,945	0.00%
87	PROFESSIONAL, SCIENTIFIC & CONTROLLING INSTRUMENTS & APPARATUS N.E.S	52	11.04%	4,128,130	0.40%
88	PHOTOGRAPHIC & OPTICAL GOODS, N.E.S.; WATCHES & CLOCKS	18	3.82%	4,149,180	0.40%
89	MISCELLANEOUS MANUFACTURED ARTICLES N.E.S.	232	49.26%	135,977,522	13.06%
93	SPECIAL TRANSACTIONS NOT ELSEWHERE SPECIFIED	25	5.31%	10,652	0.00%

Source: HMCE Intrastat and VAT data

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Table 5 shows a breakdown of trade by SIC in the same way as Table 4, the SIC of interest is 252, which relates to manufacture of plastic products. There are a number of SITC groups that feature infrequently, possibly indicating either that the companies within this SIC are quite specialised and deal in specific areas or that there are some companies who have been misclassified. In total nineteen of the 52 different represented SITCs have a frequency of five or less, given that there are 471 traders declaring trade in this flow this represents a very small percentage, around one per cent or less. Initially a check would be made to see if the same trader appears as declaring in more than one of these unusual SITC, this would highlight a trader with an unusual trading pattern.

Using the threshold method described before, it is possible to identify SITCs in which *fewer* than fifteen per cent of traders declared trade, but where the total contribution of that SITC is *greater* than two per cent to the overall trade. This highlights SITC2 51 - Organic chemicals, and SITC2 78 - Road vehicles. If the constraints are tightened to look at SITCs in which *fewer* than ten per cent of traders declared trade, but where the total contribution of that SITC is *greater* than three per cent to the overall trade, SITC2 51 - Organic chemicals is retained. This may relate to the SIC of manufacture of plastic products, however it may indicate a large amount of trade from a trader in a similar or related but elsewhere defined industry.

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## 7). Summary and Recommendations

### Confidentiality

One of the problems in creating these outputs for the use of data retailers or other organisations was the issue of confidentiality. Individual level data are confidential and not for wider dissemination, and the nature of this work may have caused instances whereby a very large trader in a Trade Class with few other traders might have been 'visible' in the outputs, so that detailed information relating to the value and type of their import and export trade with the EU would have been revealed.

In order to combat this problem the outputs are suppressed if necessary in the same way as outputs for the RTS.

This means that while a very detailed breakdown of trade will be useful for internal assurance and quality control purposes it may be unsuitable for external users as the level of suppressions would be much greater.

### Accuracy

The quality of the outputs generated by the programs written for this project are extremely dependant on the quality and overall reliability of the SIC data as picked up on the VAT returns from traders.

If this information is incomplete or incorrect the percentage of correct matches will decrease, at best the amount of 'Unknown' matches will likely increase, at worst the traders who have been incorrectly labelled will appear in the wrong Trade Class, and will distort the pattern of trade in a separate Trade Class.

It is extremely difficult to quantify the current accuracy of the Trade Class information, as our visiting officers only check it during the course of a visit. Any procedure that allows for the quick and relatively easy comparison of traders within a given Trade Class would be useful as an analytical tool.

These outputs could prove very useful to the Operations areas of HMCE, helping to identify potential areas of error or incorrect classification of either SIC on behalf of traders, or SITC on behalf of declared trade. Apart from the confidentiality issues, this is not necessarily an easy process, and there may be a lot of investigation required before any potential discrepancies can be highlighted. Even then there is no guarantee that any anomalies noted might actually be due to an incorrect coding of trade or trader; there is always the possibility that there is a legitimate reason behind any seemingly erroneous declaration. A large one-off declaration from a company may give a false impression of what types of trade that trader normally engages in. Nevertheless, in the course of producing outputs for this project a number of areas have been highlighted and made known to the Operations area of HMCE so that they can be investigated further. Exactly how an outlier/anomaly is defined is somewhat dependent on the user's own

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discretion. In these examples a system has been used to check those traders who declare trade in what appear to be 'unusual' SITC groups, firstly by checking to see if the same trader appears in a number of these SITC groups, and secondly by employing a 'threshold' system. By examining instances of trade where less than a certain amount of traders have declared trade, but where the total is a significant proportion of the total, we may identify disproportionately high levels of trade in specific SITC groups. For the purposes of these examples the thresholds were defined as fifteen per cent and two per cent initially, with a further subset looking at ten per cent and three per cent (that is to say in the first case we look at SITCs containing less than fifteen per cent of the traders but more than two per cent of the trade).

This system worked effectively to quickly draw an analysis of the 'problem' areas within a given SIC. This system could be used to generate a risk factor for each of the outliers, looking at the degree to which certain traders appear to lie outside the normal profile for their SIC, obviously the more 'unusual' SITCs in which a trader has declared trade the larger the risk factor would be; a large risk factor would result in a higher priority for investigation.

Unfortunately it is difficult to quality-assure these outputs, as there is no existing comparison source of data. While HMCE publishes data disaggregated by SIC of the produce this will be misleading if compared to the outputs produced here, as this method disaggregates the trade in a different way.

By using this information to investigate and if necessary amend the data a more accurate and reliable output can be generated in future attempts. Eventually this will lead to a marketable product that will be of interest to customers both inside and outside of HMCE.

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## Glossary

BSUG	Business Statistics User Group
BTTA	Below Threshold Trade Allocation
DTI	Department of Trade and Industry
EU	European Union
HMCE	HM Customs and Excise
ITSUG	International Trade Statistics User Group
MOD	Ministry of Defence
ONS	Office for National Statistics
OTS	Overseas Trade Statistics
RTS	Regional Trade Statistics
SATU	Statistics and Analysis of Trade Unit (within HMCE)
SD	Supplementary Declaration
SIC	Standard Industrial Classification
SITC	Standard International Trade Classification
VAT	Value Added Tax
VRN	VAT Registration Number