EDICOM TECHNICAL IMPLEMENTATION REPORT

53102.2007.001-2007.450

Intrastat Simplification: Raising the Threshold

October 2008

Helen Sears, Andy Watson, Kevin Sams and
Tricia Williams
HM Revenue & Customs
Customs & International Trade Statistics
3rd Floor Central
Alexander House
21 Victoria Avenue
Southend-on-Sea SS99 1AA
United Kingdom

Contents

1 Executive Summary

Intrastat is the system used for collecting data on trade-in-goods between EU Member States (MS). Since the inception of Intrastat in 1993 numerous simplifications have been made, motivated primarily by the need to reduce statistical reporting burdens on business. In the United Kingdom (UK) there have been several recent initiatives aimed at simplifying Intrastat: an International Workshop on Intrastat Simplification (October 2006), an EDICOM study on the possibilities of selecting Intrastat respondents by a stratified random sampling method (March 2007), and an Intrastat consultation exercise (August 2007) in which both data users and providers gave feedback on a number of possible simplification options. In 2007, a program of work was set up by Eurostat to look at potential changes to the Intrastat system that could lead to a substantial reduction in the burden on business while still maintaining the usefulness of the trade statistics for its users.

Following the UK's International Workshop on Intrastat Simplification held in October 2006, a number of options were examined for reducing the burden on business of the mandatory Intrastat survey. The three main options involved reducing the number of Intrastat respondents by: stratified random sampling, single flow and raising the Intrastat exemption threshold.

The use of stratified random sampling to collect Intrastat data was shown to be impracticable as a means of simplification following an EDICOM study carried out by the UK in 2007[1]. The report concluded that the stratified random sampling method was not feasible as the quality of detailed results would decrease considerably under such a system unless the sample size was very large.

The possibility of introducing a single flow system has been considered several times by the UK and many other Member States (MS) since Intrastat was introduced. Although the issues of asymmetries and timeliness associated with such a system need to be resolved, following the results of the UK Intrastat consultation exercise (2007) the UK are supporting and working towards the introduction of single flow in the longer term. In the short term, however, the option of reducing the coverage rate of Intrastat by changing the percentage of the value collected has been agreed as the best short-term option EU-wide.

The option of reducing the number of Intrastat respondents by raising the Intrastat exemption threshold has been examined by the UK among other MS. Raising the Intrastat threshold entails reducing the value of total trade coverage of Intrastat. This would lessen the burden on business by reducing the number of businesses with low values of EU trade that would be required to submit Intrastat returns (mainly small and medium enterprises), leaving businesses with high values of EU trade unaffected. This option appears to be the most promising in the short-term, although the effects on data quality need to be thoroughly assessed to ensure that the loss of detail is balanced by accurate and reliable estimates for the trade no longer collected. While the agreement to reduce the coverage to 95 percent for arrivals is likely to be agreed in the near future, further reductions are still to be assessed and discussed.

[1] EDICOM contract 2005.742 'Intrastat as a Negative Priority' (March 2007) by Ellen Jones, Andy Watson and Romesh Paul

The Intrastat Simplification ‘Raising the Threshold’ project has focused on the last of these options, by examining in greater detail the potential impact of raising the exemption threshold to reduce the Intrastat coverage rate from its current level of 97 per cent by value to either 95 per cent or 90 per cent. The effects of various coverage rates between 97 per cent and 90 per cent were studied at a less detailed level. In the first part of the project, a simulation of the effects of raising the threshold was made using 2006 UK Intrastat trade data; a detailed analysis of the potential loss of detail was carried out, together with a summary of the likely reduction in the burdens on business. In the second part of the project, the effects of the alternative thresholds on the estimates of UK trade below the Intrastat threshold (Below Threshold Trade Allocation) were studied; the anticipated reductions in above threshold trade calculated in the first part of the project were compared with the expected changes in Below Threshold Trade Allocations (BTTA) in order to test the robustness of the BTTA methodology currently used.

The results from the main simulation exercise on data loss show that the amount of trade lost under a 90 per cent capture rate would be too great for this to be a viable simplification option for many data users. The simulation results show that a 95 per cent capture rate is an acceptable option, as the fairly minimal loss of detail at this level is offset by a considerable saving in trader numbers; the total number of Intrastat traders is expected to fall from around 30,000 to around 19,000 under a 95 per cent capture rate on both flows. The number of eight-digit Combined Nomenclature level (CN8) codes likely to be lost under a 95 per cent capture rate is relatively small; the 81 arrivals commodity codes and 209 dispatches codes expected to disappear from the trade statistics collected represent 0.9 per cent and 2.3 per cent respectively of the arrivals and dispatches codes collected under a 97 per cent capture rate.

The project also used an additional simulation exercise to assess the impact of an increased coverage rate following the possible introduction of a single flow (dispatches) regime. The results show that, for the UK, the Intrastat capture rate would probably need to be lower than 98.8 per cent in order to bring about a decrease in Intrastat trader numbers from the current 97 per cent capture rate.

As a result of previous work carried out by the EU Intrastat Simplification Working Group during 2007, Eurostat put forward a proposal at the ECOFIN meeting in November 2007 recommending a rise in the Intrastat threshold for arrivals, reducing the coverage rate from the current level of 97 per cent to 95 per cent. For dispatches, it was recommended that the threshold remain at its current level, which captures 97 per cent of trade value, with the view to implementing a single flow system, collecting dispatches data only, in the long term. While the results of this study largely support the recommendation, there are some concerns that a reduced capture rate in the short term may lead to larger net increases in Intrastat trader numbers in the long term if a higher capture rate proves necessary for single flow to work effectively: results from the additional simulation exercise suggest that, following a change to a 95 per cent coverage rate for arrivals, the capture rate under single flow would need to be less than 98.3 per cent in order for further trader savings to be made. This could impact on other Member States’ data as the UK is a comparatively large trading nation.

The BTTA simulation exercise reported in section 7 shows that the current UK BTTA methodology ought to be robust enough to deal with a change to a 95 per cent coverage rate with only minor amendments during the initial period following the changeover to the new threshold. The results are as expected, with most of the large

changes in BTTA affecting partner countries with smaller amounts of EU trade, and low-value chapters and commodity codes.

The analysis exercise with Denmark has shown that the Danish results from work on the effects of lowering the Intrastat coverage rate to 95 per cent or 90 per cent are similar to those obtained by the UK. Both countries expect to lose a similar proportion of country/CN8 codes following a change to a 95 per cent coverage rate for arrivals. Both Denmark and the UK are in agreement that the 95 per cent coverage rate would provide an acceptable balance between data quality and reduction of burdens on business.

2 Background

Trade-in-goods statistics provide key economic information that is used for monitoring the micro and macro economic climate, for trade policy and monitoring trade agreements, as well as forming part of the National Accounts (NA) and Balance of Payments statistics (BoP).

With the increasing globalisation of national economies, international trade statistics has become an important decision-making tool for international organisations. The European Union, the European Central Bank, the World Trade Organisation, the World Bank, the International Monetary Fund and the United Nations all depend on detailed knowledge of global trade flows to be able to carry out their work effectively.

Within the EU, trade statistics are important short-term indicators for monitoring economic trends and the trade cycle. Detailed figures on trade statistics help to track the development of home and foreign markets and to evaluate the competitive situation. Businesses and trade associations also use detailed trade figures to assess market share, to identify new trade opportunities, to identify growth areas, to forecast trade and analyse patterns.

Within the UK, detailed trade statistics are required on a regular basis by numerous Government departments such as the Department for Transport (DfT) and Ministry of Defence (MOD). As well as using the trade figures for NA and BoP purposes, the Office for National Statistics (ONS) uses trade data to provide a sampling frame for a survey to produce price indices. The Bank of England uses monthly trade data (on a balance of payments basis) as part of its key indicators for gauging the state of the UK and world economic environment in order to set interest rates each month. The Department for the Environment, Food and Rural Affairs (DEFRA) uses the figures to monitor the trade in specific agricultural produce leaving or entering the UK in order to set trade policy on such issues as tariff quotas. The Department for Business, Enterprise and Regulatory Reform (BERR) uses trade data to monitor pricing levels and to monitor the movement of specific goods, in order to identify whether initiatives are required to support relevant businesses.

The detailed trade statistics are also required by the UK's devolved regional assemblies for making policy decisions. Within the UK, trade data has also proved to be a useful tool in helping to monitor Missing Trader Intra-Community (MTIC) fraud in recent years.

Intrastat was introduced in 1993 with the establishment of the European Single Market as a simplified declaration system for EU trade-in-goods. Since its inception, the Intrastat system has been subject to significant efforts to reduce burdens on business: the number of nomenclature headings have been reduced, some data fields have been made optional and simplified reporting procedures have been introduced for particular types of commodity and most importantly the exemption threshold means many business are excluded from the reporting obligation completely. As a result, some 80 per cent of businesses involved in EU trade are already exempt from Intrastat reporting. In spite of this, Intrastat is still perceived as an irritant by businesses across the EU.

Following ECOFIN support in 2006 for implementing a single flow system for Intrastat, a Eurostat Working Group was set up at the end of 2006 to take forward the work on Intrastat simplification. Within the arena of this Working Group, detailed

analyses were carried out by MS to assess the feasibility of a single flow system, along with other possibilities for simplifying the Intrastat regime.

In the UK, EU trade data is collected by Her Majesty's Revenue and Customs (HMRC). In October 2006, HMRC hosted an International Workshop on Intrastat Simplification, where a number of options were examined for potentially reducing the burden on business of the Intrastat mandatory survey.

One option would be to reduce the number of required fields on the Intrastat declaration. This would result in a drop in the overall amount of data captured and therefore a reduction in the individual burden on business. The number of respondents would remain the same. One drawback of this method is that the loss of information collected on Intrastat returns may require new surveys to be established from which this information could be extrapolated.

Three further options considered all involve reducing the number of Intrastat respondents: stratified random sampling, single flow and raising the Intrastat exemption threshold.

The use of stratified random sampling to collect Intrastat data was examined in an EDICOM study carried out by the UK (March 2007). The report concluded that the stratified random sampling method was unworkable as it would severely reduce the quality of detailed results required by data users.

The possibility of introducing a single flow system has been considered at length by the UK and many other MS. The main drawbacks of this approach are the questions over methodology and timeliness of the data from individual MS. There are also likely problems associated with the acquisition of detailed level data from partner countries, which would need to be overcome in order to capture information required for estimation and quality assurance.

Finally, the option of reducing the number of Intrastat respondents by raising the Intrastat exemption threshold was examined. This would reduce the total burden on business by reducing the number of low-value traders required to submit Intrastat returns. High-value traders would be unaffected. The benefits to small businesses are particularly important, as the burdens can be disproportionably high.

This project focuses on the last of these options by exploring in greater depth the potential impact of raising the threshold in order to reduce the Intrastat coverage rate from its current level of 97 per cent by value to either 95 per cent or 90 per cent. A high-level assessment of the effects of lowering the coverage rate by percentage point increments from 97 per cent to 90 per cent is also made. In the first part of the project, a simulation of the effects of raising the threshold is made using 2006 Intrastat trade data; a detailed analysis of the potential data loss is carried out, together with a summary of the likely reduction in the burdens on business. In the second part of the project, the effects of the alternative thresholds on the estimates allocated to BTT are studied: the changes in BTT allocations at country and commodity level are compared with the reduction in above-threshold trade collected in order to test the robustness of the BTTA methodology.

UK trade-in-goods statistics are produced by the Trade Statistics area within the Customs and International directorate (C&I), which forms part of the UK's HMRC. The Trade Statistics area is responsible for the collection, compilation and publication of the UK's Overseas Trade Statistics (OTS).

The UK trade data is captured on a live mainframe computer system which is updated on a daily basis. Once data for a particular month has been released for first publication, approximately 40 days after the end of the month, data is extracted and placed on the Trade Statistics Unix box for access by data analysts and statisticians using SAS software. The monthly data on Unix continues to be updated on a monthly basis until the annual closedown for the calendar year in August of the following year. The analysis in the first part of this project was based on the twelve monthly files relating to the calendar year 2006, which were finalised in August 2007 and therefore not subject to further revision for the duration of the project.

Data collected from boxes 8 and 9 of UK VAT declarations show each VAT-registered trader's total value of exports to and imports from the EU for the quarterly period of interest; supply of this data is mandatory for all UK VAT registered traders. These figures are collected quarterly from traders using a staggered system[2]. Each month, this data is downloaded to the Trade Statistics Unix box in the form of a dataset containing box 8 and 9 figures declared during the last 18 months. Data is normally extracted for a complete annual period (twelve consecutive months) in order to offset any problems in matching periods due to the effect of the stagger. For the second part of this project, box 8 and 9 data relating to the period January-December 2006 was used.

[2] Traders are allocated to one of three groups, with the first group submitting VAT returns in January, April, July and October, the second group submitting in February, May, August and November, and the third group submitting in March, June, September and December.

3 Objectives

In undertaking this action the UK will fully explore the positive and negative effects of applying a number of alternative threshold levels, in particular the levels required to collect 90 percent and 95 percent of trade by value. The potential reduction of burden on business will be quantified by applying the alternative thresholds to historical data. The following results will be included in the report:

- quantification of the reduction in the number of UK Intrastat declarants when applying each of the potential new thresholds;
- details of country-level detail, chapter-level detail and commodity codes disappearing from UK trade statistics when applying each of the potential new thresholds;
- review of the UK BTTA procedure to ensure adequate robustness for use with the potential new thresholds; and
- research into work being carried out by other MS and sharing of UK results.

Ultimately the report will make a final recommendation as to whether raising the threshold is a viable option and, if so, what the most suitable threshold level would be for balancing the potential burden relief with the effects on the trade registered at detailed level.

In the first part of the project, the effects of different coverage rates will be simulated using historical (2006) Intrastat data and an analysis carried out of the potential data loss at detailed level. The effects of the thresholds required to collect 95 per cent and 90 per cent of trade by value will be examined at this detailed level. The effects of a drop in coverage rate to various levels between 97 per cent and 90 per cent will be assessed at a less detailed level.

In the second part of the project, the objective is to assess the robustness of the current UK methodology for calculating estimates of trade below the Intrastat threshold in the event of a rise in the Intrastat threshold. This will be done by comparing the data losses noted in the first part of the project with the changes in the detailed BTTAs. If the current methodology is not found to be suitably robust, alternative methods for calculating these estimates will be outlined.

In the final part of the project, the aim is to provide a review of research carried out on Intrastat simplification by other MS, and to share relevant findings from the project with other MS. Although the UK originally planned to visit two other MS as part of this project, only one visit (Denmark) was carried out due to problems in finding suitable partner countries who had carried out similar work and who were able to host a visit from the UK. Although a number of MS were contacted, the majority were only in the preliminary stages of carrying out work on the effects of raising the Intrastat threshold, and were therefore not yet in a position to share data.

4 Simulation exercise to assess the effects of a reduced capture rate for Intrastat

4.1 Choice of dataset

In order to measure the potential effects of a reduced capture rate for Intrastat, a simulation exercise was carried out using Intrastat data from the twelve month period January-December 2006. This was the most recent full calendar year of data available for analysis, since 2007 data was still provisional at the start of the project making it unsuitable for analysis. Although there are a number of reasons why 2006 was not a typical year for Intrastat data, the only other option of using 2005 data was ruled out as it would be too outdated to provide an accurate projection for the future.

The high levels of Missing Trade Intra-Community fraud (MTIC) in the UK first few months of 2006 resulted in higher dispatches figures. However, adjusting for MTIC-related trade was found to have minimal impact on the resulting thresholds for the coverage rates being investigated and the analysis was therefore performed on the dataset with MTIC-related trade included. The year 2006 was also the final year of EU25, prior to Bulgaria and Romania joining the EU in 2007; the impact of this expansion is likely to be relatively insignificant in the UK in terms of its overall effect on the thresholds required for various coverage rates since these two countries have fairly low levels of trade with the UK. Some additional analysis has been reported in section 4.7 (country-level results) using 2007 Intrastat data relating to trade with Bulgaria and Romania to illustrate the likely loss in data from these countries under a reduced coverage rate.

The main reason for using Intrastat data only, rather than a combination of VAT data and Intrastat data, was that Intrastat data is submitted monthly whereas UK VAT data is submitted on a staggered quarterly basis; it is therefore not possible to extract an annual dataset from VAT data that is exactly comparable to Intrastat data of the same period.

Data from traders below the 2006 UK Intrastat exemption threshold (£225,000) was excluded, and the remaining data was assumed to be equivalent to the 97 per cent of total intra-EU trade value that the Intrastat system aims to capture[3]. Using this as a baseline, the data from traders responsible for the top 96 per cent, 95 per cent, 94 per cent, 93 per cent, 92 per cent, 91 per cent and 90 per cent of total trade were extracted to form subgroups of the baseline group. Assuming that the current methodology for selecting the Intrastat threshold continues to be used, this method should produce a good approximation of potential losses at various coverage rates.

[3] The percentage of Intrastat trade actually collected varies annually but the aim is to collect 97 per cent of trade by value; the percentage of EU trade collected cannot be computed exactly due to the incompatibility of VAT and Intrastat data owing to the VAT stagger.

4.2 High-level results

Results for arrivals and dispatches separately

The threshold and number of expected declarants associated with each of the capture rates of interest are shown below for arrivals and dispatches trade separately. For arrivals, the figures show that the 2006 threshold of £225,000 required for collecting 97 per cent of trade would rise to £678,000 at the 95 per cent coverage rate, and to just over £2 million at the 90 per cent coverage rate. The number of traders required to submit Intrastat declarations for arrivals could fall from the current level of around 21,000 to around 14,000 at the 95 per cent coverage rate and around 7,000 at the 90 per cent coverage rate. For dispatches, the 2006 threshold of £225,000 could rise to £791,000 under a 95 per cent coverage rate and to £2.7 million under a 90 per cent coverage rate. The number of traders required to submit Intrastat declarations for dispatches could fall from the current level of around 16,000 to around 10,000 and 5,000 respectively under the 95 per cent and 90 per cent coverage rates.

In the case of both arrivals and dispatches trade, the largest reduction in burdens on business would be generated by the initial drop in the coverage rate from 97 per cent to 96 per cent. Further reductions in the coverage rate would produce less marked reduction in trader numbers.

For arrivals, there is a steady increase in the threshold of around £227,000 per percentage point decrease in coverage rate between 97 per cent and 94 per cent. As the coverage rate falls from 94 per cent to 90 per cent, the required threshold increases more dramatically; there is an increase of £253,000 when the coverage rate falls from 94 per cent to 93 per cent, rising to an increase of £314,000 when the coverage rate falls from 91 per cent to 90 per cent (table 4.1 and figure 1).

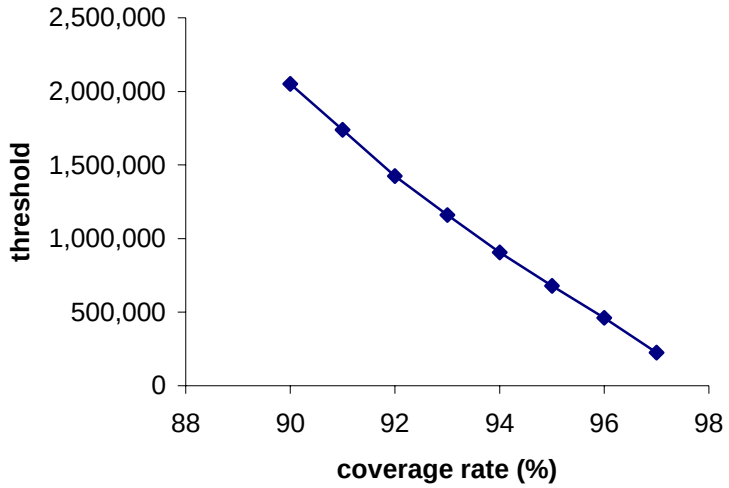
The number of expected arrivals traders falls sharply between the 97 per cent and 96 per cent coverage rates; as the coverage rate falls further towards 90 per cent, the drop in trader numbers per percentage point of coverage becomes progressively less pronounced (table 4.1 and figure 2).

