DASA Defence Statistics Bulletin No. 11

Methods & Data Sources relating to MOD Balance of Payments Statistics

K C Stone & N J Bennett



TABLE OF CONTENTS

	PAGE NO.
Acknowledgements	2
Abstract	3
Introduction	4
Background	4
Conceptual Understanding	5
Current Methodology	7
Key Assumptions	10
Minor Revisions to 2009 data	11
Conclusions	11
Glossary	12
References	14
Annex A: MoD data flow in Balance of Payments and National Accounts	15
Annex B: Revisions to the 2009 data in UK Defence Statistics Table 1.14	16
Annex C: Examples of main reports extracted from MOD administrative Systems	17

ACKNOWLEDGEMENTS

The authors would like to recognise the assistance provided by Nick Clifford of the MOD Accounts (Cash and Banking) Division and numerous finance staff from across the Ministry of Defence. We would also like to thank the Office for National Statistics for their guidance regarding the definitions set out in the Pink Book.

We are grateful for the comments made on earlier drafts of this note by Neil Davies, Head of the Division for Economic Statistics & Advice (DESA) in DASA.

ABSTRACT

The Defence Analytical Services and Advice (DASA) Directorate of the Ministry of Defence collects information on invisible trade transactions (also known as Trade in Services) made by the Department on a quarterly basis and provides summary country level data to the Office for National Statistics (ONS). This information supports the ONS estimate of the value of the UK's trading account with the rest of the world for the provision of Government services between UK residents and non-residents, and transactions in goods not freighted out of the country in which the transaction takes place. DASA's figures for MOD imports and exports of Trade-in-Services contribute a significant percentage of the Government Services total.

The ONS are required to produce UK estimates of Government Trade-in-Services as part of the National Statistics product "The Pink Book". The ONS have confirmed that if DASA were to cease production of these figures, the ONS would lack a significant element of the Government Services total and would necessarily have to produce alternative estimates for the MOD's contribution. This could have a major impact upon the quality of the National Statistics contained in "The Pink Book".

This Bulletin provides a methodological background to why we collect information on MOD Balance of Payments transactions and seeks to clarify the conceptual understanding of their measurement. This explanation has built on previous work presented in *Defence Statistics Bulletin No.4* and the 2004 *National Statistics Quality Review*. It then goes on to set out the current methodology (which has been subject to an internal review), before describing recent improvements to underlying data sources following changes to MOD administrative systems. Finally, it will briefly outline some minor revisions to the 2009 data following the refinement of payments data relating to services procured overseas via international collaborative equipment projects.

1 INTRODUCTION

- 1.1 DASA's Defence Statistics Bulletin No 4 was published in July 1994 and discussed changes to the basis of the statistics of imports and exports of defence equipment and of trade-in-Services for the Defence Balance of Payments resulting from the introduction of new commodity classifications in 1993 and a reorganization of financial management within the MOD.
- 1.2 Since *Defence Statistics Bulletin No. 4* was published there have been further changes made to the Balance of Payments statistics. A discussion of these later changes can be found in the National Statistics Quality Review¹ published in 2004.
- 1.3 This Bulletin begins where the 2004 Quality Review left off by providing an updated methodological background explaining why we collect information on MOD Balance of Payments transactions and seeks to clarify the conceptual understanding of their measurement. It then sets out the current methodology (which has been subject to an internal review), before describing recent improvements to underlying data sources following changes to MOD data systems. Finally, it briefly outlines some minor revisions to the 2009 data following the receipt of more detailed data on payments related to services procured overseas via international collaborative equipment projects.