Table 4.1: Thresholds and declarants at various capture rates, Arrivals, January to December 2006

Capture rate (%)	Threshold (£)	No. of Traders	Rise in threshold per % point decrease in capture rate	Fall in traders per % point decrease in capture rate
97	225,000	21,457		
96	460,890	16,641	235,890	4,816
95	678,719	13,750	217,829	2,891
94	905,736	11,688	227,017	2,062
93	1,158,961	10,105	253,225	1,583
92	1,425,245	8,839	266,284	1,266
91	1,737,947	7,812	312,702	1,027
90	2,051,814	6,955	313,867	857

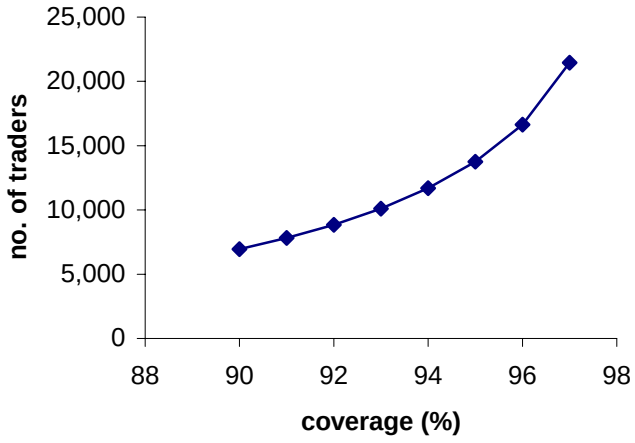
Source: HM Revenue & Customs Overseas Trade Statistics

Figure 1 - Thresholds associated with various coverage rates - Arrivals



Source: HM Revenue & Customs Overseas Trade Statistics, 2006

Figure 2 - No. of traders associated with various coverage rates - Arrivals



Source: HM Revenue & Customs Overseas Trade Statistics, 2006

For dispatches, as the coverage rate falls from 97 per cent to 91 per cent, the required threshold increases more sharply with each percentage point drop in coverage rate. When the coverage rate is reduced from 91 per cent to 90 per cent, there is a slightly less marked increase in the threshold (table 4.2 and figure 3).

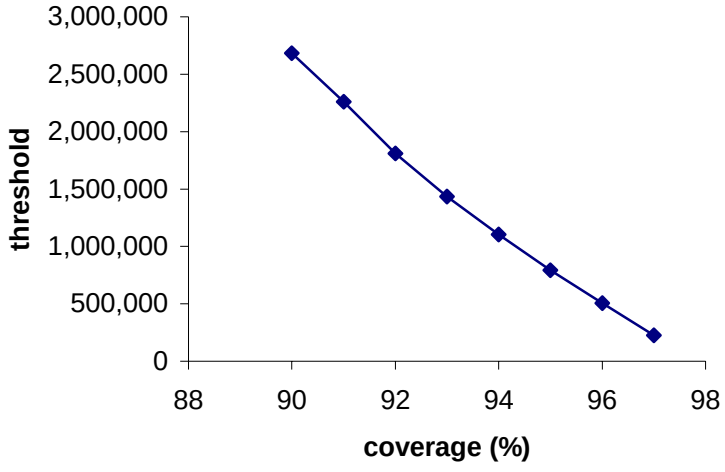
As in the arrivals case, the expected number of dispatches traders falls sharply between 97 per cent and 96 per cent, and then the drop in traders per percentage point of coverage becomes progressively less pronounced as the coverage rate drops towards 90 per cent (table 4.2 and figure 4).

Table 4.2: Thresholds and declarants at various capture rates, Dispatches, January to December 2006

Capture rate (%)	Threshold (£)	No. of Traders	Rise in threshold per % point decrease in coverage rate	Fall in traders per % point decrease in coverage rate
97	225,000	16,426		
96	505,563	12,151	280,563	4,275
95	791,362	9,748	285,799	2,403
94	1,103,124	8,119	311,762	1,629
93	1,434,532	6,910	331,408	1,209
92	1,809,400	5,966	374,868	944
91	2,260,934	5,213	451,534	753
90	2,683,585	4,593	422,651	620

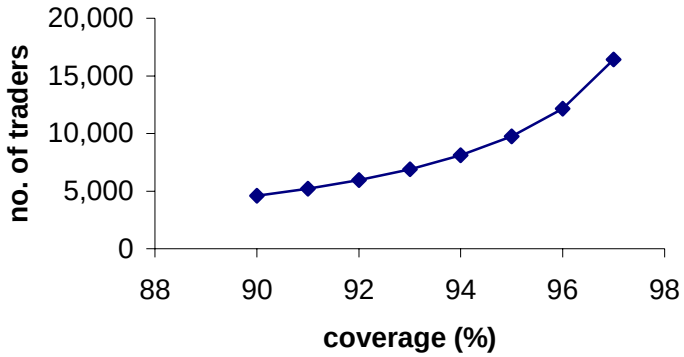
Source: HM Revenue & Customs Overseas Trade Statistics

Figure 3 - Thresholds associated with various coverage rates - Dispatches



Source: HM Revenue & Customs Overseas Trade Statistics, 2006

Figure 4 - No. of traders associated with various coverage rates - Dispatches



Source: HM Revenue & Customs Overseas Trade Statistics, 2006

Results for arrivals and dispatches combined

When the traders who would be declarants for both flows are taken into account, the results show that the total number of Intrastat traders could fall from the current level of 30,000 to around 19,000 at the 95 per cent coverage rate and to approximately 9,000 at the 90 per cent coverage rate (table 4.3).

The largest decrease in trader numbers is therefore generated by the initial decrease in capture rate from 97 per cent to 96 per cent; the reduction in trader numbers then declines with each further percentage point drop in capture rate.

Table 4.3: Total no. of Intrastat traders at various capture rates, Arrivals and Dispatches combined, January to December 2006

Capture rate (%)	No. of Traders	Decrease in number of traders per % point decrease in coverage rate
97	29,531	
96	22,774	6,757
95	18,758	4,016
94	15,893	2,865
93	13,690	2,203
92	11,979	1,711
91	10,578	1,401
90	9,408	1,170

Source: HM Revenue & Customs Overseas Trade Statistics

Effect on number of commodity codes

For both arrivals and dispatches, no Harmonised System chapter-level (HS2) codes are lost entirely, even when the capture rate is reduced as low as 90 per cent. However, for arrivals, 81 CN8 codes would disappear entirely under a 95 per cent capture rate, and 326 would be lost under a 90 per cent capture rate. For dispatches, 209 CN8 codes would disappear under a 95 per cent capture rate and 644 under a 90 per cent capture rate.

For arrivals, at HS4 level around three commodity codes are lost per percentage point drop in capture rate between 97 per cent and 94 per cent; between 94 per cent and 90 per cent, only three additional codes are lost in total. At HS6 level, around 13 codes are lost per percentage point drop in capture rate between 97 per cent and 94 per cent, and a further 54 codes are lost between 94 per cent and 90 per cent, suggesting a similar rate of decrease per percentage point. At CN8 level, an average of 43 codes are lost per percentage point drop in capture rate between 97 per cent and 94 per cent; between 94 per cent and 90 per cent, a further 197 codes are lost, which represents an average of 49 codes lost per additional percentage point drop in capture rate (table 4.4).

Table 4.4: Number of commodity headings at various capture rates, Arrivals, January to December 2006

Capture rate (%)	Number of commodity headings in use at classification level[1]: HS2	HS4	HS6	CN8
97	97	1,238	5,128	9,307
96	97	1,235 (-3)	5,115 (-13)	9,264 (-43)
95	97	1,233 (-5)	5,103 (-25)	9,226 (-81)
94	97	1,229 (-9)	5,090 (-38)	9,178 (-129)
90	97	1,226 (-12)	5,036 (-92)	8,981 (-326)

1 Negative figures in brackets show the number of codes that would be lost when moving from a 97% capture rate to the stated capture rate.

Source: HM Revenue & Customs Overseas Trade Statistics

For dispatches, at HS4 level two codes are lost per percentage point drop in capture rate between 97 per cent and 94 per cent; between 94 per cent and 90 per cent, a further 15 codes are lost, an average of around four codes per percentage point drop in capture rate. This is significantly more than in the arrivals case.

For dispatches, at HS6 level the number of codes lost per percentage point fall in capture rate between 97 per cent and 94 per cent declines from 41 to 22; between 94 per cent and 90 per cent, an average of 30 codes are lost per percentage point. At CN8 level an average of 101 codes are lost per percentage point drop in capture rate between 97 per cent and 94 per cent; between 94 per cent and 90 per cent, an average of 85 codes are lost per additional percentage point drop in capture rate. This is almost double the amount of codes lost in the arrivals case (table 4.5).

Table 4.5: Number of commodity codes at various capture rates, Dispatches, January to December 2006

Capture rate (%)	Number of commodity codes in use at classification level[1]: HS2	HS4	HS6	CN8
97	97	1,231	5,028	9,023
96	97	1,229 (-2)	4,987 (-41)	8,921 (-102)
95	97	1,227 (-4)	4,956 (-72)	8,814 (-209)
94	97	1,225 (-6)	4,934 (-94)	8,719 (-304)
90	97	1,210 (-21)	4,814 (-214)	8,379 (-644)

1 Negative figures in brackets show the number of codes that would be lost when moving from a 97% capture rate to the stated capture rate.

Source: HM Revenue & Customs Overseas Trade Statistics

4.3 Chapter-level results – 95 per cent coverage

The analysis so far has shown that if the capture rate was lowered to 95 per cent, the total number of traders required to submit Intrastat returns could fall from the current figure of around 30,000 to approximately 19,000. For arrivals, 81 of the 9,307 8-digit commodity codes currently in use would be completely lost; for dispatches, 209 of the 9,023 codes in use would disappear from the detailed trade statistics. At HS6 level, the number of codes lost is 25 for arrivals and 72 for dispatches. At HS4 level, the number of codes lost is five for arrivals and four for dispatches. A full list of codes lost at HS4, HS6 and CN8 level are contained in Appendices 5-7. Although no chapter-level codes are lost entirely, the value of each chapter is reduced, in some cases by a considerable amount. Appendix 1 contains details of the value and percentage of trade lost from each chapter. The 20 chapters most affected in terms of percentage of trade lost are summarised in tables 4.6 (arrivals) and 4.7 (dispatches).

For arrivals, the highest valued of the 20 chapters most affected are 06 (trees, plants and cut flowers), with a loss of over 12 per cent, and 69 (ceramic products), which loses over 9 per cent of its value (table 4.6).

For arrivals, the majority of chapters that would be most affected by a rise in threshold are relatively insignificant in terms of their contribution to overall trade value, with most accounting for less than 0.1 per cent of total arrivals value. Most of the items under these headings - such as fabrics, vegetables or musical instruments - are either low-value goods or goods from niche markets that tend to be traded by small businesses; these are the businesses that are likely to be removed from the Intrastat regime under a higher threshold. Although the majority of these chapters are unimportant in terms of trade value, they may still be important to particular data users. Known users of vulnerable trade chapters would need to be informed about any potential loss of data in the event of a reduction in the Intrastat coverage rate.

Of the highest valued arrivals chapters (Appendix 1), those most affected in percentage terms by a change to a 95 per cent coverage rate are chapters 39 (plastics), 84 (nuclear reactors, boilers, machinery and mechanical appliances) and 85 (electrical machinery and equipment); these chapters would lose 4 per cent, 2.6 per cent and 1.1 per cent of their trade value respectively.

Table 4.6: Chapters with the highest proportion of trade lost when changing from 97 per cent to 95 per cent coverage Arrivals, January to December 2006

Chapter	Description	Value of Arrivals at 97% level (£)	Trade lost when changing from 97% to 95% coverage (%)	Contribution made by chapter to total trade value at 97% level (%)
14	Vegetable plaiting materials; vegetable products not elsewhere specified or included	3,822,535	33.5	<0.005
66	Umbrellas, sun umbrellas, walking-sticks, seat-sticks, whips, riding-crops and parts thereof	6,288,336	27.3	<0.005
50	Silk	10,974,337	26.4	0.01
92	Musical instruments; parts and accessories for such	35,019,086	21.9	0.02
46	Wickerwork and basketwork	5,310,498	15.3	<0.005
80	Tin and articles thereof	11,077,049	15.1	0.01
06	Live trees and other plants; bulbs, roots and the like; cut flowers and ornamental foliage	692,388,761	12.5	0.44
52	Cotton	117,201,842	12.3	0.08
51	Wool, fine and coarse animal hair; yarn and fabrics of horsehair	108,470,473	11.9	0.07
60	Knitted or crocheted fabrics	43,074,490	11.8	0.03
05	Products of animal origin not elsewhere specified or included	41,928,949	11.2	0.03
41	Hides and skins (other than furskins) and leather	118,327,029	10.8	0.08
89	Ships, boats and floating structures	129,187,762	10.2	0.08
58	Special woven fabrics; tufted textile products; lace; tapestries; trimmings; embroidery	98,977,689	9.9	0.06
63	Other made up textile articles; sets; worn clothing and worn textile articles; rags	204,533,230	9.8	0.13
53	Other vegetable textile fibres; paper yarn and woven fabrics of paper yarn	34,075,682	9.5	0.02
69	Ceramic products	535,877,659	9.3	0.34
43	Furskins and artificial fur; articles thereof	21,657,378	9.0	0.01
59	Impregnated, coated, covered or laminated textile fabrics; articles for technical use, of textile materials	131,598,480	9.0	0.08
55	Man-made staple fibres	207,997,706	8.1	0.13

Source: HM Revenue & Customs Overseas Trade Statistics

For dispatches, chapter 94 (furniture) is by far the highest value chapter listed in the table and would lose 12 per cent of its value if the coverage rate was reduced to 95 per cent. Other relatively high value dispatches chapters affected are 44 (wood), with a value loss of 10 per cent, and 63 (textile articles) with a loss of 15 per cent (table 4.7).

Dispatches are affected similarly to arrivals, with many of the same chapters losing large amounts of trade value. Although dispatches chapters tend to lose more trade than arrivals in general, the arrivals chapters losing the most trade are affected more severely than the worst affected dispatches chapters. As in the arrivals case, the majority of chapters that would be affected by a rise in threshold are relatively low in trade value, most contributing less than 0.1 per cent of the total value of reported dispatches trade. The chapters that would suffer the greatest percentage loss under the dispatches regime are chapter 92 (musical instruments), with a loss of 25 per cent, chapter 58 (special woven fabrics), with a loss of 23 per cent, and chapter 14 (vegetable plaiting materials), with a loss of 22 per cent.

Of the highest valued dispatches chapters (Appendix 1), those most affected by a change to a 95 per cent coverage rate are chapters 90 (optical, photographic, cinematographic and medical apparatus), 39 (plastics), 84 (nuclear reactors, boilers, machinery and mechanical appliances) and 87 (vehicles); these chapters lose 5.9 per cent, 4.1 per cent, 2.5 per cent and 1.3 per cent of their trade value respectively.

Table 4.7: Chapters with the highest proportion of trade lost when changing from 97 per cent to 95 per cent coverage Dispatches, January to December 2006

Chapter	Description	Value of Dispatches at 97% level (£)	Trade lost when changing from 97% to 95% coverage (%)	Contribution made by chapter to total trade value at 97% level (%)
92	Musical instruments; parts and accessories for such	21,168,123	25.4	0.01
58	Special woven fabrics; tufted textile products; lace; tapestries; trimmings; embroidery	57,673,612	23.1	0.04
14	Vegetable plaiting materials; vegetable products not elsewhere specified or included	547,820	22.5	< 0.005
50	Silk	16,662,348	20.1	0.01
07	Edible vegetables and certain roots and tubers	132,587,545	19.9	0.09
53	Other vegetable textile fibres; paper yarn and woven fabrics of paper yarn	15,560,506	18.7	0.01
06	Live trees and other plants; bulbs, roots and the like; cut flowers and ornamental foliage	39,937,248	17.9	0.03
63	Other made up textile articles; sets; worn clothing and worn textile articles; rags	207,978,372	14.9	0.14
67	Prepared feathers and down and articles made of feathers or of down; artificial flowers; articles of human hair	8,744,818	13.6	0.01
66	Umbrellas, sun umbrellas, walking-sticks, seat-sticks, whips, riding-crops and parts thereof	8,972,473	12.9	0.01
91	Clocks and watches and parts thereof	45,512,309	12.5	0.03
42	Articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles of animal gut (other than silk-worm gut)	166,781,827	12.3	0.11
47	Pulp of wood or of other fibrous cellulosic material; waste and scrap of paper or paperboard	70,584,935	12.1	0.05
94	Furniture; medical and surgical furniture; bedding, mattresses, mattress supports,cushions and similar stuffed furnishings; lamps and lighting fittings, not elsewhere specified; illuminated signs, illuminated name-plates and the like; prefabricated buildings	896,338,626	12.1	0.61
51	Wool, fine and coarse animal hair; yarn and fabrics of horsehair	155,481,771	11.7	0.11
97	Works of art, collectors' pieces and antiques	98,684,104	11.5	0.07
60	Knitted or crocheted fabrics	52,135,967	11.2	0.04
08	Edible fruit and nuts; peel of citrus fruits or melons	119,672,337	10.6	0.08
05	Products of animal origin not elsewhere specified or included	32,476,720	10.4	0.02
44	Wood and articles of wood; wood charcoal	305,008,180	10.3	0.21

Source: HM Revenue & Customs Overseas Trade Statistics

4.4 Chapter-level results – 90 per cent coverage

The analysis so far has shown that if the capture rate was lowered to 90 per cent, the total number of traders required to submit Intrastat declarations could fall to about 9,500, taking account of those traders submitting for both flows. For arrivals 326 of 9,307 commodity codes are lost at CN8 level and for dispatches 644 of 9,023 commodity codes are lost at CN8 level. A full list of codes lost at HS4, HS6 and CN8 level are contained in Appendices 5-7. As in the 95 per cent case, no chapter-level codes are lost entirely, although many chapters are reduced in value by a considerable amount. Appendix 1 contains details of the value and percentage of trade lost from each chapter. The 20 chapters most affected in terms of percentage of trade lost are summarised in tables 4.8 (arrivals) and 4.9 (dispatches) below.

The arrivals results show that a drop in coverage rate to 90 per cent produces a vast reduction in the coverage rate compared with the 95 per cent level. Of the arrivals chapters suffering the greatest percentage decrease in value, those most noteworthy in value terms are chapter 06 (trees and plants), which loses 32 per cent of its value, chapter 69 (ceramics), with a loss of 29 per cent, and chapter 68 (articles of stone), which loses 25 per cent (table 4.8).

For all of the twenty most affected arrivals chapters, the rate of value loss would be greater than 24 per cent; the highest value loss is seen in chapter 50 (silk), which would be reduced in value by two-thirds, followed by chapter 14 (vegetable plaiting materials), with a reduction of 58 per cent, and chapter 66 (umbrellas), with a reduction of 54 per cent. Although these chapters are relatively insignificant in their contribution to total trade value, users of the detailed trade statistics - such as the textile industry - may suffer as a result of such a drastic drop in coverage level (table 4.8).

Of the highest valued arrivals chapters (see Appendix 1, which includes full chapter descriptions), those most affected by a change to a 90 per cent coverage rate are chapters 39 (plastics), 84 (nuclear reactors, boilers, machinery and mechanical appliances) and 85 (electrical machinery and equipment); these chapters would lose 15 per cent, 8.6 per cent and 4.1 per cent of their trade value respectively.

Table 4.8: Chapters with the highest proportion of trade lost when changing from 97 per cent to 90 per cent coverage, Arrivals, January to December 2006

Chapter	Description	Value of Arrivals at 97% level (£)	Trade lost when changing from 97% to 90% coverage (%)	Contribution made by chapter to total trade value at 97% level (%)
50	Silk	10,974,337	65.5	0.01
14	Vegetable plaiting materials; vegetable products not elsewhere specified or included	3,822,535	58.4	<0.005
66	Umbrellas, sun umbrellas, walking-sticks, seat-sticks, whips, riding-crops and parts thereof	6,288,336	53.6	<0.005
60	Knitted or crocheted fabrics	43,074,490	43.6	0.03
52	Cotton	117,201,842	42.9	0.07
51	Wool, fine and coarse animal hair; yarn and fabrics of horsehair	108,470,473	41.2	0.07
92	Musical instruments; parts and accessories for such	35,019,086	39.8	0.02
55	Man-made staple fibres	207,997,706	36.6	0.13
80	Tin and articles thereof	11,077,049	34.8	0.01
58	Special woven fabrics; tufted textile products; lace; tapestries; trimmings; embroidery	98,977,689	34.6	0.06
89	Ships, boats and floating structures	129,187,762	33.9	0.08
59	Impregnated, coated, covered or laminated textile fabrics; articles for technical use, of textile materials	131,598,480	31.8	0.08
06	Live trees and other plants; bulbs, roots and the like; cut flowers and ornamental foliage	692,388,761	31.7	0.44
41	Hides and skins (other than furskins) and leather	118,327,029	29.5	0.08
69	Ceramic products	535,877,659	28.6	0.34
05	Products of animal origin not elsewhere specified or included	41,928,949	27.4	0.03
53	Other vegetable textile fibres; paper yarn and woven fabrics of paper yarn	34,075,682	27.1	0.02
68	Articles of stone, plaster, cement, asbestos, mica or similar materials	475,924,420	24.9	0.30
43	Furskins and artificial fur; articles thereof	21,657,378	24.8	0.01
54	Man-made filaments	277,142,515	24.4	0.18

Source: HM Revenue & Customs Overseas Trade Statistics

For dispatches, of those chapters most affected in percentage terms, the highest valued are chapter 94 (furniture), chapter 44 (wood) and chapter 63 (textile articles), which lose 35 per cent, 33 per cent and 45 per cent of their trade value respectively (table 4.9).

The losses in dispatches trade under a 90 per cent coverage rate would be even greater than those seen in arrivals. The chapters most affected in percentage terms are chapter 67 (feathers and down), which loses 80 per cent of its value, chapter 58 (special woven fabrics), with a loss of 63 per cent, and chapter 53 (vegetable textile fibres), with a loss of 54 per cent. All of these chapters are very low in value, each contributing less than 0.1 per cent of the total value of reported dispatches (table 4.9).

Of the highest valued dispatches chapters (Appendix 1), those most affected by a change to a 90 per cent coverage rate are chapters 90 (optical, photographic, cinematographic and medical apparatus), 39 (plastics), 84 (nuclear reactors, boilers, machinery and mechanical appliances) and 87 (vehicles); these chapters lose 17.5 per cent, 15.3 per cent, 8.4 per cent and 4.9 per cent of their trade value respectively.

Table 4.9: Chapters with the highest proportion of trade lost when changing from 97 per cent to 90 per cent coverage, Dispatches, January to December 2006

Chapter	Description	Value of Dispatches at 97% level (£)	Trade lost when changing from 97% to 90% coverage (%)	Contribution made by chapter to total trade value at 97% level (%)
67	Prepared feathers and down and articles made of feathers or of down; artificial flowers; articles of human hair	8,744,818	79.7	0.01
58	Special woven fabrics; tufted textile products; lace; tapestries; trimmings; embroidery	57,673,612	63.5	0.04
53	Other vegetable textile fibres; paper yarn and woven fabrics of paper yarn	15,560,506	53.8	0.01
07	Edible vegetables and certain roots and tubers	132,587,545	53.7	0.09
05	Products of animal origin not elsewhere specified or included	32,476,720	53.0	0.02
92	Musical instruments; parts and accessories for such	21,168,123	50.1	0.01
06	Live trees and other plants; bulbs, roots and the like; cut flowers and ornamental foliage	39,937,248	48.2	0.03
63	Other made up textile articles; sets; worn clothing and worn textile articles; rags	207,978,372	45.5	0.14
91	Clocks and watches and parts thereof	45,512,309	44.4	0.03
50	Silk	16,662,348	42.1	0.01
46	Wickerwork and basketwork	2,189,689	40.4	<0.005
47	Pulp of wood or of other fibrous cellulosic material; waste and scrap of paper or paperboard	70,584,935	38.7	0.05
43	Furskins and artificial fur; articles thereof	20,015,089	38.2	0.01
14	Vegetable plaiting materials; vegetable products not elsewhere specified or included	547,820	36.4	<0.005
60	Knitted or crocheted fabrics	52,135,967	35.3	0.04
94	Furniture; medical and surgical furniture; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings; lamps and lighting fittings, not elsewhere specified; illuminated signs, illuminated name-plates and the like; prefabricated buildings	896,338,626	35.2	0.61
51	Wool, fine and coarse animal hair; yarn and fabrics of horsehair	155,481,771	33.6	0.11
08	Edible fruit and nuts; peel of citrus fruits or melons	119,672,337	33.5	0.08
42	Articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles of animal gut (other than silk-worm gut)	166,781,827	33.4	0.11
44	Wood and articles of wood; wood charcoal	305,008,180	32.8	0.21

Source: HM Revenue & Customs Overseas Trade Statistics

4.5 HS4-level results

Each HS2 code is made up of a number of subcategories of four-digit (HS4) codes. Certain HS4 codes may contain large amounts of data or may be important to particular data users. The system currently used by HMRC for estimating the value of BTT allocates trade based on factors which are calculated at HS4 level. If any HS4 codes disappear from the above-threshold trade data collected, this will result in no BTT estimates being produced for trade under these headings. There is consequently a need to establish the potential effect of any threshold change on the levels of data that would be collected at HS4 level. Of particular interest are those codes that would be lost entirely or those that would be reduced significantly and could be in danger of being lost if only a small number of traders are being relied upon for data. Appendix 2 shows the likely reduction in value at HS4 level following a drop in the coverage rate from 97 per cent to 96, 95, 94 or 90 per cent. For the 90 per cent and 95 per cent coverage rates, a list has been compiled of all 4-digit codes that would be reduced in value by more than 50 per cent, together with their value and the number of traders declaring under each code at the 90 and 97 per cent levels. This listing is not included in the appendices for reasons of confidentiality.

Arrivals

If the coverage rate was lowered to 95 per cent, five HS4 codes would be lost entirely (1402, 8902, 8908, 2307 and 1203); all of these codes are very low in value (Appendix 5). A 95 per cent coverage rate would result in 30 HS4 codes being reduced in value by more than 50 per cent. Of the codes with a current annual value of over £1 million, only five would be reduced by more than 50 per cent in value. Of the headings reduced by more than 50 per cent in value, 11 headings would be left with three or less traders at the 95 per cent level, with all these headings losing at least two-thirds of their value.

If a 90 per cent coverage rate was applied, 12 codes would be lost entirely (2607, 5104, 1403, 2617, 2706, 0503, 8902, 2307, 0501, 1402, 1203, 8908); all of these are of very low value, the highest being 2607 (lead ores and concentrates), which currently has an annual value of £66,000 (Appendix 5). A total of 162 codes would be reduced in value by more than 50 per cent. Of the codes with a current annual value of over £1 million, 97 would be reduced in value by more than 50 per cent. Of the headings reduced in value by more than 50 per cent, 35 codes would be left with three or less declarants at the 90 per cent level, with all of these codes losing at least 70 per cent of their value.

Dispatches

If the coverage rate was lowered to 95 per cent, four HS4 codes would be lost entirely (1002, 5507, 4705, and 1402); all of these are very low in value, the highest being 1002 (Rye), with an annual value of £39,000 (Appendix 5). A 95 per cent coverage rate would result in 67 HS4 codes being reduced in value by more than 50 per cent. Of the codes with a current annual value of over £1 million, eight would be reduced in value by more than 50 per cent. Of the codes that are reduced in value by more than 50 per cent, 23 headings would be left with three or less declarants at the 95 per cent level.

With a coverage rate of 90 per cent, 22 HS4 codes would be lost entirely, four of which are over £1 million in value (0205, 0104, 8901, 8906). A 90 per cent coverage

rate would result in 314 HS4 codes being reduced by more than 50 per cent in value. Of the codes with a current annual value of over £1 million, 179 would be reduced by more than 50 per cent in value. Of the codes reduced in value by more than 50 per cent, 93 would have three or less declarants at the 90 per cent level.

4.6 CN8-level results

The most detailed Intrastat trade data available is at 8-digit commodity code (CN8) level in accordance with EC legislation. The UK trade statistics are published at this level and data users, including Government Departments, require information at 8-digit level. Data at this level may also be used to analyse the impact of intra-community fraud. The BTT allocation system uses CN8 level declarations in order to allocate the appropriate estimates at CN8/country level. Although any reduction in the value of CN8 level data following a rise in the Intrastat threshold should theoretically be compensated by an increase in the BTT estimates, there is some concern as to whether any very large losses in value at CN8 level will be accurately estimated for by the current BTT allocation system. This will be further investigated in the second part of this project. Appendix 4 shows the percentage of trade value lost following a fall in capture rate from 97 per cent to 96, 95, 94 or 90 per cent. Appendix 7 lists those commodity codes that would be lost entirely, those whose value would be reduced by 50 per cent or more, and those whose value would be reduced by 75 per cent or more.

For arrivals, if the capture rate was lowered to 95 per cent, 81 CN8 codes would be lost entirely, the most important in value terms being live birds (01063990) at £1 million and heifers (01021010) at £0.6 million. A total of 249 CN8 codes would be reduced in value by more than 75 per cent and 446 would be reduced in value by more than 50 per cent. If the capture rate was lowered to 90 per cent for arrivals, 328 codes would be lost entirely, of which the highest-valued are live horses (01019019) at £2.5 million and eels (03019200) at £2 million. A total of 1,123 codes would be reduced in value by more than 75 per cent, and 1,956 would be reduced in value by more than 50 per cent (Appendices 4 and 7).

For dispatches, a capture rate of 95 per cent would result in 210 CN8 codes being lost completely, the most important in terms of value being sail boats (89039199) at £1.5 million and active yeasts (21021039) at £1 million; numerous CN8 codes from chapters 84, 85 and 89 (mechanical and electrical machinery, ships and boats) would be lost. A total of 668 codes would be reduced in value by more than 75 per cent and 1,046 would be reduced in value by more than 50 per cent. Under a capture rate of 90 per cent, 650 codes would be lost entirely, those of greatest value being cranes for mounting on road vehicles (84269190) at £4.5 million and game meat (02089040) at £3.8 million. A total of 2,175 codes would lose more than 75 per cent of their value and 3,238 codes - over one third of the total number of CN8 codes - would suffer a reduction in value of more than 50 per cent (Appendices 4 and 7).

Effect of a raise in threshold on suppressions

The value of data lost at CN8 level is also likely to have an impact on the number of suppressions applied to published data; for commodity codes that are declared by a very small number of traders, any decrease in the number of traders declaring may result in the data specific to those commodity codes having to be suppressed in published data in order to preserve the anonymity of the traders concerned. A commodity code may also be suppressed for reasons other than those relating to trader confidentiality issues. For Intrastat data, suppressions are applied using a 'passive' method; this means that suppressions are not applied automatically and must be requested by a trader (or for national defence reasons). Suppression can occur at a number of different levels, depending on what information needs to be masked: at the lowest level, only country and port information is withheld for the commodity code in question, and at the highest level, all information relating to the code is withheld from published data. The data may still be available at higher aggregate levels. Any increase in the number of suppressions would clearly reduce the amount of detailed-level data available for users, so there is a need to gain some indication of any potential increase in the number of suppressions resulting from a drop in the capture rate; however, because the level of suppressions is partly determined by whether or not traders choose to request a suppression, it is difficult to quantify this increase with any accuracy.

For the 90 per cent and 95 per cent coverage rates, an analysis was carried out to assess the possible increase in suppressions resulting from low trader numbers in a particular commodity code. Lists have been compiled of the number of traders declaring under each CN8 code at the 97 per cent, 95 per cent and 90 per cent levels, although the specific CN8 codes listed cannot be included in this report owing to confidentiality of the data involved. Analysis of the number of CN8 codes with low declarant numbers at different capture rates gives an indication of the potential for increased numbers of suppressions (tables 4.10 and 4.11).

For arrivals, of the 9,307 CN8 codes that exist at the 97 per cent capture rate, 1,521 have four or fewer declarants; for the 95 and 90 per cent capture rates, this number increases by 20 per cent and 71 per cent respectively (table 4.10).

Table 4.10: CN8 codes with low declarant numbers, Arrivals, January to December 2006

Number of CN8 codes with:	Capture rate			Increase in no. of codes when capture rate falls from 97% to 95% (%)	Increase in no. of codes when capture rate falls from 97% to 90% (%)
	97%	95%	90%		
4 or less declarants	1,521	1,827	2,596	20	71
3 or less declarants	1,176	1,444	2,128	23	81
2 or less declarants	831	1,032	1,615	24	94
1 declarant	440	511	667	16	52

Source: HM Revenue & Customs Overseas Trade Statistics

For dispatches, of the 9023 CN8 codes that exist at the 97 per cent capture rate, 2,197 have four or fewer declarants; this number increases by 27 per cent when the capture rate drops to 95 per cent; under a 90 per cent capture rate the number of CN8 codes with four or less declarants increases by 79 per cent (table 4.11).

Table 4.11: CN8 codes with low declarant numbers, Dispatches, January to December 2006

Number of CN8 codes with:	Capture rate			Increase in no. of codes when capture rate falls from 97% to 95% (%)	Increase in no. of codes when capture rate falls from 97% to 90% (%)
	97%	95%	90%		
4 or less declarants	2197	2792	3933	27	79
3 or less declarants	1769	2282	3364	29	90
2 or less declarants	1259	1701	2621	35	108
1 declarant	669	804	1111	20	66

Source: HM Revenue & Customs Overseas Trade Statistics

The number of CN8 codes with only one declarant is particularly important, as these are the codes that are in most danger of being suppressed, should this be requested by the trader in question. For arrivals, the number of CN8 codes with only one declarant increases by 16 per cent from 440 to 511 when the capture rate is reduced to 95 per cent, and by 52 per cent to 667 under a 90 per cent capture rate. For dispatches, the number of CN8 codes with only one declarant increases by 20 per cent from 669 to 804 when the capture rate is reduced to 95 per cent, and by 66 per cent from 669 to 1,111 when the capture rate is reduced to 90 per cent. While these increases, particularly at 90 per cent level, are quite considerable, it is worth noting that the number of CN8 codes that are actually suppressed at present (under the 97 per cent capture rate) is only 74 for arrivals and 132 for dispatches, and the majority of these have considerably more than four declarants. This suggests that the presence of low declarant numbers at CN8 level is not necessarily a good indicator of potential suppression levels; this may be due to the fact that some suppressions are only applied at country level, or because commodity codes may be suppressed for reasons other than trader confidentiality. Due to suppressions being applied only passively, it seems unlikely that the number of suppressions will increase substantially should the capture rate be reduced to 95 or even 90 per cent.

4.7 Country level results

Appendix 8 shows the value and percentage of UK trade data lost, by partner country, under various capture rates, for each of the 24 MS. The results show that, for arrivals, the average value of trade lost per MS increases by about 1 per cent per percentage point decrease in capture rate; the average reduction in value per MS is 1 per cent at the 96 per cent capture rate, increasing to 7.6 per cent at the 90 per cent capture rate. For dispatches, the average value loss per country is 1.2 per cent at the 96 per cent capture rate, rising to 8.5 per cent at the 90 per cent capture rate, an average increase of 1.2 per cent per percentage point decrease in capture rate. Tables 4.12 and 4.13 show the anticipated percentage of trade lost for each partner country under the 95 and 90 per cent capture rates.

For arrivals, applying a 95 per cent capture rate would have a relatively small effect on the overall value of imports from most MS, with an average value reduction of 2.0 per cent per MS. If the capture rate is reduced to 90 per cent, the effect on arrivals trade from individual countries is considerable: the average value reduction per MS is 7.6 per cent (table 4.12).

For arrivals, under a 95 per cent capture rate, the UK data by MS most affected is with Slovenia, Italy, Greece and Lithuania, which would lose 5.0, 4.4, 3.3 and 3.3 per cent of their arrivals value respectively. The more important partner countries in terms of trade value - Germany, France and the Netherlands - suffer relatively small losses of 1.9, 1.7 and 2.2 per cent respectively.

Under a 90 per cent capture rate Slovenia, Italy and Lithuania are the worst affected areas of the UK data, with losses of 16, 15 and 14 per cent respectively. Further analysis shows that most of the lost trade data with Italy comes from chapters 84 (machinery and mechanical appliances), 94 (furniture), 85 (electrical machinery), 39 (plastics), and 73 (articles of iron and steel). The larger trading nations, France, Germany and the Netherlands, would lose 6.6, 6.2 and 7.7 per cent respectively in the UK data.

Table 4.12: UK Trade data lost, by partner country, Arrivals, January to December 2006

Country	Value of trade at 97%capture rate (£)	Trade lost when changing from 97% to 95% capture rate (%)	Trade lost when changing from 97% to 90% capture rate (%)
France	20,854,233,010	1.71	6.21
Netherlands	20,125,900,569	2.23	7.67
Germany	39,057,642,275	1.92	6.58
Italy	11,880,424,226	4.40	14.95
Ireland	10,038,736,806	2.38	7.45
Denmark	4,494,762,173	2.26	7.89
Greece	640,648,123	3.29	11.29
Portugal	2,751,878,379	1.78	6.63
Spain	10,233,394,427	1.71	6.03
Belgium	13,951,360,165	1.59	5.76
Luxembourg	1,494,689,715	0.70	2.37
Sweden	5,615,132,937	1.80	6.46
Finland	2,727,146,890	1.30	4.84
Austria	2,365,997,849	2.47	9.42
Malta	151,027,989	2.72	11.99
Estonia	465,547,230	1.31	6.50
Latvia	724,716,836	1.07	5.92
Lithuania	266,441,034	3.26	14.27
Poland	3,128,266,220	1.54	6.07
Czech Republic	2,166,978,669	1.54	5.82
Slovakia	637,888,464	1.57	4.08
Hungary	2,020,459,869	0.66	3.56
Slovenia	269,570,116	5.02	16.20
Cyprus	1,248,599,601	0.42	4.11

Source: HM Revenue & Customs Overseas Trade Statistics

For dispatches, applying a 95 per cent capture rate would have a relatively small effect on the overall value of imports from most MS, with an average value reduction of 2.4 per cent per MS. If the capture rate is reduced to 90 per cent, the value of dispatches to individual MS is reduced by a considerably larger amount; the average reduction per MS is 8.5 per cent.

For dispatches, the UK data most affected under a 95 per cent capture rate is with Ireland, Lithuania and Malta, which would lose 6.2 per cent, 5.8 per cent and 5.1 per cent respectively. The fact that we would lose such a large amount of recorded trade by value with Ireland is due to the large number of small UK traders dispatching low-value goods to Ireland; further analysis shows that the majority of lost trade data for dispatches to Ireland originates from chapters 84 (machinery and mechanical appliances and parts thereof), 87 (vehicles), 94 (furniture), 39 (plastics) and 73 (articles of iron or steel). Lithuania and Malta are both small trading nations with a relatively low value of imports from the UK; UK traders dispatching to these nations include a larger than average proportion of low-value traders. The most important loses in value terms – UK trade data with France, Germany and Netherlands – would lose 1.2 per cent, 1.5 per cent and 1.7 per cent respectively (table 4.13).

Under a 90 per cent capture rate for dispatches, the UK data most affected is, as in the 95 per cent case, with Lithuania, Ireland and Malta, with losses of 21 per cent, 19 per cent and 14 per cent respectively. Given the scale of Ireland’s total dispatches to the UK, a loss of 19 per cent represents a large loss of over £3 billion per year in detailed declarations. The three largest trading nations in value terms - France, Germany and the Netherlands – lose 4.6, 5.7 and 5.8 per cent of the UK dispatches data by value respectively.

Table 4.13: UK Trade data lost, by partner country, Dispatches, January to December 2006

Country	Value of trade at 97% capture rate (£)	Trade lost when changing from 97% to 95% capture rate (%)	Trade lost when changing from 97% to 90% capture rate (%)
France	28,594,552,403	1.21	4.57
Netherlands	16,270,859,306	1.69	5.77
Germany	26,660,924,285	1.49	5.71
Italy	9,238,494,291	1.94	7.15
Ireland	15,954,966,755	6.15	19.30
Denmark	3,734,418,784	2.32	8.93
Greece	1,408,819,267	2.85	8.88
Portugal	2,277,973,716	1.84	5.68
Spain	12,250,860,299	1.40	5.26
Belgium	12,902,893,233	1.09	3.85
Luxembourg	1,616,990,923	0.44	1.38
Sweden	5,026,452,800	2.06	7.32
Finland	1,773,048,025	2.28	7.66
Austria	1,635,207,936	1.84	8.17
Malta	295,482,345	5.09	13.81
Estonia	459,543,644	1.03	4.05
Latvia	578,232,143	1.09	3.84
Lithuania	220,972,062	5.77	21.08
Poland	2,707,746,105	2.43	9.34
Czech Republic	1,525,759,865	2.31	9.22
Slovakia	265,623,609	2.42	10.60
Hungary	802,762,227	3.42	12.54
Slovenia	186,613,066	3.81	12.96
Cyprus	1,010,386,204	1.68	6.55

Source: HM Revenue & Customs Overseas Trade Statistics

Potential effect of the 2007 EU expansion on the country-level results

On 1 January 2007 two new countries, Romania and Bulgaria, joined the EU. Because data for Romania and Bulgaria is not included in the 2006 results, some additional analysis was performed on 2007 data relating to these two partner countries in order to gain some insight into the potential data losses.