2 BACKGROUND

- 2.1 The Defence Analytical Services and Advice (DASA) Directorate of the Ministry of Defence collects information on Invisible trade transactions (also known as Trade in Services) made by the Department on a quarterly basis and provides summary country level data to the Office for National Statistics (ONS). This information supports the ONS estimate of the value of the UK's trading account with the rest of the world for the provision of Government services between UK residents and non-residents, and transactions in goods not freighted out of the country in which the transaction takes place. DASA's figures for MOD imports and exports of Trade-in-Services contribute a significant percentage of the Government Services total. The ONS are required to produce UK estimates of Government Trade-in-Services as part of the National Statistics product "The Pink Book". Annex A provides a schematic which illustrates how the MOD data flows through the Balance of Payments and National Accounts.
- 2.2 DASA's estimate of MOD Trade-in-Services is published in the MOD's annual statistical compendium, *UK Defence Statistics* (table 1.14 in UKDS 2010) and in the ONS "UK Balance of Payments" publication (the Pink Book, Chapters 3 and 9). Quarterly estimates of the total Government services figure are published by the ONS via a National Statistics First Release. Data supplied is used to populate the 'trade in government services' entries and 'trade in services by country' tables.

¹ http://www.dasa.mod.uk/modintranet/natstats/quality/NSQR_Series_Report_32_Report_Part_3.pdf

- 2.3 MOD Trade-in-Services are in addition to the Defence Export orders statistics (published in table 1.13 UKDS 2010). DASA no longer produce estimates of identified defence equipment export deliveries as they do not directly support MOD policy making and operations. Beyond the annual production of statistics for inclusion in *UK Defence Statistics*, these data are not fundamental to supporting the core business or planning functions of the MOD. Various international obligations to provide data on arms sales, for example to the UN and EU, will continue to be met from HM Revenue & Customs (HMRC) data without the need for the additional work currently undertaken by DASA to produce the tables in *UK Defence Statistics*².
- 2.4 In 2009, total MOD imports of Trade-in-Services were estimated to be in the region of £3,619 million, whilst exports were estimated to be £343 million. This is 95% of total Government imports of Trade-in-Services (£3,793 million) and 16% of Government exports of Trade-in-Services (£2120 million). As a percentage of total UK imports and exports of Trade-in-Services (£109,259 million and £159,111 million respectively) the percentages are 3.3% and 0.2%.
- 2.5 The estimates of MOD Trade-in-Services include only those transactions between the MOD and bodies providing services to MOD personnel (whilst on official duty) or establishments, or services provided by the MOD to foreign Governments or organisations such as NATO and the UN. The MOD's estimate of Trade-in-Services (T-I-S) covers only "Government Services" and so takes no account of services provided to or from UK Defence Suppliers. In respect of the private expenditure of personnel, it should be noted that the DASA figures include both an estimate for expenditure by UK personnel based overseas (imports) and the personal expenditure of foreign personnel based in the UK (exports). However, the ONS do not use our figure for foreign personnel based in the UK, preferring to use an alternative data source for this metric. This figure is included in our report but is stated separately and functions merely as a sanity check against the ONS's other data source.

3 CONCEPTUAL UNDERSTANDING

3.1 In compiling the UK Balance of Payments, the UK economy is conceived as comprising the economic entities that have a closer association with the territory of the UK than with any other territory. Each such economic entity is described as a resident of the UK. Any economic entity which is not regarded as a resident is described as a non-resident. The concept of residency is not based on nationality. The UK's economic territory is defined to include the territories lying within its political frontiers and territorial seas, and in the international waters over which it has exclusive jurisdiction. It also includes its territorial enclaves abroad, holding embassies, consulates, military bases, scientific stations, information or immigration offices, aid agencies etc., whether owned or rented by the UK governments with the formal agreement of the countries where they are located. The UK offshore islands – Jersey, Guernsey and Isle of Man – are classified as non-resident to the UK.