Using 2007 Intrastat data, a list was extracted of all UK companies who traded with either Romania or Bulgaria in 2007[4]. For these traders, a table was compiled showing the value of their arrivals trade with each of the new MS in 2007, and their total arrivals value for 2007; a similar table was compiled for dispatches.

[4] Date of data extraction was 12 May 2008. Note that 2007 Intrastat data is not finalised until August 2008.

If the 2006 simulated thresholds (table 4.1) are applied directly to this 2007 data (assuming trading patterns have not changed significantly since 2006), the value of UK arrivals trade data that would be lost from Romania under a 95 per cent capture rate is £22 million, which constitutes 3.1 per cent of the total arrivals from Romania in 2007; the value lost from UK declarations for arrivals from Bulgaria would be £9 million, which is equivalent to 4.7 per cent of the total arrivals from Bulgaria in 2007. The values lost are not particularly significant when compared with the total value of trade from Bulgaria and Romania, because the majority of UK trade with these countries is carried out by larger traders who also trade with other MS. Although the rates of loss are higher than the average rate of loss experienced per MS (table 4.12), they are in line with the UK data losses from other countries such as Slovenia, Italy, Greece and Lithuania. Under a 90 per cent coverage rate, the values lost would be £86 million (12.4 per cent) for Romania and £28 million (14.8 per cent) for Bulgaria. Again, these losses are well above the average loss per MS of 7.6 per cent; they are similar to the rates of loss associated with countries such as Slovenia, Italy and Lithuania, which are some of the worst affected MS in percentage terms.

For dispatches, if the simulated 2006 thresholds (table 4.2) are applied to the 2007 data, the value of UK trade data likely to be lost from Romania under a 95 per cent coverage rate is £34 million, which equates to 6.5 per cent of total UK dispatches to Romania in 2007; the value lost from Bulgaria would be £7 million, which is equivalent to 4.5 per cent of total dispatches to Bulgaria in 2007. The values lost are therefore not particularly large in relation to the total value of dispatches to Bulgaria and Romania; this is again because the majority of UK trade with these countries is carried out by larger traders. While the rates of loss are relatively high compared with the average loss per MS of 2.4 per cent (table 4.13), they are in line with the losses from countries such as Ireland (6.2 per cent), Lithuania (5.8 per cent) and Malta (5.1 per cent). Under a 90 per cent coverage rate, the values lost would be £107 million for Romania and £25 million for Bulgaria (20.1 per cent and 15.1 per cent respectively). These percentages equate roughly to the proportion of UK trade data lost from EU partner countries such as Lithuania, Ireland and Malta. Bulgaria and Romania are therefore expected to be amongst the worst affected countries in terms of percentage of reported UK trade data lost.

5 Results of the Consultation Exercise on Intrastat Simplification

Between June and September 2007, HMRC consulted UK trade-in-goods data providers and data users on options to reduce the burden of collecting EU trade-in-goods statistics via the Intrastat survey. The consultation included a public questionnaire and an Intrastat Stakeholder Group of key Government trade statistics users. Although the consultation exercise itself was not part of this project, a description of the main findings is included as they have a bearing on the current UK position regarding Intrastat simplification.

The main options considered in the course of the consultation exercise were:

a. reducing the volume of trade on which data must be collected from the current level of 97 per cent of value to 95 per cent;

b. reducing the volume of trade on which data must be collected from the current level of 97 per cent of value to 90 per cent; and

c. implementation of a single flow system in which each MS would collect data for only one trade flow (arrivals or dispatches) and then exchange this with other EU statistical agencies. This option may require currently exempt traders to start submitting Intrastat declarations.

The respondents were asked for their preferences from the three options, for any ideas on other options and also to identify any options to which they were opposed. Meetings of an Intrastat Stakeholder Group were also used to seek the views of users of Trade Statistics data within HMRC and other UK Government Departments (OGDs)

The vast majority of the respondents were in fact data providers only, many of whom indicated a strong preference for single flow. More specific comments stated that the flow collected should be dispatches because the required information is more readily available. There is also a caution from some respondents that single flow should not lead to a lower threshold (covering more than the current 97 per cent). The majority of the providers who responded were also in favour of a reduction in the coverage rate of Intrastat. There were also requests that the collection of Intrastat should be closer to VAT and possibly combined with VIES information, and that the detail required on Intrastat submissions be simplified.

The data users who responded had concerns about the accuracy and timing of the data provided in a single flow system and suggested that work needs to be done to address asymmetries and other quality issues before relying on the data from one flow. Although many depend on the detailed data, there was a consensus that coverage of 95 per cent would be an acceptable balance between provider burden and user needs.

Results of the questionnaire

There were a total of 53 responses, of which 43 were from data providers only, seven were from statistics users only, and one was from a respondent who was both a data provider and a statistics user. Finally there were two institutes who could not be

classified as either data providers, users or both[5]. Of the 44 data providers, 36 traded in both flows and the remaining eight only traded in arrivals.

Overall, 53 per cent of providers who responded supported single flow, although some preferred a reduction in the value coverage. The data users who responded, including Government Departments who use the data for policy analyses, mainly supported a change in the coverage by value (i.e. raising the exemption threshold), indicating that more work is required to resolve some of the current issues with single flow.

The most common reason for opposition to any of the simplifications options was the likelihood of a lower Intrastat threshold under a single flow system, which would result in increased trade coverage. There was also some concern, mainly from data users, regarding the inevitable loss in data quality under either single flow or a reduced coverage rate. There was little in the way of opposition to the option of a reduced coverage rate of 95 per cent, although there was some concern that too much detailed data would be lost with the 90 per cent option.

One of the problems driving the increase in EU asymmetries is the increase in tax fraud, particularly MTIC fraud across the Community. Asymmetry analyses are a key component in determining the impact of this fraud on trade data, adjusting the data and in monitoring changes in the statistics. Stopping the collection of mirror statistics, as in a single flow regime, would remove the ability to monitor this. Asymmetries have also been used to improve data quality in other areas such as trade in aircraft and energy products.

By far the most popular of the other options suggested by respondents was to reduce the amount of detail collected, possibly by reducing the 8 digit commodity code requirement to 6 or even 4 digits. There were also calls to remove the requirement for supplying net mass, delivery terms or supplementary units, to simplify Nature of Transaction codes used, or to increase the reporting threshold for low-value consignments.

A number of replies also focused on VIES as a possible source of data, suggesting the joint collection of Intrastat, VIES and VAT information. There were also further comments suggesting there should be a stronger link with the VAT system. These focused not only on a joint collection of Intrastat and VIES data but also called for the same methodology to be used for both. Differences highlighted included the treatment of excise goods, goods sent for processing and inter-company transfers. There was also a call not to ask for any data not required on invoices under the Invoicing Directive.

Several respondents referred to the burden of Intrastat on small businesses in particular - some commented on the amount of detail required as soon as they exceeded the exemption threshold and would welcome any option that would reduce it. A reduced coverage rate for Intrastat, whether at 95 per cent or 90 per cent, is the option that most clearly supports the businesses with the smallest amount of EU trade currently under the Intrastat regime, as it would completely remove their requirement to submit Intrastat returns.

[3] Note that all Government Departments and agencies responded as users although some of them do provide Intrastat data.

6 Effect of Single Flow with an increased coverage rate

One of the major concerns regarding the future introduction of any single flow regime is over the capture rate that would be required to obtain sufficiently detailed and reliable data from all MS. Some suggestions have been that the capture rate may need to be raised, possibly to a level as high as 99 per cent, in order to achieve sufficient trade coverage in the estimated flow (flow not collected), particularly for MS with lower volumes of trade.

To examine the effect of a change in coverage rate on the UK Intrastat regime in the event of single flow being introduced, a simulation was performed using the EU trade figures obtained from UK VAT returns, for the annual period January-December 2006. This is the data currently used to calculate the annual UK Intrastat exemption threshold. Data relating to one 'outlier' – a trader who had supplied data that was clearly erroneous – was removed from the dataset prior to analysis.

Two methods of calculating the threshold are analysed; one involves replicating the current method of threshold calculation by applying a capture rate of 97 per cent to arrivals and dispatches separately, then selecting the lower of the two thresholds as the Intrastat exemption threshold for both arrivals and dispatches. The other method uses separate capture rates and thresholds for arrivals and dispatches - 95 per cent for arrivals and 97 per cent for dispatches – in line with the likely forthcoming change proposed by Eurostat. This latter method may be thought of as preparation for a future single flow dispatches-only data collection system, with arrivals data beginning to assume a lower profile.

The 97 per cent capture rate threshold (which would be applied to both arrivals and dispatches data) would be £263,477, with 31,724 traders falling within the Intrastat regime. Under the second dual-threshold method, the arrivals threshold would rise to £629,427, with a reduction in the overall number of Intrastat declarants to 25,101 (table 6.1)

Table 6.1: Thresholds and declarants using VAT data, January to December 2006

Method	Arrivals Threshold	Dispatches Threshold	Total no. of Intrastat declarants
Capture Rate 97%, one threshold	311,557	263,477	31,724
Capture Rate 95% Arrivals, 97% Dispatches	629,427	263,477	25,101

Source: HM Revenue & Customs VAT data

If single flow was introduced with dispatches as the flow collected, a capture rate of 98.8 per cent, with a corresponding threshold of £86,618, is the highest capture rate that would result in a reduction in trader numbers when compared with the current system (table 6.2). At the 98.9 per cent capture rate, the trader numbers are approximately equal to those under the current system (see table 6.1), although the threshold required at this level would be approximately £79,000, which is extremely

low when compared with the £263,000 threshold required for the current 97 per cent capture rate. This would involve many more low-value traders having to submit declarations than at present. A capture rate of 99 per cent would actually result in a net increase in the overall number of traders compared with the 97 per cent capture rate. If the capture rate was raised to only 98 per cent, there would be a net decrease in trader numbers to around 22,600, with a threshold of approximately £157,000.

Table 6.2: Effect of various capture rates, Dispatches, January to December 2006

Capture rate (%)	Threshold (£)	Number of traders
97.0	263,477	17,092
97.1	251,276	17,532
97.2	240,177	17,991
97.3	228,746	18,474
97.4	217,314	18,981
97.5	206,474	19,514
97.6	196,543	20,075
97.7	186,295	20,666
97.8	176,468	21,289
97.9	166,246	21,950
98.0	156,931	22,650
98.1	147,216	23,393
98.2	137,539	24,186
98.3	128,275	25,038
98.4	119,159	25,953
98.5	110,352	26,938
98.6	102,300	28,003
98.7	94,225	29,154
98.8	86,618	30,404
98.9	78,973	31,771
99.0	71,213	33,279

Source: HM Revenue & Customs VAT data

If the proposed change to a 95 per cent capture rate for arrivals is introduced in the medium-tem prior to a single flow (dispatches) system, the number of traders submitting Intrastat declarations will be in the region of 25,000 (table 6.1). If, following this, the single-flow system is introduced, then the single flow capture rate would need to be less than 98.3 per cent in order for any further reduction in the number of declarants to be made.

The 98 per cent level may therefore be a viable compromise in a single flow situation should the capture rate need to be increased from the current level of 97 per cent. However, this would still mean lowering the threshold for dispatches to around £157,000 from the current level of £263,000, which could result in as many as 6,000 additional dispatches traders being required to submit Intrastat returns[6]. Such a large number of new traders requiring education on Intrastat procedures are likely to place

[6] Table 4.2 states that the number of dispatches traders at the 97 per cent level is 16,426.

a strain on HMRC's Intrastat resources as well as on the new traders; this may increase levels of non-compliance, at least in the short term. Although these 6,000 additional traders are responsible for only around 1 per cent of total dispatches trade, there is a danger that detailed trade data on specialised market goods may be missing if the data is not collected; it may be difficult to produce accurate non-response estimates for such a large number of traders with no historical Intrastat data.

7 Effects of raising the threshold on Below Threshold Trade allocations

Although any reduction in the value of CN8 level data following a rise in the Intrastat threshold should theoretically be compensated by an increase in BTT estimates, there is some concern as to whether any very large losses in value at CN8 level will be accurately compensated for by the current UK BTT allocation system. The aim of this section of the project is to assess the effects of a rise in the Intrastat threshold on the value of BTT estimates produced at various levels of detail, and to make a recommendation as to whether the BTT methodology is suitably robust to produce estimates that are compatible with above-threshold trade figures at a reduced threshold level.

7.1 Introduction to the current BTT methodology

The current UK methodology for BTTA is based on the assumption that the distribution of BTT by partner country and commodity is effectively the same as the distribution of trade by businesses which are just above the Intrastat assimilation threshold so that the just above threshold trade can be used as a proxy (Note: analyses carried out by the UK, just prior to the inception of Intrastat in 1993, showed that patterns of trade for traders below the threshold were more similar to those of traders just above the threshold than to those of general above-threshold trader population). In UK trade statistics publications, BTT allocations are included in trade reported at CN8 level for each partner country. At present, EC law only requires the calculation of BTT estimates at HS2 level, although there is a drive towards a future legal requirement for all EU countries to supply their BTT estimates at CN8 level, in order to assist in explaining and reducing asymmetries. In the UK, BTT estimates at CN8 level are also used by the ONS when compiling BoP figures, and by other Government Departments such as DEFRA and BERR alongside reported trade at this level (as described in section 2).

The UK's BTT estimates are calculated on a monthly basis and are then revised at the end of the year to produce annual BTT estimates. The methodology involves the creation of both value factors and quantity factors, which are then applied to the above-threshold trade collected to produce the BTT value estimates (allocations) and quantity estimates. This report focuses only on the production and quality of the annual BTT value estimates, as these form part of the final published UK trade data

The annual BTTA methodology, which is implemented separately for arrivals and dispatches, can be broken down into five stages:

a. total the value of below-threshold trade (BTT) declared on VAT returns in the previous year by below-threshold traders, i.e. traders who are not required to submit Supplementary Declarations;

b. for trade declared on Supplementary Declarations by above-threshold traders in the previous year, total the value of goods traded by each trader;

c. sort the above-threshold traders by the value of goods they have traded;

d. select above-threshold traders in increasing order of value of goods traded until the total value of goods traded by the selected businesses equals or just exceeds the total value of BTT. The trade carried out by the selected traders is known as 'Just Above Threshold Trade' (JATT); and

e. split the JATT by partner country and CN8. This gives the BTT estimates, which are assumed to be distributed in the same way as the JATT.

A previous UK study[7] which examined the accuracy and suitability of the BTTA methodology concluded that, while the method produced biased results in some areas, it was largely satisfactory in terms of the estimated accuracy of the results produced. One weakness of the methodology is that different methods are used to calculate the monthly and annual BTT estimates, with the result that the twelve sets of monthly estimates for a calendar year do not necessarily sum to give the annual BTT estimates for that year.

Under the current monthly BTT system, for each combination of country and HS4 code, an annual factor is calculated based on the previous year's trade; this factor gives the proportion of above threshold trade in that combination which is attributable to JATT. Each factor is assumed to reflect the ratio of below threshold trade to above threshold trade in that combination; the appropriate factor is then applied to reported monthly trade at country/CN8 level to calculate the (provisional) monthly BTT estimates. However, the final annual BTT estimates at country/CN8 level are simply a direct reflection of the JATT values declared at country/CN8 level. This means that (annual) BTT allocations will only exist for those country/CN8 code groups that exist in the JATT.

Under the assumption that a 95 per cent capture rate is the most likely to be adopted according to the results of the project in sections 4-6, the remainder of this study examines the effects on the BTT allocations of reducing the capture rate for Intrastat from 97 per cent to 95 per cent. Due to the fact that (annual) BTT estimates are allocated according to the distribution of JATT, the distribution of the BTT estimates by country/CN8 code is likely to change substantially if the Intrastat assimilation threshold is raised to correspond with a 95 per cent capture rate. Because some Intrastat traders are lost as a result of the raise in the threshold, the JATT traders at the 97 per cent level are not a subset of the JATT traders at the 95 per cent level; the two groups overlap, and therefore BTT estimates may go down as well as up at country/CN8 group level.

[7] EDICOM contract Estat200153100054 'Below Threshold Trade Allocation' (2002) by Mark Herrigan

7.2 Simulation method used

In order to analyse the effects of a reduced coverage rate on the BTT allocations under the current methodology, a simulation exercise was carried out based on annual 2006 VAT data. This exercise used SAS software to recreate the existing actual BTT annual allocations made for the calendar year 2006 under a 97 per cent coverage rate; the same procedure was then applied to simulate a set of BTT allocations at the 95 per cent coverage rate, using the appropriate value thresholds derived in section 4 of this report. The main difficulty experienced during the simulation exercise was in the initial calculation of the total value of BTT (stage 1 in the methodology stated in section 7.1. The existing BTT methodology makes use of VAT data fields specifying the dates of each trader's first and last Intrastat declaration in order to extract BTT traders; but, as this date information relates to submissions under a 97 per cent coverage rate, it is not transferable to the 95 per cent coverage rate. Because of the need to compare results at the 97 per cent and 95 per cent levels on a like-with-like basis, the process for identifying the value of BTT can only be approximated in the simulation procedure, using a method that does not require the use of these date fields. The approximate method used in simulating the total BTT allocation is:

a. identify 2006 above-threshold traders using 2005 VAT data (traders above the 2006 threshold at the end of 2005 would be required to submit Intrastat returns for the whole of 2006);
b. identify 2006 above-threshold traders using 2006 Intrastat data file extracted in section 4 (traders who exceed the 2006 threshold during 2006 would be required to submit Intrastat returns for the remainder of that year); and
c. from the 2006 VAT data, omit all traders identified in steps a and b; for the remaining traders, include only trade for the months of 2006 in which they remained below the threshold.

The trade remaining at the end of the final step is the simulated total BTT for 2006; this gives a fairly good approximation to the total actual BTT[8] at the 97 per cent level, capturing 99.5 per cent of the total actual BTT value for arrivals, and 99 per cent for dispatches. The remainder of the simulated BTT allocation procedure, during which the total BTT value is divided amongst different country/CN8 groups, is exactly the same as the procedure described in the methodology in section 7.1.

7.3 Comparison of BTT allocations at 97 per cent and 95 per cent coverage rates: country level results

The effects of a change in threshold on BTT allocations are important at country level: if the losses in above-threshold trade are not matched by a similar increase in BTT estimates, then the total value of UK trade with individual partner countries may see a dramatic change following a change in the threshold to 95 per cent. Depending on the effects of a threshold change on the national trade statistics of other MS, this may lead to increased asymmetries at country level.

[8] 'Total actual BTT' refers to the total value of BTT calculated in the UK trade statistics mainframe computer and published as part of the 2006 annual UK trade statistics.

Examining the distribution of BTT allocations following the simulation shows that each country/CN8 group falls into one of the following categories:

- **Zero BTT allocation at both 97 per cent and 95 per cent coverage rates**
  In this case there is no JATT trade at either the 97 per cent level or the 95 per cent level, so all trade in these groups comes from above-threshold traders, even when the higher threshold is implemented. Due to the absence of BTT at both the 97 per cent and 95 per cent levels, these country/commodity code groups are not included in the analysis.
- **Zero BTT allocation at 97 per cent coverage rate and non-zero BTT allocation at 95 per cent coverage rate**
  Although there was no trade in these groups from JATT traders at the 97 per cent coverage rate, there was some trade from JATT traders at the 95 per cent coverage rate (groups which are not populated by trade from very small traders are more likely to feature in this category).
- **Non-zero BTT allocation at 97 per cent coverage rate and zero BTT allocation at 95 per cent coverage rate**
  All the trade in these groups comes from small traders who are 'lost' as a result of a raise in the threshold, that is, those with total trade above the 97 per cent threshold but below the 95 per cent threshold[9].
- **Non-zero BTT allocation at both 97 per cent and 95 per cent coverage rates**
  Trade in these groups is more widely distributed between high-value and low-value traders above the 97 per cent threshold.

Tables 7.1 and 7.2 show the distribution of (simulated) BTT commodity code allocations for UK data by partner country, within each of the above categories. Note that the total number of commodity codes for all countries (shown in the final row of tables 7.1 and 7.2) is a simple sum of each column, allowing for multiple counting of commodity codes (the same commodity code may be counted under multiple country headings, where applicable).

For arrivals, the total number of commodity codes (for all partner countries) receiving non-zero BTT allocations increases by around 8 per cent following a decrease in coverage rate from 97 to 95 per cent. From the UK data, the partner countries showing the greatest percentage increase in the number of commodity codes with a BTT allocation are Lithuania (99 per cent), Cyprus (75 per cent), Hungary (73 per cent) and Malta (63 per cent). These countries currently have very low numbers of non-zero BTT allocations in the UK data, so these percentage increases do not represent large increases in the number of allocations. The only partner countries showing a decline in the number of commodity codes with a BTT allocation are Luxembourg (-7 per cent) and Sweden (-1 per cent). Although UK data partners France, Netherlands and Germany have the largest net increase in number of commodity codes at BTT level following the threshold change, in percentage terms these increases equate to only 8 per cent, 6 per cent and 6 per cent respectively (table 7.1).

[9] The term '97 per cent threshold' refers to the current UK 2006 threshold of £225,000, for both arrivals and dispatches trade, under a 97 per cent coverage rate. The term '95 per cent threshold' refers to the raised threshold of £678,719 for arrivals or £791,000 for dispatches under a 95 per cent coverage rate, as derived in section 4 of this report.

Table 7.1: Distribution of simulated BTT allocations at commodity code level for the UK, by partner country, for 97 per cent and 95 per cent coverage rates, Arrivals, January to December 2006

Partner Country	No. of commodity codes with BTT allocations that are:			Total no. of commodity codes with non-zero BTT allocations at 97% level	Total no. of commodity codes with non-zero BTT allocations at 95% level	Change in no. of commodity codes receiving a non-zero BTT allocation (%)
	Zero at 97% level, non-zero at 95% level	Non-zero at 97% level, zero at 95% level	Non-zero at both 97% and 95% levels			
France	1,437	1,058	3,473	4,531	4,910	8.4
Netherlands	1,294	1,035	3,378	4,413	4,672	5.9
Germany	1,263	923	4,445	5,368	5,708	6.3
Italy	1,153	925	3,321	4,246	4,474	5.4
Ireland	1,099	1,052	2,887	3,939	3,986	1.2
Denmark	843	830	1,133	1,963	1,976	0.7
Greece	365	309	152	461	517	12.1
Portugal	728	406	417	823	1,145	39.1
Spain	1,065	929	1,752	2,681	2,817	5.1
Belgium	1,208	1,013	2,204	3,217	3,412	6.1
Luxembourg	189	217	175	392	364	-7.1
Sweden	794	814	938	1,752	1,732	-1.1
Finland	544	427	388	815	932	14.4
Austria	815	580	794	1,374	1,609	17.1
Malta	119	63	26	89	145	62.9
Estonia	109	74	26	100	135	35.0
Latvia	105	65	41	106	146	37.7
Lithuania	244	93	59	152	303	99.3
Poland	646	612	393	1,005	1,039	3.4
Czech Republic	572	446	273	719	845	17.5
Slovakia	201	156	57	213	258	21.1
Hungary	381	167	125	292	506	73.3
Slovenia	253	244	110	354	363	2.5
Cyprus	148	68	39	107	187	74.8
All countries	15,575	12,506	26,606	39,112	42,181	7.8

Source: HM Revenue & Customs Overseas Trade Statistics, HM Revenue & Customs VAT declarations

For dispatches, the total number of UK commodity codes (for all partner countries) receiving non-zero BTT allocations increases by just over 8 per cent following a decrease in coverage rate from 97 to 95 per cent. The UK data by partner country with the greatest percentage increases in the number of commodity codes with a BTT allocation are Estonia (64 per cent), Slovakia (62 per cent) and Slovenia (43 per cent). Only four partner countries show a decline in the number of CN8 codes with a BTT allocation, namely Ireland, Germany, France and Spain; for all these countries the decline is relatively small, with a loss of 4 per cent or less in the number of CN8 codes. For most of the larger partner countries, the change in number of BTT

allocations is relatively insignificant in percentage terms, with the smaller EU nations generally showing a significant increase in the number of CN8 codes with a BTT allocation (table 7.2).

Table 7.2: Distribution of simulated BTT allocations at commodity code level for the UK, by partner country, for 97 per cent and 95 per cent coverage rates, Dispatches,
January to December 2006

Partner Country	No. of commodity codes with BTT allocations that are:			Total no. of commodity codes with non-zero BTT allocations at 97% level	Total no. of commodity codes with non-zero BTT allocations at 95% level	Change in no. of commodity codes receiving a non-zero BTT allocation (%)
	Zero at 97% level, non-zero at 95% level	Non-zero at 97% level, zero at 95% level	Non-zero at both 97% and 95% levels			
France	1,090	1,220	3,344	4,564	4,434	-2.8
Netherlands	1,171	1,151	2,908	4,059	4,079	0.5
Germany	1,129	1,289	3,317	4,606	4,446	-3.5
Italy	1,250	1,019	2,630	3,649	3,880	6.3
Ireland	863	1,128	5,296	6,424	6,159	-4.1
Denmark	1,201	905	2,011	2,916	3,212	10.2
Greece	1,002	901	1,648	2,549	2,650	4.0
Portugal	1,133	893	1,692	2,585	2,825	9.3
Spain	1,106	1,117	2,931	4,048	4,037	-0.3
Belgium	1,271	992	2,500	3,492	3,771	8.0
Luxembourg	571	377	257	634	828	30.6
Sweden	1,179	972	2,163	3,135	3,342	6.6
Finland	1,088	802	1,471	2,273	2,559	12.6
Austria	1,119	695	1,213	1,908	2,332	22.2
Malta	1,103	636	1,249	1,885	2,352	24.8
Estonia	864	378	382	760	1,246	63.9
Latvia	656	484	396	880	1,052	19.5
Lithuania	726	490	403	893	1,129	26.4
Poland	1,162	868	1,496	2,364	2,658	12.4
Czech Republic	1,041	675	1,139	1,814	2,180	20.2
Slovakia	791	339	394	733	1,185	61.7
Hungary	992	612	963	1,575	1,955	24.1
Slovenia	700	380	371	751	1,071	42.6
Cyprus	944	751	1,108	1,859	2,052	10.4
All countries	24,152	19,074	41,282	60,356	65,434	8.4

Source: HM Revenue & Customs Overseas Trade Statistics, HM Revenue & Customs VAT declarations

Tables 7.3 and 7.4 show the value of BTT allocations at the 97 per cent and 95 per cent levels for arrivals and dispatches respectively. For both arrivals and dispatches, the value of BTT allocations more than doubles as a result of the change in

threshold; the rise in BTT value is estimated to be around 105 per cent for arrivals and 108 per cent for dispatches.

Figures for arrivals show that in the UK data the partner countries with the greatest increase in value of BTT allocations following the threshold change are some of the smaller EU MS in terms of value – Cyprus, Hungary, Latvia, Lithuania and Estonia, all of which have an increase in BTT value of more than 200 per cent. The country with the smallest increase in BTT value is Slovakia, with only 45 per cent. Most of the larger partner countries have a BTT value increase which is fairly close to the average country increase of 105 per cent; Ireland's BTT value increase is lower than most at 85 per cent (table 7.3).

Table 7.3: Value of UK BTT allocations for 97 per cent and 95 per cent coverage rates, Arrivals, January to December 2006

Partner Country	Total value of BTT allocations at 97% level (£)	Total value of BTT allocations at 95 level (£)	Increase in value of BTT allocations following change from 97% level to 95% level (%)
France	394,574,207	834,676,997	112
Netherlands	490,455,522	975,913,417	99
Germany	836,009,695	1,662,708,955	99
Italy	587,703,037	1,141,670,375	94
Ireland	315,468,683	582,249,038	85
Denmark	112,672,437	226,300,407	101
Greece	23,344,923	45,110,076	93
Portugal	54,937,538	125,404,285	128
Spain	192,658,703	407,517,425	112
Belgium	251,925,641	536,759,282	113
Luxembourg	11,578,559	24,309,596	110
Sweden	115,086,506	236,357,319	105
Finland	39,456,373	83,943,543	113
Austria	62,999,821	141,719,365	125
Malta	4,214,384	12,303,164	192
Estonia	7,027,312	21,788,538	210
Latvia	9,109,624	35,561,198	290
Lithuania	8,372,767	28,071,776	235
Poland	52,447,683	133,648,985	155
Czech Republic	36,490,034	83,652,328	129
Slovakia	10,429,298	15,128,917	45
Hungary	14,846,374	59,219,624	299
Slovenia	13,519,250	29,164,375	116
Cyprus	6,116,960	32,331,620	429
All countries	3,651,445,332	7,475,510,603	105

Source: HM Revenue & Customs Overseas Trade Statistics, HM Revenue & Customs VAT declarations

Dispatches data shows less variability between partner countries than the arrivals data. The partner countries with the largest percentage increase in the UK's BTT values are Slovakia (230 per cent), Austria (172 per cent) and Estonia (168 per cent), and those with the smallest are Malta (51 per cent) and Ireland (72 per cent). Dispatches data is markedly different to arrivals: there is less difference between large and small partner countries when comparing the effects of the threshold change on UK BTT levels (table 7.4).

Table 7.4: Value of UK BTT allocations for 97 per cent and 95 per cent coverage rates, Dispatches, January to December 2006

Partner Country	Total value of BTT allocations at 97% level (£)	Total value of BTT allocations at 95% level (£)	Increase in value of BTT allocations following change from 97% level to 95% level (%)
France	362,069,805	852,368,082	135
Netherlands	288,302,096	592,509,369	106
Germany	419,555,760	991,956,895	136
Italy	187,989,309	423,971,139	126
Ireland	1,073,296,515	1,841,737,671	72
Denmark	92,015,856	224,177,258	144
Greece	41,165,385	74,080,051	80
Portugal	44,042,736	77,233,034	75
Spain	175,441,158	398,168,036	127
Belgium	142,360,763	307,573,534	116
Luxembourg	7,038,959	14,242,699	102
Sweden	109,622,765	238,768,444	118
Finland	40,526,919	87,456,355	116
Austria	32,840,708	89,424,759	172
Malta	14,585,479	22,037,658	51
Estonia	4,638,904	12,448,822	168
Latvia	6,531,538	14,385,688	120
Lithuania	12,775,857	28,407,890	122
Poland	67,941,448	170,064,493	150
Czech Republic	37,665,373	95,498,191	154
Slovakia	6,238,893	20,560,370	230
Hungary	29,171,745	68,535,067	135
Slovenia	6,790,499	12,242,374	80
Cyprus	17,027,140	42,728,634	151
All countries	3,219,635,609	6,700,576,512	108

Source: HM Revenue & Customs Overseas Trade Statistics, HM Revenue & Customs VAT declarations

The most obvious test of whether or not the current UK BTTA method is successful in making allocations at a reduced capture rate is whether the BTT allocations at the 95 per cent level match the value of above-threshold trade lost as a result of the threshold change. Although a good match between above threshold losses and below threshold gains would be difficult to achieve at country/CN8 level, an

assessment of the net effect on total trade value[10] at partner country and chapter level should give a good indication of whether the method is working successfully.

When BTT allocations are added to reported trade, the value of arrivals at the 95 per cent capture rate is estimated to be within 0.36 per cent of the value at the 97 per cent level. When the results are examined at partner country level, for the majority of MS (17 out of 24) the UK total trade value at the 95 per cent capture rate is within 1 per cent of the value at the 97 per cent capture rate; for the remaining MS the percentage change in total trade value is less than 4 per cent, the highest percentage increase coming from the data on Lithuania. The impact on total trade value for more recent EU MS, and those trading at lower levels, tends to be generally larger than the impact on MS with high densities of trade. There is a potential upward bias in the distribution of BTT allocations in that, apart from Slovakia, all the UK data with other countries shows an increase in total trade value following the change to a 95 per cent coverage rate. When these percentage changes are considered alongside the average annual change in total trade per partner country between 2001 and 2006 (Appendix 11), based on the current 97 per cent capture rate, the results are very encouraging; based on the five year-on-year changes between 2001 and 2006, the average annual change in total trade value per country is already extremely variable, ranging from -0.4 per cent to 43 per cent for non-accessionary partner countries.[11] The annual changes over the five years vary quite dramatically about these averages, so the comparatively small changes resulting from the threshold change should easily be absorbed as part of the normal annual fluctuation at country level (table 7.5).

[10] 'Total trade value' here refers to the sum of above threshold trade (reported trade) and below-threshold estimates

[11] Only one year-on-year change (2005-06) was observable for accessionary MS.

Table 7.5: Comparison of UK above threshold trade levels with BTT allocations, Arrivals, January to December 2006

Partner Country	Value of above threshold trade (£)		Total value of BTT allocations (£)		Net increase in total trade value[1] when changing from 97% to 95% level (%)
	97% level	95% level	97% level	95% level	
France	20,854,233,010	20,497,173,659	394,574,207	834,676,997	0.39
Netherlands	20,125,900,569	19,676,188,775	490,455,522	975,913,417	0.17
Germany	39,057,642,275	38,308,234,786	836,009,695	1,662,708,955	0.19
Italy	11,880,424,226	11,357,641,058	587,703,037	1,141,670,375	0.25
Ireland	10,038,736,806	9,799,535,123	315,468,683	582,249,038	0.27
Denmark	4,494,762,173	4,393,320,118	112,672,437	226,300,407	0.26
Greece	640,648,123	619,595,527	23,344,923	45,110,076	0.11
Portugal	2,751,878,379	2,702,771,809	54,937,538	125,404,285	0.76
Spain	10,233,394,427	10,058,248,864	192,658,703	407,517,425	0.38
Belgium	13,951,360,165	13,728,886,919	251,925,641	536,759,282	0.44
Luxembourg	1,494,689,715	1,484,165,678	11,578,559	24,309,596	0.15
Sweden	5,615,132,937	5,513,789,227	115,086,506	236,357,319	0.35
Finland	2,727,146,890	2,691,581,322	39,456,373	83,943,543	0.32
Austria	2,365,997,849	2,307,446,201	62,999,821	141,719,365	0.83
Malta	151,027,989	146,927,477	4,214,384	12,303,164	2.57
Estonia	465,547,230	459,444,284	7,027,312	21,788,538	1.83
Latvia	724,716,836	716,977,820	9,109,624	35,561,198	2.55
Lithuania	266,441,034	257,758,974	8,372,767	28,071,776	4.01
Poland	3,128,266,220	3,080,044,947	52,447,683	133,648,985	1.04
Czech Republic	2,166,978,669	2,133,671,817	36,490,034	83,652,328	0.63
Slovakia	637,888,464	627,890,330	10,429,298	15,128,917	-0.82
Hungary	2,020,459,869	2,007,149,857	14,846,374	59,219,624	1.53
Slovenia	269,570,116	256,032,158	13,519,250	29,164,375	0.74
Cyprus	1,248,599,601	1,243,383,997	6,116,960	32,331,620	1.67
All countries	157,311,443,572	154,067,860,727	3,651,445,332	7,475,510,603	0.36

1 Total trade value refers to the sum of above threshold trade and below threshold estimates

Source: HM Revenue & Customs Overseas Trade Statistics, HM Revenue & Customs VAT declarations

For dispatches the results are fairly similar. At total trade level (including BTTA) the anticipated value of dispatches at the 95 per cent capture rate is within 0.3 per cent of the value at the 97 per cent capture rate. At partner country level, for 15 of the 24 MS the total trade value at the 95 per cent capture rate is within 1 per cent of the value at the 97 per cent capture rate; for the remaining MS the change in total trade value following the threshold change varies between -2.5 per cent (Malta) and 2.9 per cent (Slovakia). One noticeable difference from the arrivals data is that there is less evidence of upward bias in the BTT estimates; more UK data for partner countries shows a decrease in total trade value for dispatches. In comparison with

the average annual change in total trade value per partner country between 2001 and 2006 (Appendix 11), the results are again very positive; the average year-on-year change in total dispatches value per EU15 MS between these years varies between 3 per cent (Italy) and 131 per cent (Luxembourg), with considerable annual variation about these averages, so the relatively low level of additional disparity caused by the threshold change should not have a noticeable impact on total trade at partner country level (table 7.6).

Table 7.6: Comparison of UK above threshold trade levels with BTT allocations, Dispatches, January to December 2006

Partner **Country**	**Value of above threshold trade (£)**		**Total value of BTT allocations (£)**		**Net increase in total trade value[1] when changing from 97% to 95% level (%)**
	97% level	**95% level**	**97% level**	**95% level**	
France	28,594,552,403	28,247,916,858	362,069,805	852,368,082	0.50
Netherlands	16,270,859,306	15,996,435,386	288,302,096	592,509,369	0.18
Germany	26,660,924,285	26,264,580,608	419,555,760	991,956,895	0.65
Italy	9,238,494,291	9,058,918,591	187,989,309	423,971,139	0.60
Ireland	15,954,966,755	14,973,316,212	1,073,296,515	1,841,737,671	-1.25
Denmark	3,734,418,784	3,647,601,181	92,015,856	224,177,258	1.19
Greece	1,408,819,267	1,368,709,667	41,165,385	74,080,051	-0.50
Portugal	2,277,973,716	2,236,159,575	44,042,736	77,233,034	-0.37
Spain	12,250,860,299	12,078,790,348	175,441,158	398,168,036	0.41
Belgium	12,902,893,233	12,762,701,922	142,360,763	307,573,534	0.19
Luxembourg	1,616,990,923	1,609,877,442	7,038,959	14,242,699	0.01
Sweden	5,026,452,800	4,922,732,007	109,622,765	238,768,444	0.50
Finland	1,773,048,025	1,732,671,822	40,526,919	87,456,355	0.36
Austria	1,635,207,936	1,605,046,344	32,840,708	89,424,759	1.58
Malta	295,482,345	280,445,558	14,585,479	22,037,658	-2.45
Estonia	459,543,644	454,810,292	4,638,904	12,448,822	0.66
Latvia	578,232,143	571,955,871	6,531,538	14,385,688	0.27
Lithuania	220,972,062	208,232,657	12,775,857	28,407,890	1.24
Poland	2,707,746,105	2,641,948,610	67,941,448	170,064,493	1.31
Czech Republic	1,525,759,865	1,490,461,757	37,665,373	95,498,191	1.44
Slovakia	265,623,609	259,191,712	6,238,893	20,560,370	2.90
Hungary	802,762,227	775,332,057	29,171,745	68,535,067	1.43
Slovenia	186,613,066	179,497,462	6,790,499	12,242,374	-0.86
Cyprus	1,010,386,204	993,433,126	17,027,140	42,728,634	0.85
All countries	147,399,583,293	144,360,767,065	3,219,635,609	6,700,576,512	0.29

1 Total trade value refers to the sum of above threshold trade and below threshold estimates

Source: HM Revenue & Customs Overseas Trade Statistics, HM Revenue & Customs VAT declarations

7.4 Chapter level results

The degree of change in the value of total trade at chapter level brought about by a change in capture rate to 95 per cent provides a useful indicator of how well the BTTA method is working: if the methodology is sufficiently robust, then the decrease in above-threshold trade in a given chapter under a reduced capture rate ought to be approximately matched by an equivalent increase in BTTA. Any large increase or decrease in the 'total trade value' of a chapter following a change in threshold may be a cause for concern, particularly if the chapter concerned includes any high-profile or high-value trade sector. Appendix 10 shows the net percentage increase in total trade value (including BTTA) by chapter, for arrivals and dispatches, following a decrease in the capture rate from 97 per cent to 95 per cent.

Tables 7.7 (arrivals) and 7.8 (dispatches) are extracts from Appendix 10, showing only those chapters where the net percentage change in total trade value is greater than five per cent (see Appendix 10 for chapter descriptions). The majority of chapters (58 for arrivals and 59 for dispatches) experience an increase in total trade value caused by the loss in above-threshold trade being marginally over-compensated by BTT estimates. However, the majority of chapters experience only a small change in trade value: only 18 arrivals chapters and 17 dispatches chapters change in value by more than five per cent.

An analysis of the annual increase in total trade value per chapter over the period 2001-2006 shows considerable annual variation in the change in total trade value of most chapters. Details of the analysis, including chapter descriptions, are found in Appendix 12. Comparing the results in Appendix 12 with those in tables 7.7 and 7.8 shows that the change in total trade value per chapter brought about by a reduced capture rate of 95 per cent is relatively high for the worst affected chapters; for these chapters the anticipated change in value may not be easily absorbed into the annual fluctuation observed for that chapter. This is particularly noticeable in chapters with a large downturn in total trade under the new capture rate due to insufficient compensation of the above-threshold trade loss by BTT estimates; these include chapters 14 (vegetable plaiting materials) and 92 (musical instruments). Of those chapters with a negative net percentage change, most experience a change that lies outside the range of annual changes observed for the chapter. However, the chapters listed are nearly all of low value, so the impact of this is not likely to be far-reaching, although there could be some effect on the trade statistics available for monitoring specialist markets such as musical instruments.

For arrivals, the chapter with the largest percentage increase in total trade value is chapter 78 (lead), which increases in value by 14 per cent; this chapter experiences very little loss in above-threshold trade value, but this is over-compensated for by a seven-fold increase in BTT estimates. The arrivals chapters with the largest percentage decrease in total trade value are chapters 14 (vegetable plaiting materials), 66 (umbrellas, walking sticks, etc.), 92 (musical instruments), 46 (wickerwork and basketwork) and 50 (silk). These are precisely the same five worst-affected chapters identified in section 4 (see table 4.6) in the analysis of above-threshold trade loss. Apart from chapter 50 (silk), each of these chapters experiences a loss in BTT allocations as well as a loss in above-threshold trade, which combine to give a very large loss in total trade. By far the highest value chapter listed in the table is 06 (live trees), which decreases in value by 8.3 per cent (table 7.7).

Table 7.7: Comparison of above threshold trade levels with BTT allocations: Arrivals chapters experiencing a net change in total trade value of greater than 5 per cent or less than -5 per cent following a change from 97 per cent to 95 per cent capture rate, January to December 2006

Chapter	Value of above threshold trade (£)		Total value of BTT allocations (£)		Net change in total trade value[1] when changing from 97% to 95% level
	97% level	95% level	97% level	95% level	(%)
78	32,155,030	31,448,274	899,366	6,333,671	14.3
45	10,874,399	10,277,937	723,353	1,975,858	5.7
11	128,848,244	125,067,394	4,227,991	15,462,680	5.6
86	123,853,889	119,978,801	4,868,467	15,552,251	5.3
55	207,997,706	191,081,651	20,988,338	50,001,175	5.3
25	259,659,417	245,891,775	17,172,258	45,000,965	5.1
05	41,928,949	37,232,930	4,717,241	6,810,895	-5.6
65	40,312,180	37,558,043	2,939,875	3,259,978	-5.6
99	100,829,332	94,872,544	7,131,979	7,009,034	-5.6
63	204,533,230	184,588,910	21,720,984	27,750,675	-6.1
43	21,657,378	19,703,922	2,159,466	2,426,486	-7.1
06	692,388,761	606,032,321	97,776,550	118,580,105	-8.3
80	11,077,049	9,404,525	1,732,564	2,203,311	-9.4
50	10,974,337	8,081,354	3,416,855	4,090,999	-15.4
46	5,310,498	4,495,913	651,757	259,201	-20.2
92	35,019,086	27,340,074	8,651,674	6,060,961	-23.5
66	6,288,336	4,572,381	1,995,879	1,512,522	-26.5
14	3,822,535	2,543,774	1,570,296	942,322	-35.4

1 Total trade value refers to the sum of above threshold trade and below threshold estimates

Source: HM Revenue & Customs Overseas Trade Statistics, HM Revenue & Customs VAT declarations

For dispatches, the chapter with the greatest percentage increase in total trade is chapter 36 (explosives), which increases by over 12 per cent; this chapter's BTT allocations increase five-fold, overestimating the very small loss in above-threshold trade. The dispatches chapters with the largest percentage decrease in total trade value are chapters 14 (vegetable plaiting materials), 92 (musical instruments) and 53 (vegetable textile fibres), the first two of which were also identified as an issue in the arrivals data. These are also some of the worst-affected chapters identified in the analysis of above-threshold trade loss (table 4.7); chapter 14 suffers due to the reduction in the level of BTT allocations following the threshold change, whereas in chapters 92 and 53 the cause is a large reduction in above-threshold trade value. As in the arrivals case, the worst-affected chapters are all low in value. In terms of trade value, the most important chapter listed in the table is 03 (fish), which increases in total trade value by 7.3 per cent (table 7.8).

Table 7.8: Comparison of above threshold trade levels with BTT allocations: Dispatches chapters experiencing a net change in total trade value of greater than 5 per cent or less than -5 per cent following a change from 97 per cent to 95 per cent capture rate, January to December 2006

	Value of above threshold trade (£)		Total value of BTT allocations (£)		Net change in total trade value[1] when changing from 97% to 95% level
Chapter	97% level	95% level	97% level	95% level	(%)
36	29,638,630	28,317,558	1,346,025	6,565,336	12.6
43	20,015,089	19,080,032	916,204	3,702,921	8.8
45	1,959,352	1,872,441	118,200	370,764	8.0
03	682,836,863	641,730,436	43,721,647	138,575,004	7.4
26	24,700,462	23,799,118	987,555	3,464,873	6.1
56	138,293,115	132,719,614	6,517,940	20,041,420	5.5
09	86,641,921	79,373,354	7,801,129	10,103,070	-5.3
42	166,781,827	146,328,115	21,951,934	31,399,129	-5.8
07	132,587,545	106,197,230	26,015,072	38,706,702	-8.6
97	98,684,104	87,291,514	10,955,269	12,876,608	-8.6
06	39,937,248	32,795,742	7,366,642	9,512,833	-10.6
46	2,189,689	1,988,304	487,948	372,247	-11.8
50	16,662,348	13,320,633	2,650,905	3,692,598	-11.9
66	8,972,473	7,812,937	1,468,951	1,231,851	-13.4
53	15,560,506	12,658,520	2,953,898	2,910,317	-15.9
92	21,168,123	15,781,270	4,781,360	5,221,463	-19.1
14	547,820	424,738	265,861	75,286	-38.5

1 Total trade value refers to the sum of above threshold trade and below threshold estimates

Source: HM Revenue & Customs Overseas Trade Statistics, HM Revenue & Customs VAT declarations

The results confirm that if a chapter contains a large proportion of traders who 'disappear' as a result of the threshold change, the levels of BTT within that chapter are more likely to be impacted.

7.5 Country/CN8 level results

Since the UK BTTAs are allocated at country/CN8 level and published UK trade figures include BTTA at this level, the effect of a threshold change on data at this level needs to be assessed. Although the effects of a 95 per cent coverage rate at country/CN8 level are likely to be extremely variable, some insight into the impact at this level may be gained by categorising country/CN8 groups according to the effect on the total trade value (including BTTA) of each group. Table 7.9 categorises country/CN8 groups by the extent of the loss or gain in total trade value (including BTTA) following the change from a 97 per cent to a 95 per cent capture rate. Appendix 13 contains details of the country/CN8 groups within each of the categories shown in the table.

For both arrivals and dispatches, a large proportion of country/CN8 groups (30 per cent for arrivals and 27 per cent for dispatches) remain unchanged in value following the simulated threshold change; these groups are those with zero BTTA at both 97 per cent and 95 per cent levels, which consist of goods traded primarily by larger traders. Around 6 per cent of country/CN8 groups would be lost entirely, even with the inclusion of below-threshold estimates. Around 63 per cent of arrivals and 58 per cent of dispatches groups change in value by less than 25 per cent. The 14 per cent of arrivals groups and 16 per cent of dispatches groups that change in value by 50 per cent or more are predominantly low-value groups which are more strongly influenced by changes in BTT level (table 7.9).

Table 7.9: Effects of a change in capture rate to 95 per cent on UK total trade value[1] of country/CN8 groups[2], January to December 2006

Effect on total trade value following change from 97% to 95% level	Arrivals		Dispatches	
	Number of country/CN8 groups	Percentage of country/CN8 groups[3]	Number of country/CN8 groups	Percentage of country/CN8 groups[3]
100% loss	4,309	5.5	6,967	6.0
Loss of at least 50% but less than 100%	6,318	8.0	11,268	9.7
Loss of at least 25% but less than 50%	3,572	4.6	5,552	4.8
Loss of at least 10% but less than 25%	3,842	4.9	5,650	4.8
Loss of less than 10%	9,276	11.8	11,980	10.3
Remaining the same	23,383	29.8	31,246	26.8
Gain of less than 10%	9,718	12.4	13,265	11.4
Gain of at least 10% but less than 25%	3,556	4.5	5,816	5.0
Gain of at least 25% but less than 50%	3,140	4.0	5,722	4.9
Gain of at least 50% but less than 100%	11,285	14.4	18,960	16.3
Gain of 100% or more	88	0.1	76	0.1
All country/CN8 groups existing at 97% level	78,487	100.0	116,502	100.0

1 Total trade value refers to the sum of above threshold trade and below threshold estimates.

2 Data excludes country/CN8 groups with no above-threshold trade (and therefore no BTT) at either the 97% or 95% level; groups with no BTT at either level but with some above-threshold trade are included.

3 Percentage based on the total number of country/CN8 groups at the 97 per cent level.

Source: HM Revenue & Customs Overseas Trade Statistics, HM Revenue & Customs VAT declarations

Tables 7.10 and 7.11 summarise the information in table 7.9, breaking down the totals by country. As in table 7.9, all the data is based on total trade value, including BTT estimates. In the case of arrivals (table 7.10) for most countries the proportion of CN8 codes reduced in value by 50 per cent or more is balanced by a similar

proportion of CN8 codes that gain 50 per cent or more in value. The most notable exceptions are the UK data for trade with Lithuania, Hungary, Portugal and Cyprus, all of which have a much greater number of CN8 codes increasing than decreasing in value. The proportion of CN8 codes lost entirely is relatively low for large EU partner countries such as France (3 per cent), Netherlands (4 per cent) and Germany (2 per cent), but much higher for smaller MS such as Slovenia (18 per cent), Estonia (14 per cent) and Slovakia (11 per cent). The countries with the greatest percentage of CN8 codes changing in value by more than 50 per cent in the UK data are Slovenia (48 per cent) and Estonia (41 per cent).

For arrivals, the highest value country/CN8 groups that are likely to be lost as a result of a rise in the threshold are Belgium with codes 84623991 (hydraulic machine tools) at £3.6 million and 76109010 (aluminium structure and parts) at £2.0 million, and Italy with code 92029080 (other stringed musical instruments) at £1.9 million (table 7.10).

Table 7.10: Effect of change in capture rate to 95 per cent on UK total trade value (including BTTA) of CN8 codes by partner country, Arrivals, January to December 2006

Partner Country	Total no. of CN8 codes at 97% level	CN8 codes lost entirely (%)	CN8 codes reduced in value by more than 50%[1] (%)	CN8 codes increasing in value by more than 50% (%)	CN8 codes changing in value by more than 50% (%)
France	7,556	2.7	10.4	11.5	21.8
Netherlands	7,091	4.0	12.8	13.6	26.4
Germany	8,077	2.3	9.9	9.4	19.3
Italy	6,621	4.2	14.2	13.8	28.0
Ireland	6,342	4.9	16.6	14.6	31.3
Denmark	4,190	7.0	16.4	15.8	32.1
Greece	1,690	10.9	16.9	18.1	35.0
Portugal	2,461	7.2	13.4	23.4	36.9
Spain	5,446	5.7	14.7	14.2	28.9
Belgium	6,396	3.8	11.1	11.5	22.6
Luxembourg	1,120	9.2	13.9	13.0	27.0
Sweden	4,051	5.9	15.3	14.4	29.7
Finland	2,330	8.7	16.3	17.0	33.2
Austria	3,540	5.8	13.4	16.4	29.8
Malta	554	9.0	12.5	17.7	30.1
Estonia	434	13.8	16.8	24.0	40.8
Latvia	497	8.5	12.7	19.5	32.2
Lithuania	839	8.5	11.7	22.8	34.4
Poland	2,903	9.9	16.9	16.1	33.0
Czech Republic	2,350	8.1	14.6	18.3	32.9
Slovakia	881	11.0	15.9	19.5	35.4
Hungary	1,561	5.2	8.7	18.1	26.8
Slovenia	958	18.0	24.1	24.2	48.3
Cyprus	599	6.3	8.8	18.7	27.5
All countries	78,487	5.5	13.5	14.5	28.0

1 Includes CN8 codes that are lost entirely.

Source: HM Revenue & Customs Overseas Trade Statistics, HM Revenue & Customs VAT declarations

In the dispatches case the pattern is fairly similar to arrivals, with the number of UK CN8 codes significantly reduced in value balanced by a similar number that increase significantly in value. The most obvious exceptions are UK data for Slovakia and Estonia, which have more increasing CN8 codes than decreasing ones, and Ireland, which has more decreasing CN8 codes than increasing ones. The proportion of CN8 codes lost entirely is more evenly distributed between partner countries than in the arrivals case; the UK would lose between 4 and 8 per cent of the CN8 codes by partner country apart from Latvia and Lithuania, which lose around 10 per cent and 11 per cent respectively. The partner countries with the greatest proportion of CN8

codes changing in value by more than 50 per cent in the UK data are Lithuania (40 per cent), Latvia (39 per cent) and Slovakia (38 per cent) (table 7.11).

For dispatches, the highest value country/CN8 groups that are likely to be lost from the UK data as a result of a rise in the threshold are Netherlands with code 44013090 (other wood waste) at £1.5 million, Denmark with code 90015041 (spectacle lenses) at £1.5 million, Spain with code 03074199 (squid) at £1.3 million, and France with code 27012000 (coal briquettes) at £1.3 million (table 7.11).

Table 7.11: Effect of change in capture rate to 95 per cent on UK total trade value (including BTTA) of CN8 codes, by partner country, Dispatches, January to December 2006

Partner Country	Total no. of CN8 codes at 97% level	CN8 codes lost entirely (%)	CN8 codes reduced in value by more than 50%[1] (%)	CN8 codes increasing in value by more than 50% (%)	CN8 codes changing in value by more than 50% (%)
France	7,127	4.7	15.1	13.3	28.4
Netherlands	6,694	5.6	17.5	14.8	32.3
Germany	7,296	4.1	14.2	12.6	26.7
Italy	6,449	5.1	14.5	15.2	29.6
Ireland	8,190	3.9	18.8	12.2	31.1
Denmark	5,470	6.3	17.9	18.2	36.1
Greece	4,836	8.1	17.2	16.9	34.1
Portugal	5,066	7.3	17.2	17.3	34.5
Spain	6,652	5.4	14.9	14.3	29.3
Belgium	6,304	5.1	15.0	15.8	30.7
Luxembourg	2,408	6.9	13.3	16.9	30.1
Sweden	5,766	5.7	15.6	15.0	30.6
Finland	4,798	6.4	15.7	17.2	32.9
Austria	4,736	5.0	12.7	16.2	28.9
Malta	4,198	6.7	17.4	19.8	37.2
Estonia	2,742	6.7	12.6	23.1	35.7
Latvia	2,549	10.2	18.3	20.3	38.6
Lithuania	2,659	11.4	19.1	20.6	39.7
Poland	4,895	6.3	15.8	18.4	34.3
Czech Republic	4,385	5.3	13.3	16.9	30.2
Slovakia	2,532	6.0	12.3	25.8	38.1
Hungary	3,916	6.6	14.3	19.0	33.3
Slovenia	2,704	6.9	13.3	18.0	31.3
Cyprus	4,130	7.4	15.7	15.5	31.2
All countries	116,502	6.0	15.7	16.3	32.0

1 Includes CN8 codes that are lost entirely.

Source: HM Revenue & Customs Overseas Trade Statistics, HM Revenue & Customs VAT declarations

The detailed data analysis by country and commodity code in appendix 13 shows that most of the country/CN8 groups that are lost are from chapter 84 (machinery and mechanical appliances), which loses 529 country/CN8 groups for arrivals and 988 for dispatches; this equates to 12.3 and 14.2 per cent respectively of all arrivals and dispatches country/CN8 groups lost. The other chapter most affected is chapter 85 (electrical machinery and equipment), which loses 234 country/CN8 groups from arrivals and 314 from dispatches.

The results in section 4 showed that, at total above-threshold trade level, only 81 arrivals CN8 codes and 209 dispatches CN8 codes would disappear from the aggregated trade statistics. However, the country-level results (including BTTA) in tables 7.9-7.11 are more revealing: a total of 4,309 CN8 codes would be lost at country level[12] for arrivals, and 6,967 for dispatches, even with the inclusion of BTT estimates.

The chapters losing the greatest percentage of country/CN8 groups for arrivals are 14 (vegetable plaiting materials), which loses 29 per cent of its country/CN8 groups, and 01 (live animals), which loses 27 per cent (table 7.12).

[12] The number of CN8 codes lost at country level allows multiple counting of the same CN8 codes under different country headings.

Table 7.12: Chapters losing the highest percentage of country/CN8 groups, Arrivals, January to December 2006

Chapter	Description	Total no. of country/CN8 groups at 97% level	Country/CN8 groups lost (%)	Total value of trade at 97% level[1] (£)
14	Vegetable plaiting materials; vegetable products not elsewhere specified or included	42	28.6	5,392,831
01	Live animals	79	26.6	271,146,688
41	Hides and skins (other than furskins) and leather	293	20.8	132,068,553
97	Works of art, collectors' pieces and antiques	90	20.0	197,292,050
05	Products of animal origin not elsewhere specified or included	91	19.8	46,646,190
46	Wickerwork and basketwork	69	18.8	5,962,255
92	Musical instruments; parts and accessories for such	169	17.8	43,670,760
89	Ships, boats and floating structures	116	14.7	143,510,015
93	Arms and ammunition; parts and accessories thereof	172	13.4	165,945,655
50	Silk	138	13.0	14,391,192

1 Based on simulated 2006 data

Source: HM Revenue & Customs Overseas Trade Statistics, HM Revenue & Customs VAT declarations

For dispatches, the chapters most affected are 92 (musical instruments), which loses 36 per cent of groups, and 97 (works of art) which loses 27 per cent. Although most of these chapters are very low in terms of total trade value, the data loss may still have a negative impact on the quality of trade data relating to specialist market sectors (such as musical instruments) and sensitive goods (such as arms and ammunition) which may be of interest to particular Government departments (table 7.13).

Table 7.13: Chapters losing the highest percentage of country/CN8 groups, Dispatches, January to December 2006

Chapter	Description	Total no. of country/CN8 groups at 97% level	Country/CN8 groups lost (%)	Total value of trade at 97% level[1] (£)
92	Musical instruments; parts and accessories for such	406	35.7	25,949,483
97	Works of art, collectors' pieces and antiques	114	27.2	109,639,373
93	Arms and ammunition; parts and accessories thereof	230	22.2	165,116,678
06	Live trees and other plants; bulbs, roots and the like; cut flowers and ornamental foliage	174	20.7	47,303,890
88	Aircraft, spacecraft, and parts thereof	240	20.0	3,000,554,291
41	Hides and skins (other than furskins) and leather	327	19.9	158,412,673
89	Ships, boats and floating structures	183	19.1	263,078,936
60	Knitted or crocheted fabrics	442	16.7	58,940,954
10	Cereals	353	15.3	267,045,742
03	Fish and crustaceans, molluscs and other aquatic invertebrates	1,301	14.7	726,558,510

1 Based on simulated 2006 data

Source: HM Revenue & Customs Overseas Trade Statistics, HM Revenue & Customs VAT declarations

7.6 Suggested enhancements to the BTT methodology

The year following the changeover from 97 per cent to 95 per cent is likely to prove the most problematic in terms of producing accurate monthly BTT estimates. If the BTT factors for producing the monthly estimates are created in the usual way at the end of the previous year, they will be the factors corresponding to the 97 per cent level and therefore the estimates they produce are likely to be too low in terms of total BTT; the BTT estimates at country/commodity code level may also be wrongly distributed, since the distribution of trade for JATT traders at the 95 per cent threshold level has been shown to be considerably different to that of JATT traders at the 97 per cent level. This could be remedied by ensuring the following:

- the method used for calculating the total value of BTT for the previous year would need to be one that does not rely on Intrastat submission date information contained within the VAT files, such as the method described in section 7.2; and

- when calculating the factors, the new threshold would need to be applied to Intrastat data submitted the previous year, thus eliminating all data from traders below the new threshold. Using this 'cut-down' dataset, a new set of JATT traders would be established from which to calculate the new set of factors; these factors could then be used to calculate the monthly BTT allocations for the following year.

If no measures were able to be implemented in the short term to ensure accurate monthly BTT estimates, the problem could be remedied at the end of the calendar year when the monthly BTT estimates are replaced by the annual ones. However, in this instance a larger than usual discrepancy would be expected between the sum of the monthly BTT estimates and the annual BTT estimates. Inaccurate monthly BTT estimates would also be undesirable as they would not meet legislative, statistical governance or customer requirements. When calculating the first annual BTT estimates under the new threshold, care would need to be taken not to rely on any data that is dependent on the old (97 per cent) threshold.

The results in section 7 illustrate the main issue relating to the current annual BTT methodology: in country/CN8 groups where all of the trade comes from traders just above the current threshold (resulting in BTTA virtually the same as above-threshold trade value) but below the new (raised) threshold, raising the threshold to the new level will result in all this trade being lost, both above and below the threshold, since (annual) BTT is a direct reflection of JATT. In this respect, the monthly BTT methodology is less severe: the requirement for a monthly BTT allocation to be made is that some JATT exists in the relevant country/HS4 group, which is a less stringent requirement than the annual methodology, which requires there to be JATT trade in the country/CN8 group itself before a BTT allocation is made. One possibility would be to apply the monthly methodology to the annual BTT estimation procedure; this may result in fewer codes being lost in the event that the threshold is raised. Further research is needed to assess the likely effects of applying the monthly methodology to annual data.

One drawback of the current BTTA process is that it does not allow revisions or corrections to be made to either monthly or annual BTT allocations at country/CN8 level. This is due to the BTT processing taking place at a late stage in the publication of the data. Under the current BTTA system, there have been occasions when a technical intervention has been requested to adjust a particularly poor result but these have been very few and far between, so no consideration has ever been given to making this a regular mainframe function. One solution would be a more flexible mainframe system that allows manual intervention to correct or change individual allocations at country/CN8 level for a particular month or annual period; manual intervention would be useful in the case of trade challenges - for example, when one trader is solely responsible for all trade in a particular commodity code and it is therefore known that no BTT exists for that CN8 code, the BTT could be set to zero. Bearing in mind that the level of trade challenges relating to BTTA may increase following the change to a 95 per cent threshold, we may require a system with greater flexibility in order for amendments to BTT allocations to be made where necessary. This longer term solution, however, would require IT investment and additional staff resource.

8 Research on Intrastat simplification work carried out by other MS, including exchange of ideas and information with Denmark

8.1 Work done by other MS on the subject of Intrastat simplification

Possibilities for simplification of the Intrastat system have been the subject of many studies carried out by both MS and the Commission since the inception of Intrastat in 1993. The EDICOM I Programme (1997 – 1999), set up to foster the development of modern data collection and processing tools, enabled the results of studies to be implemented into the Intrastat legislation by reducing the number of parameters to be reported and by simplifying the commodity codes. More substantial system changes suggested by the results of these studies, in particular the single flow system, were not implemented as no agreement between the Commission and the MS could be reached. The effects of a single flow system on quality were thought by most MS at this time to be too great to make it a plausible system.

In the framework of EDICOM II (2001 – 2005) measures from the previous programme were continued and new measures for simplification of the Intrastat system were conducted. These were asymmetry analyses, the measurement of burden, the development of electronic data collection tools as well as appropriate estimation methods to reduce burdens on business.

During the course of 2005 there was renewed political interest in resuming the considerations for a single flow system. Following this, the Commission recommended MS should carry out work in preparation for a possible single flow system. Some asymmetry analyses and feasibility studies regarding single flow, raising the threshold and other simplification options, have been carried out within the 2005 - 2007 EDICOM programmes.

In October 2006 the Commission published its paper ‘The Simplification of Intrastat: A Two-Track Approach’, which outlined the main issues with single flow and proposed a programme of work to produce a comprehensive analysis of the impact of a single flow system. As part of the UK EDICOM Project ‘Intrastat as a Negative Priority’, the UK organised an international conference on Intrastat Simplification, held in London in October 2006. The main conclusion of the conference was that a Eurostat Task Force should be established to give due consideration to the whole issue of Intrastat simplification, in particular the two main options of raising the threshold and single flow.

The Eurostat Working Group on Intrastat Simplification was set up at the end of 2006; composed of MS and Commission specialists, its aim was to investigate further the possibilities for modernising the Intrastat system and reducing reporting burden. The Working Group was composed of 3 subgroups; the first focused on the use of administrative data such as VAT or VIES; the second was dedicated to the quality impact of the various simplification options; the third examined the technical requirements for putting into practice the various simplification options. Within these sub-groups, MS have carried out various analyses.

Austria has carried out a considerable amount of work on the single flow option, proposing a ‘qualified single flow system’ where only dispatch flows would be

recorded.[13] To compensate for the disappearance of the arrival flows, additional data elements would be collected on dispatches, such as the partner enterprise (rather than just the partner country as at present), country of origin and delivery terms. Austria are currently in the process of carrying out a project examining the views of key users of Austrian external trade statistics on the options of raising the threshold and qualified single flow.

Belgium has studied the possibility of implementing an 'extended single flow' system[14], otherwise know as a 'one and a half flow' system, where only dispatches would be collected at detailed level and arrivals data would be covered by means of a general survey to enable the production of rapid estimates at macro-level, for the purposes of BoP and NA. Under this proposed system, MS would be allowed to organise a very general survey of arrivals, limited to a small panel of major arrival companies and with data elements restricted to country of consignment, a monthly value and a high-level commodity breakdown (such as CN1 level).

A study in Sweden[15] has concluded that single flow would cause problems for national accounts, although it could generate a significant burden reduction for enterprises. The Swedish report also supports a one and a half flow system, as advocated by Belgium.

Cyprus has presented a paper[16] illustrating the possible consequences of single flow on major macroeconomic data, particularly for countries where external trade has an important impact on Gross Domestic Product (GDP). The paper showed that the impacts can be quite dramatic, causing major structural breaks in the time series, and recommended that efforts should be made to reduce the existing asymmetries to a tolerable extent before making such a change to the Intrastat system.

The Czech Republic, Slovakia, Slovenia and Hungary conducted a joint burden measurement exercise[17] ; this showed that the part of the Intrastat declaration causing the most difficulties for traders is identifying the correct CN codes for their products; in Hungary and Slovenia, determining the statistical value was also found to cause difficulties for respondents. Respondents did not consider single flow reporting to be the best option for simplification. Studies in Estonia and Latvia produced similar results.

Work done by Denmark[18] under the Intrastat Simplification Working Group concluded that a change to single flow would only be feasible if asymmetries could be reduced and estimation methods harmonised beforehand. In 2008, Denmark is carrying out an EDICOM research project examining the effects of raising the threshold or implementing a single flow system; some results from this project are compared with relevant UK results in section 8.2 of this report. In 2009, Denmark plans to undertake further projects on the use of VIES data for estimating and distributing adjustments for missing Intrastat trade, and on resolving asymmetries.

---

[13] Doc Met 897 'Introduction of a qualified single flow system for the intra-community movement of goods (Intrastat) as alternative for the currently run two-flow system', October 2006

[14] MET 920A 'Simplification of Intrastat – Belgian proposal for an Extended Single Flow system', February 2007

[15] 'Intrastat System – Presumption for one flow system', Economic Statistics, January 2007

[16] 'The impact of the possible introduction of the one single flow system on Intrastat', presented at the meeting of the Working Group on National Accounts, November 2006

[17] Neighbouring Cooperation Project, 2004

[18] QA-G3-05-07-14 SIM A14a 'Single flow – Assessment of prerequisites and consequence of establishing a single flow system', May 2007

The UK, France, Germany, Portugal and Spain completed national studies, and based on these expressed a preference for raising thresholds, at least in the short term, given the potential quality issues caused by single flow. The UK has recently agreed to support the short-term option of raising the arrivals threshold in line with a 95 per cent coverage rate, whilst retaining the 97 per cent coverage rate for dispatches in order to maintain the drive towards a single flow system in the longer-term. If the goal of moving to single flow does not look feasible in the next 2-3 years, the UK will press to re-open discussions on reductions to the dispatch flow.

A study in Italy[19] has shown that a lowering of the coverage rate to 95 per cent would have a similar impact on business burden as a change to single flow. Their report pointed out the main issues with single flow that need to be addressed – namely the issues with asymmetries, timeliness of data and the differences between adjustment methods in MS for non-response, BTT and conversion to statistical value – and recommended lowering the coverage rate as a compromise in the short term.

The analysis carried out by the Intrastat Simplification Working Group indicated that, if a single flow reporting system was to be implemented with dispatches as the flow collected, a coverage rate of 99 per cent would be desirable in order to guarantee a good quality of data from partner MS for use in compiling arrival flows. A 99 per cent coverage rate under single flow would produce similar results in terms of reduction of the reporting burden to a 95 per cent coverage rate under the current dual flow system. The main difference between the two methods is that the threshold option benefits the smaller enterprises[20] to a greater extent than the single flow system.

In February 2008 the Commission published its proposal[21] to reduce the trade coverage for arrivals to 95 per cent and to keep the current 97 per cent trade coverage for dispatches. This solution would be consistent with a possible single-flow option in future based on the collection of dispatch data. The potential for reducing the reporting burden on small and medium-sized enterprises (SMEs) in particular is significant, because EU traders reporting on arrivals tend to be dominated by SMEs. The analyses carried out by the WG and its subgroups have also shown that lowering the trade coverage to 95 per cent has only a minor impact on the quality of statistical data and would thus be acceptable for users.

Within Eurostat, an exercise has been carried out[22] to calculate the effects on declarant numbers of both raising the threshold and single flow. However, little work has so far been done specifically on examining the effects on detailed trade figures, including the effects on the estimates of trade below the threshold (BTT). MS use a variety of methods to calculate BTT, the vast majority based on VAT data. The 2008 Quality Report[23] shows that three MS (France, Greece and Malta) make no adjustments for BTT, while some MS (Poland, Luxembourg and Lithuania) estimate BTT by using historical data. Current EC legislation is being changed to clarify the meaning of 'total trade', which may have an impact on BTT methodologies. Article 10.3 of the Basic Intrastat Regulation (Regulation (EC) No. 638/2004 will be

[19] 'Why not to embrace the Single Flow', presented during the May 2007 meeting of the Quality and Asymmetries subgroup of the Intrastat Simplification Working Group
[20] Those with a low volume of EU trade
[21] Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EC) No 638/2004 on Community statistics relating to the trading of goods between Member States
[22] Doc QA/G3/05-07/10 rev (SIM A/10 rev1) 'Impact of a change in threshold on the number of PSIs', May 2007
[23] Doc 966 – Quality report 2008, based on 2006 data

amended to make it clear that Intrastat information will be collected from a MS's 'taxable persons' above the threshold; this revised regulation will be implemented at the earliest from 01 January 2009. 'Total trade' will therefore in future refer to the total trade from VAT-registered businesses, since information on non-VAT registered businesses is not readily available and therefore virtually impossible to estimate with any accuracy; the UK BTT estimates do not include estimates for non-VAT registered trade. Due to the methodological differences between MS in the calculation of BTT, further research may need to be carried out by individual MS to assess the suitability of their current methods taking into account the forthcoming 95 per cent coverage rate for arrivals as well as the amendment to Article 10.3 mentioned above.

During the early stages of the UK 'Raising the Threshold' project, various MS were contacted by the UK regarding possible collaboration on the project through data sharing and a possible visit; these included Italy, the Netherlands, Austria and Latvia, who were only in the early stages of analysing the effects of raising the threshold and were therefore not yet in a position to participate in the UK project, and the Czech Republic, from whom no response was obtained.

Italy supplied the UK with some preliminary high level results on the anticipated reduction in trader numbers in Italy under a 95 per cent and 90 per cent coverage rate, based on 2005 data. These were compared with the UK figures for 2006 (tables 4.1-4.3) and the results were found to be roughly similar in percentage terms; at the 95 per cent coverage rate, the UK's anticipated total trader reduction of 36 per cent is slightly less than Italy's expected reduction of 42 per cent; at the 90 per cent coverage rate, both the UK and Italy would expect to lose around 68 per cent of Intrastat declarants.

Denmark proved to be the only MS contacted who was in a position to collaborate fully on this UK project and host a visit from the UK; the results of the exercise carried out with Denmark can be found in section 8.2 of this report.

8.2 Data exchange and visit to Denmark

The final part of the project involved an exchange of information with Denmark relating to work done so far on the implications of raising the Intrastat threshold. This was followed up with a visit to Denmark in August 2008 by two UK representatives, in order to further discussion and exchange ideas on this subject. Like the UK, Denmark is currently undertaking an EDICOM project relating to Intrastat Simplification; the Danish project is examining the options of raising the threshold and single flow.

For the option of raising the threshold, the UK and Denmark have both completed similar analyses, and some of the tabulated data on the anticipated impact on trader numbers and data losses can be directly compared. The Danish results (calculated in Danish kroner) are based on provisional 2007 data, so an exact comparison with more detailed UK data is not possible, although broad comparisons at high level can still be made.

Denmark's interim report on the option of raising the threshold gives details regarding the anticipated reduction in the number of Intrastat traders if the trade capture rate is reduced from the current level of 97 per cent to either 95 per cent or 90 per cent. Information has been supplied separately for arrivals and dispatches, although combined results (taking into account those traders who are declarants for both

flows) were not available at the time of data exchange. However, as the vast majority of Denmark's dispatches traders are also arrivals traders and the number of arrivals traders is considerably in excess of the numbers of dispatch traders, the arrivals data ought to be a good indicator of the combined results for both flows.

For arrivals, the UK 2006 threshold and Danish 2007 threshold for the current capture rate of 97 per cent are fairly similar at £225,000 and £200,454 respectively. However, the threshold required for a 95 per cent capture rate is considerably larger in the UK – around £679,000, compared with only £385,000 for Denmark. For a 90 per cent capture rate, there is an even greater difference between the two MS; the required UK threshold would be more than double that required for Denmark. Although Denmark has less than half the UK's number of arrivals traders at the 97 per cent capture rate, the relative benefit to each country in terms of trader reduction under a reduced capture rate is fairly similar; under a 95 per cent capture rate, the UK expects a reduction in trader numbers of around 35 per cent, compared with 27 per cent for Denmark; under a 90 per cent capture rate, the anticipated number of traders falls by over 65 per cent for the UK and by 56 per cent for Denmark. The percentage reduction in trader numbers is slightly higher for the UK, probably due to the fact that there is larger proportion of enterprises just above the threshold in the UK (table 8.1).

Table 8.1: Thresholds and estimated trader numbers at various capture rates, Arrivals[1]

Capture rate (%)	Threshold (£)		No. of Traders		Reduction in traders compared with 97% capture rate (%)	
	UK	Denmark	UK	Denmark	UK	Denmark
97	225,000	200,454	21,457	9,779		
95	678,719	384,561	13,750	7,192	35.9	26.5
90	2,051,814	960,927	6,955	4,274	67.6	56.3

1 Danish figures have been converted from Danish kroner to pounds sterling using average HMRC exchange rate for 2007, 1 Danish kroner= £0.09136

Source: HM Revenue & Customs Overseas Trade Statistics 2006, Danish Trade Statistics 2007 (provisional at May 2008)

For dispatches, the Danish threshold at the current 97 per cent capture rate is considerably larger than the UK threshold; Denmark employ separate thresholds for arrivals and dispatches, whereas the UK have a single threshold for both. When the capture rate is reduced to 95 per cent or 90 per cent, the UK dispatches threshold increases more dramatically than the Danish threshold, making the two country's thresholds relatively close in value at the 95 per cent and 90 per cent capture rates. For Denmark, the expected percentage reduction in trader numbers under a 95 per cent or 90 per cent capture rate is virtually the same for arrivals and dispatches, whereas for the UK the proportionate drop in trader numbers is greater for dispatches. At the 95 per cent capture rate, the anticipated reduction in trader numbers is much greater for the UK (41 per cent) than for Denmark (26 per cent); the pattern is similar for the 90 per cent capture rate (table 8.2).

Table 8.2: Thresholds and estimated trader numbers at various capture rates, Dispatches[1]

Capture rate (%)	Threshold (£)		No. of Traders		Reduction in traders compared with 97% capture rate (%)	
	UK	Denmark	UK	Denmark	UK	Denmark
97	225,000	477,286	16,426	4,129		
95	791,362	899,922	9,748	3,038	40.7	26.4
90	2,683,585	2,232,011	4,593	1,786	72.0	56.7

1 Danish figures have been converted from Danish kroner to pounds sterling using average HMRC exchange rate for 2007, 1 Danish kroner= £0.09136

Source: HM Revenue & Customs Overseas Trade Statistics 2006, Danish Trade Statistics 2007 (provisional at May 2008)

Overall, a drop in capture rate is likely to have more impact (in terms of both number and percentage reduction of reporting traders) in the UK than in Denmark, although analysis by the Commission suggests that most other MS could see larger proportions of traders removed from the Intrastat reporting burden as a result of a change in the arrivals coverage.

Denmark's interim report also contains results on the number of CN8 codes where all trade would be lost if the trade capture rate was reduced. For arrivals, a comparison with the corresponding UK figures shows that, although the UK have a greater number of CN8 codes in use than Denmark, the anticipated reduction in CN8 codes following the change to a 95 per cent capture rate is greater for Denmark than for the UK; Denmark expects to lose all detailed information relating to 125 CN8 codes, compared with a loss of only 81 codes for the UK. At the 90 per cent level, there is a less marked difference between the two countries, with the UK losing 3.5 per cent of CN8 codes and Denmark losing 4.1 per cent (table 8.3).

Table 8.3: Reduction in number of CN8 codes under a reduced capture rate, Arrivals[1]

Capture rate (%)	Number of CN8 codes		Reduction in number of CN8 codes		Reduction in CN8 codes (%)	
	UK	Denmark	UK	Denmark	UK	Denmark
97	9,307	8,670				
95	9,226	8,545	81	125	0.9	1.4
90	8,981	8,316	326	354	3.5	4.1

1 All figures are based on reported trade only (excluding BTT estimates)

Source: HM Revenue & Customs Overseas Trade Statistics 2006, Danish Trade Statistics 2007 (provisional at May 2008)

The Danish results mirror those of the UK in that the number of CN8 codes where all trade would be lost is far greater for dispatches than for arrivals; this is true at both the 95 per cent and 90 per cent capture rate. This is explained by the fact that there are many cases where a dispatch trader is the sole exporter for a particular CN8 code. For dispatches, as for arrivals, Denmark suffers greater losses in CN8 codes than the UK: 4.3 per cent at the 95 per cent level, compared with 2.3 per cent for the UK. There is a similar difference between the two countries at the 90 per cent

capture rate; the percentage of trade lost by Denmark rises to 10.3 per cent, compared with 7.1 per cent for the UK (table 8.4).

Table 8.4: Reduction in number of CN8 codes under a reduced capture rate, Dispatches[1]

Capture rate (%)	Number of CN8 codes		Reduction in number of CN8 codes		Reduction in CN8 codes (%)	
	UK	Denmark	UK	Denmark	UK	Denmark
97	9,023	7,374				
95	8,814	7,057	209	317	2.3	4.3
90	8,379	6,614	644	760	7.1	10.3

1 All figures are based on reported trade only (excluding BTT estimates)
Source: HM Revenue & Customs Overseas Trade Statistics 2006, Danish Trade Statistics 2007 (provisional at May 2008)

The Danish results also specify the number of CN8/country combinations where all trade would be lost if the trade capture rate was reduced. The UK has produced similar analyses for comparison. The CN8/country combination was chosen by Denmark as a comparative measure because it is considered to be the most critical element of the detailed level of trade statistics; for the UK, this combination is also critical in that trade statistics are published at this level for government policy and market analysis. For arrivals, the number of country/CN8 groups currently in use is greater for the UK: 78,487, compared with 60,310 for Denmark. The proportion of codes expected to be lost in reported trade as a result of a change to a 95 per cent capture rate is fairly similar for the two countries: 5.5 per cent for the UK and 6.1 per cent for Denmark (table 8.5).

Table 8.5: Reduction in number of country/CN8 groups, Arrivals[1]

Capture rate (%)	**Number of country/CN8 groups**		**Reduction in number of country/CN8 groups**		**Reduction in country/CN8 groups (%)**	
	UK	**Denmark**	**UK**	**Denmark**	**UK**	**Denmark**
97	78,487	60,310				
95	74,154	56,641	4,333	3,669	5.5	6.1

1 Figures are based on reported trade only.

Source: HM Revenue & Customs Overseas Trade Statistics 2006, HM Revenue & Customs VAT declarations 2006, Danish Trade Statistics 2007 (provisional at May 2008)

For both the UK and Denmark, the number of country/CN8 groups in use at the 97 per cent capture rate is considerably larger for dispatches than for arrivals, although this difference is more pronounced in the UK. This is in spite of the fact that, for both the UK and Denmark, the total number of dispatches traders is fewer than the number of arrivals traders. The number of country/CN8 groups for dispatches at the 97 per cent level is much larger for the UK: 116,502, compared with 72,815 for Denmark. A reduction in capture rate to 95 per cent has a similar effect for both countries; the proportion of country/CN8 groups falls by 6 per cent and 5.7 per cent for the UK and Denmark respectively. These rates of loss are similar to those noted in the arrivals case (table 8.6).

Table 8.6: Reduction in number of country/CN8 groups, Dispatches[1]

Capture rate (%)	Number of country/CN8 groups		Reduction in number of country/CN8 groups		Reduction in country/CN8 groups (%)	
	UK	Denmark	UK	Denmark	UK	Denmark
97	116,502	72,815				
95	109,530	68,645	6,972	4,170	6.0	5.70

1 Figures are based on reported trade only.

Source: HM Revenue & Customs Overseas Trade Statistics 2006, HM Revenue & Customs VAT declarations 2006, Danish Trade Statistics 2007 (provisional at May 2008)

Like the UK, Denmark has produced a summary of the values of trade that would be lost at country/CN8 level. For arrivals, the UK results contrast with those of Denmark in that there are a much greater number of CN8/country groups losing a high proportion of trade following the change in capture rate to 95 per cent; 7.5 per cent of groups lose over 90 per cent of their reported value, compared with only 1.5 per cent for Denmark. The number of groups losing over 50 per cent of their reported trade value is over twice as large in the UK (11.6 per cent) as in Denmark (4.9 per cent) (table 8.7).

Table 8.7: Effects of a change in capture rate to 95 per cent on trade value[1] of country/CN8 groups, Arrivals

Trade value lost following change from 97% to 95% capture rate (%)	Number of country/CN8 groups		Percentage of country/CN8 groups	
	UK	Denmark	UK	Denmark
>90	5,880	872	7.5	1.5
>50	9,112	2,764	11.6	4.9
>10	17,346	7,235	22.1	12.8
All country/CN8 groups existing at 97% level	78,487	56,478		

1 'Trade value' is based on reported trade only.

Source: HM Revenue & Customs Overseas Trade Statistics 2006, HM Revenue & Customs VAT declarations 2006, Danish Trade Statistics 2007 (provisional at May 2008)

For dispatches, the pattern is very similar. The UK has over five times as many country/CN8 groups losing over 90 per cent of their trade value as Denmark, and over three times as many groups losing over 50 per cent of their value. Approximately one quarter of UK dispatches groups would lose 10 per cent or more of their value, whereas less than 10 per cent of Danish groups would be affected in the same way (table 8.8).

Table 8.8: Effects of a change in capture rate to 95 per cent on trade value[1] of country/CN8 groups, Dispatches

Trade value lost following change from 97% to 95% capture rate (%)	Number of country/CN8 groups		Percentage of country/CN8 groups	
	UK	Denmark	UK	Denmark
>90	9,941	1,129	8.5	1.6
>50	15,979	3,067	13.7	4.5
>10	29,623	6,733	25.4	9.8
All country/CN8 groups existing at 97% level	116,502	68,550		

1 'Trade value' is based on reported trade only.

Source: HM Revenue & Customs Overseas Trade Statistics 2006, HM Revenue & Customs VAT declarations 2006, Danish Trade Statistics 2007 (provisional at May 2008)

Although these results do not take account of BTTA, when BTTA is included in the UK figures there is no improvement in the results; in fact, the number of country/CN8 groups losing more than 90 per cent, 50 per cent and 10 per cent of value as a result of the threshold change actually increases if BTTA is included; the only exception is the number of dispatches groups losing more than10 per cent of value, which drops slightly when BTTA is included (see table 7.9 for the comparative figures - including BTTA - for losses of more than 50 per cent and 10 per cent). Almost without fail, the increase in losses are caused by country/CN8 groups where the BTTA shrinks dramatically following the threshold change rather than increasing; in these cases, the loss in above-threshold trade is compounded rather than being relieved by the inclusion of BTTA. Although there are many country/CN8 groups for which the inclusion of BTT improves the losses suffered as a result of the threshold change, these groups are clearly outnumbered by the groups where the loss is compounded. This is an aspect of the current BTTA system that requires further investigation.

The Danish report also gave information on the numbers of two digit SITC (Standard Industrial Trade Classification) heading and country combinations where all trade would be lost. Although Eurostat use the HS classification system rather than SITC, Danish NA, BoP and other important recipients require trade statistics data at SITC level. The UK has not performed any similar analysis at SITC level for this project, and so no comparisons could be made with UK results in this case.

In concluding the review of work carried out so far on raising the Intrastat threshold, both countries agreed that while a decrease in the capture rate to 95 per cent would not lead to an unacceptable reduction in quality of the trade statistics data, a 90 per cent capture rate would not be a viable option at present.

9 Summary of findings

The objectives of the project were all met:

- the anticipated reduction in the number of UK Intrastat declarants when applying various coverage rates between 90 per cent and 97 per cent was quantified;
- details were obtained of country-level detail, chapter-level detail and commodity codes disappearing from UK trade statistics when applying various coverage rates between 90 per cent and 97 per cent;
- a review of the UK BTTA procedure was carried out and the methodology was found to be adequately robust for use with a 95 per cent coverage rate, with only a few minor procedural adjustments required; and
- research into Intrastat simplification work being carried out by other MS was undertaken, and a visit to and exchange of data with Denmark was carried out in order to compare results obtained on the subject of raising the Intrastat threshold.

The second proposed visit did not take place; this was covered instead by an analysis of related work across the Community.

9.1 Aggregate level

The results from the simulation exercise in section 4 show that the amount of trade lost under a 90 per cent capture rate would be too great for this to be a viable simplification option. The large value losses anticipated in detailed trade data may lead to problems for some users, which would need to be considered.

The simulation results show that a 95 per cent capture rate is an acceptable option, offering a balance between relatively small data losses and a considerable saving in trader numbers: the total number of Intrastat traders is expected to fall from around 30,000 to around 19,000 under a 95 per cent capture rate. 81 arrivals commodity codes and 209 dispatches commodity codes would be lost at CN8 level. Most of the commodities that experience the greatest losses in trade value at the 95 per cent level are not currently included on regular outputs to specific customers.

For both arrivals and dispatches traders, the results show that if the Intrastat coverage rate is reduced by percentage point increments, the initial drop from 97 per cent to 96 per cent would generate the greatest reduction in burdens on business for the UK. Further reductions in the coverage rate would produce less marked reduction in trader numbers.

The additional simulation exercise detailed in section 6 shows that in the event of a single flow dispatches-only regime being introduced in the future, the capture rate would need to be lower than 98.8 per cent in order to achieve a decrease in Intrastat trader numbers. While this represents a saving in comparison with the current Intrastat system, the proposed change prior to the introduction of single flow to a 95 per cent capture rate for arrivals (with an estimated 25,000 traders) would reduce the perceived benefit of single flow; the capture rate under single flow would then need to be less than 98.3 per cent in order for further trader savings to be made. A rise to 99 per cent under single flow would yield a net increase in trader numbers, so would not be a viable option for the UK. A 98 per cent capture rate therefore looks to be a possible compromise should the capture rate need to be raised in a single flow situation.

At aggregate level, the annual BTTA methodology is robust enough to produce estimates that are reasonably consistent with the value of trade lost: the total trade figures (including BTTA) at the 95 per cent coverage rate for arrivals and dispatches are within 0.36 per cent and 0.29 per cent respectively of the total trade values at the 97 per cent coverage rate.

9.2 Chapter level (HS2)

Although no chapter-level codes are lost entirely, the value of each chapter is reduced, in some cases by a considerable amount. At the 95 per cent capture rate, the majority of chapters that would be most affected by a rise in threshold are relatively insignificant in terms of their contribution to overall trade value; this is because most of the items under these headings - such as fabrics, vegetables and musical instruments - are either low-value goods or goods from niche markets that tend to be traded by small and medium sized enterprises (SMEs). Chapters relating to the textile industry appear to suffer particularly large data losses following any rise in the threshold.

The change in total trade value (including BTT) brought about by a reduced capture rate of 95 per cent is relatively high for the worst affected chapters; for these chapters the anticipated change in value may not be easily absorbed into the annual fluctuation observed for that chapter. This is particularly noticeable in those chapters with a large downturn in total trade under the new capture rate due to insufficient compensation of the above-threshold trade loss by BTT estimates; these include chapters 14 (vegetable plaiting materials) and 92 (musical instruments). Based on simulations of UK 2006 data, the worst-affected chapters are anticipated to be nearly all of low value, which suggests that the impact of a 95 per cent capture rate will not be far-reaching in the UK; however, there could be some effect on the quality of trade statistics available for monitoring specialist markets such as musical instruments. Although the majority of chapters most affected are insignificant in terms of trade value, they may still be important to particular data users. Users of vulnerable trade chapters should be informed about any potential loss of data in the event of a reduction in the Intrastat coverage rate.

9.3 Partner country level

At partner country level, applying a 95 per cent capture rate to UK data would have a relatively small effect on the overall value of arrivals for most MS, with an average value reduction of 2.0 per cent per MS; the average value reduction for dispatches would be around 2.4 per cent per MS. For arrivals, under a 95 per cent capture rate, the UK data most affected is that relating to Slovenia, Italy, Greece and Lithuania; for each of these partner countries, between 3 and 5 per cent of the arrivals value would be lost. For dispatches, the UK data most affected at partner-country level under a 95 per cent capture rate is that relating to Ireland, Lithuania and Malta; the simulations based on 2006 UK data saw a reduction of 5 to 6 per cent in the value of dispatches relating to these countries. The additional analysis of 2007 UK data relating to the new MS Bulgaria and Romania shows that, although the rates of loss for these partner countries are relatively high, they are likely to be in line with the losses from countries such as Slovenia, Italy, Greece and Lithuania.

When BTT estimates are included in the UK data, the results are even more encouraging; for the majority of partner countries, the total trade values (including BTTA) see little change as a result of the 95 per cent coverage rate being applied. For arrivals, the data most affected is that relating to Lithuania, Malta and Latvia, where trade values increase by 4 per cent, 2.6 per cent and 2.6 per cent respectively. For dispatches, the data most affected at partner country level is that relating to Slovakia, whose total trade value increases by 2.9 per cent and Malta, with a decrease of 2.5 per cent.

9.4 CN8 level

Because the final annual UK BTT estimates at country/CN8 level are simply a direct reflection of the JATT values declared at this level, the annual BTT allocations will only exist for those country/CN8 groups that exist in the JATT. The results of the BTT simulation at a 95 per cent capture rate show that, at total trade level (including BTTA), around 5.5 per cent of arrivals and 6.0 per cent dispatches country/CN8 groups are likely to disappear following the threshold change; this equates to around 4,300 arrivals and 7,000 dispatches country/CN8 groups potentially disappearing from the UK trade figures.

The number of CN8 codes with only one declarant is particularly important, as these are the codes that are in most danger of being suppressed, should this be requested by the trader in question. Although the number of codes with only one declarant rises considerably under a 95 per cent capture rate, there is not thought to be too great a risk of this being reflected in the number of suppressions, since suppressions are only applied passively (at the request of a trader); the current number of suppressions applied is low in comparison with the number of CN8 codes with only one declarant. However, some increase in suppressions could occur if the capture rate is reduced.

If the capture rate is reduced to 95 or 90 per cent, the UK will need to prepare for a possible increase in the number of BTT trade challenges made, owing to an increased number of smaller traders who are likely to be controlling niche markets relating to specific CN8 codes. The level of increase is impossible to quantify, although some additional human resource will probably be required to carry out the relevant investigations.

Because annual BTT allocations are a direct mirror of JATT trade at country/CN8 level, those country/CN8 groups that are dominated by JATT trade are likely to be subject to large changes in total trade value following any change in the threshold. These predominantly lower-value goods are traded more frequently by smaller and more recent EU entrants and therefore these countries are likely to be those most affected by a rise in the threshold; many will see proportionately large value increases in BTT estimates together with a significant increase in the number of country/CN8 codes at BTT level. Although the effects on total trade value at country level were found to be only marginal in most cases, the effects at CN8 level for particular countries are considerably more variable. Around 6 per cent of country/CN8 groups would be lost entirely, even with the inclusion of BTT estimates. Around 14 per cent of arrivals country/CN8 groups and 16 per cent of dispatches groups change in value by 50 per cent or more; these are mainly low-value groups which are more strongly influenced by changes in BTT level. For arrivals the countries most affected are Slovenia, Estonia and Slovakia, which lose 18 per cent, 14 per cent and 11 per cent respectively of their CN8 codes. For dispatches, those

most affected are Latvia and Lithuania, which lose 10 per cent and 11 per cent respectively of their CN8 codes.

9.5 Consultations with data users and providers

The results of the earlier consultation exercise (section 5) generally support the change to a 95 per cent capture rate, although the majority of PSIs who responded preferred the single flow option. However, some respondents noted that they were not in favour of an increased capture rate under single flow. The majority of the providers who responded were also in favour of a reduction in the coverage rate of Intrastat.

The data users who responded to the consultation questionnaire had concerns about the accuracy and timing of the data provided by other MS in a single flow system and suggested that work needs to be done to address asymmetries and other quality issues before relying on the data from one flow. Although many depend on the detailed data, there was a consensus that coverage of 95 per cent would be acceptable.

A reduced coverage rate for Intrastat, whether at 95 per cent or 90 per cent, is the option that most clearly benefits those Intrastat businesses trading at the lowest levels, as it would completely remove their requirement to submit Intrastat returns. This is in line with UK Government policy to reduce burdens on SMEs.

The UK Government workshop held in July 2007 to discuss the effects of Intrastat simplification on MTIC analyses concluded that, of the three options considered, the only acceptable one at present is to increase the Intrastat threshold, reducing trade coverage to 95 per cent. The 'reverse charge' VAT derogation for the UK took effect from June 2007, and the 18 months or so following the change in legislation will be crucial for monitoring MTIC. This will be reviewed after the initial period.

9.6 Data exchange with Denmark

The Danish results from their work on the effects of lowering the Intrastat coverage rate to 95 per cent or 90 per cent are similar to those obtained by the UK, although in Denmark the Intrastat trader base is considerably lower and is dominated by arrivals traders.

A change to a 95 per cent coverage rate for arrivals produces a 27 per cent reduction in trader numbers in Denmark, compared with a 36 per cent reduction in the UK. At the 95 per cent coverage rate Denmark anticipates losing detailed information on 1.4 per cent of arrivals CN8 codes, compared with an expected loss of around 0.9 per cent for the UK. The number of country/CN8 combinations expected to be lost when moving to a 95 per cent coverage rate for arrivals is fairly similar for both countries: 6.1 per cent for Denmark and 5.5 per cent for the UK.

Both Denmark and the UK have concluded that the 95 per cent coverage rate would provide an acceptable balance between data quality and reduction of burdens on business; both countries are also in agreement that a 90 per cent coverage rate would have too detrimental an impact on quality to be a viable proposal at present.

9.7 Conclusion

In conclusion, the analysis supports a recommendation to reduce the coverage rate for Intrastat from 97 to 95 per cent. If single flow is seen as a long-term goal, then reducing the capture rate for arrivals only is likely to be the best option; if a 95 per cent coverage rate is also applied to dispatches then the future benefits of single flow are likely to be negligible, bearing in mind that a capture rate of well over 95 per cent would probably be required in a single flow situation.

The annual BTTA procedure is expected to work in allocating estimates at a 95 per cent coverage rate to a suitable quality. The results are as expected, with most of the large changes affecting partner countries with lower densities of trade and low-value chapters and commodity codes. During the changeover from a 97 per cent to 95 per cent coverage rate, a modified method may need to be applied to calculate the total value of BTT in order to successfully handle this transitional period. Prior to any threshold changes being implemented, data users should be informed of the likely effects on data quality both above and below the threshold.

10 Recommendations and future work

10.1 Recommendations for the UK

10.1.1 Repeat the simulation exercise

Repeat the simulation exercise with 2007 trial data when it becomes available after August 2008. This will include a full year of data for EU27, and the impact of MTIC is much less in 2007 than in 2006, therefore the 2007 data should yield more up-to-date and reliable results.

Repeat the exercise for SITC as well as the HS/CN analyses.

10.1.2 Inform users

Prior to implementing any rise in the threshold, contact users of the detailed trade statistics – including Government Departments - about products which are likely to be adversely affected, pre-warning them of the likely changes in data availability and reliability.

10.1.3 Increase flexibility of BTT system

Explore the possibilities for incorporating greater flexibility in the processing system for making changes to the Below Threshold Trade estimates, as manual adjustments may prove necessary should the number of 'trade challenges' increase as anticipated following a rise in the threshold.

10.1.4 Explore mismatch between monthly and annual BTTs

Examine the potential effects of the change to a 95 per cent coverage rate for Intrastat on the monthly BTT allocations and, in particular, whether the mismatch between monthly and annual allocations becomes more or less apparent under the reduced coverage rate.

10.1.5 Assess possible change to annual BTT methodology

Assess the effects of applying the monthly BTTA methodology to the annual BTT estimation procedure; this may result in fewer country/CN8 groups being lost should the threshold be raised.

10.2 Recommendations for the Commission

10.2.1 Ensure MTIC adjustments are standardised for all MS

Ensure that all MS treat MTIC adjustments similarly, as this is not happening at present. When the UK was asked by Eurostat to include our MTIC-related adjustments in the trade statistics, they followed the UN recommendation that we should add these into the arrivals flow. However, although many other MS apart from the UK have issues with MTIC-related activity impacting on trade data, they

are addressing them in different ways. The way in which MTIC adjustments are treated has an impact on the decisions to be made on the future choice of Intrastat threshold and work towards single flow.

10.2.2 Explore implications of single flow under an increased capture rate for all MS

With other MS, carry out further studies on the impact of a shared coverage rate in a single flow situation. Following the likely introduction of a 95 per cent capture rate for arrivals, the effect of any potential overall saving in Intrastat declarant numbers offered by a future single flow system will be reduced. An assessment for each MS of the likely effect on declarant numbers of a future single flow system, following the introduction of a 95 per cent capture rate for arrivals, would give an indication as to whether single flow is a plausible method of further reducing burdens on business in the future.

10.2.3 Compare detailed results on data losses for all MS

Commission a larger-scale study in order to compare detailed results on likely data losses in other MS following the change in the threshold. It would be of particular interest to compare results from countries with high and low densities of trade; the analysis suggests that countries with high volumes of trade, such as the UK, may suffer larger losses in national trade data relating to partner countries with low volumes of trade, such as some of the accessionary countries. This may have the effect of increasing asymmetries in trade data between countries with high and low densities of trade.

11 Implementation Timetable

Work on the project began on 15 October 2007 and was completed by the deadline of 15 October 2008. The key project activities are summarised in table 11.1.

Table 11.1: Timetable for key project activities

Key activities	Dates
Terms of reference agreed and project management documents drawn up	15/10/07 – 31/10/07
Research on Intrastat simplification work already completed by MS	15/10/07 - 30/11/07
Program simulations and analyse results	01/11/07 – 31/01/08
Draft of first sub-report	01/02/08 – 28/02/08
BTTA methodology review and analysis	01/03/08 – 31/05/08
Draft of second sub-report	01/06/08 – 21/07/08
Data exchange with and visit to Denmark	01/07/08 – 07/08/08
Draft of third sub-report	01/09/08 – 15/09/08
Draft of final report	15/09/08 – 14/10/08
Management clearance and sign-off of final report	15/10/08 – 19/11/08

12 Human resources

The time spent on this project by HMRC staff can be seen in table 12.1.

Table 12.1: Human resources used

Personnel	Hours
Senior Statistician (Grade 7)	33
Manager (SO)	75
Higher Statistical Officer (HO)	824
Higher Officer (HO)	41

13 Equipment and software applications

Microsoft Office software was used throughout this project. For completion of the first two objectives, SAS Statistical Analysis Software version 9 was used on a Solaris Unix box.

14 Appendices

Appendices are supplied electronically only, under the following filenames:

- Appendices 1-8 – Arrivals
- Appendices 1-8 – Dispatches
- Appendix 9 – Arrivals final
- Appendix 9 – Dispatches final
- Appendix 10 – BTT chapter analysis
- Appendix 11 – Countries 01-06
- Appendix 12 – Chapters 01-06
- Appendix 13 – BTT country_comcode analysis - Arrivals
- Appendix 13 – BTT country_comcode analysis - Dispatches