² See DASA *Defence Statistics Bulletin No 8* for more details - http://www.dasa.mod.uk/applications/newWeb/www/apps/publications/pubViewFile.php?content=120 http://www.dasa.mod.uk/applications/newWeb/www/apps/publications/pubViewFile.php?content=120 http://www.dasa.mod.uk/applications/newWeb/www/apps/publications/pubViewFile.php?content=120 http://www.dasa.mod.uk/applications/newWeb/www/apps/publications/pubViewFile.php?content=120 http://www.dasa.mod.uk/applications/newWeb/www/apps/publications/pubViewFile.php?content=120 <a href="http://www.dasa.mod.uk/applications/newweb/www.dasa.mod.uk/application

- 3.2 An Export can be defined as something of economic value being provided by a resident to a non-resident in exchange for a financial asset of equal value (usually cash). An Import is something of economic value being received by a resident from a non-resident in exchange for a financial asset of equal value (again, this is usually cash). In simple terms and for the purposes of the ONS data collection, Exports equate to 'receipts' and Imports equate to 'payments'.
- 3.3 Under international guidelines for reporting balance of payments data, a 'Trade-in-Service' is taken to include not only services but also goods that are purchased abroad by residents and not freighted back into the resident's country. This has previously been referred to as 'trade-in-invisibles' and much documentation still uses this term.
- 3.4 The full scope of Imports data relating to 'Trade-in-Services' is obtained using both quarterly data relating to MOD foreign currency purchases and contracts payments data relating to services procured overseas supplied by the MOD's primary bill paying authority, the Financial Management Shared Service Centre (FMSSC). These are discussed later.
- 3.5 Data for services procured by staff based in the British Embassies in the United States (BDS(US)) is provided centrally but it is not in a form that easily allow spend on goods and services to be separated without disproportionate effort and input from embassy staff. During the recent review both DASA and BDS(US) undertook their own analyses of BDS(US) data. They both concluded that approximately £6 million of quarterly spend can be attributed to service imports. This is the current assumption used in the Trade-in-Service imports calculation but it is to be reviewed on an annual basis to confirm that it remains valid.
- 3.6 Most foreign currency purchased by the MOD will be used to pay non-UK residents for goods or services. The total of MOD imports should also include £sterling payments to non-UK residents and exclude foreign currency payments to UK residents. HM Revenue & Customs (HMRC) already report figures for imported goods and so the MOD only need to provide data for the level of imported services and also goods not freighted across a UK mainland border. This is termed 'Trade-in-Services imports'. It is worth noting that goods imported into UK territorial enclaves abroad are included in 'Trade-in-services imports' since such activity is not included in the imported goods figures supplied by HMRC.
- 3.7 By definition, 'Trade-in-Service imports' (payments) include purchases of services or locally consumed goods by personnel based overseas. This information is not picked up via the International Passenger Survey (IPS) (which excludes military personnel, and civilians based overseas for more than a year), hence their need to be picked up within MOD returns. This is included in the MOD foreign currency purchases data by default. Whilst there is the possibility that DASA and IPS figures might double count expenditure by civilian personnel based overseas for less than a year; this figure is negligible as most civilian personnel are on tour for 2 years or more.
- 3.8 Treatment of Trade-in-Service Exports (receipts) is more straight forward. Export receipts data held by MOD clearly identify commodities purchased as being a good or a service. Data for commodities purchased by US forces stationed in the UK is also provided. However, there remains scope to improve

- the quality of these data and DASA are currently working with ONS to explore what might be done.
- 3.9 The Trade-in-Services return provided to the ONS should ideally relate to the actual point the transaction for services or locally consumed goods takes place. In practice, DASA draws together information on the MOD purchase of foreign currency and bill payments via the FMSSC and assumes no lead or lag effects. In reality, the MOD does not purchase foreign currency to coincide exactly with the point at which a service is received and/or a payment made. Generally speaking it might be expected that payments will be made following receipt of a good or service. Purchases of foreign currency, on the other hand, are normally planned in advance. With improvements in data sources though, DASA have been able to reduce the potential for a time lag between the actual point at which currency is purchased and when it is spent. A change by which the administrative systems operate has meant that we can now match currency purchases with expenditure on services thus avoiding the potential for time lags.

4 CURRENT METHODOLOGY

4.1 DASA employ a variety of data sources derived from MOD administrative systems to calculate the Balance of Payments statistics (see Annex C for examples of data sources). Figure 1 provides a summary of the main data flows. Recent improvements to the reporting capabilities of MOD administrative systems has provided greater clarity to the data sources and further refinement to some of the data relating to international collaborative projects (see later).

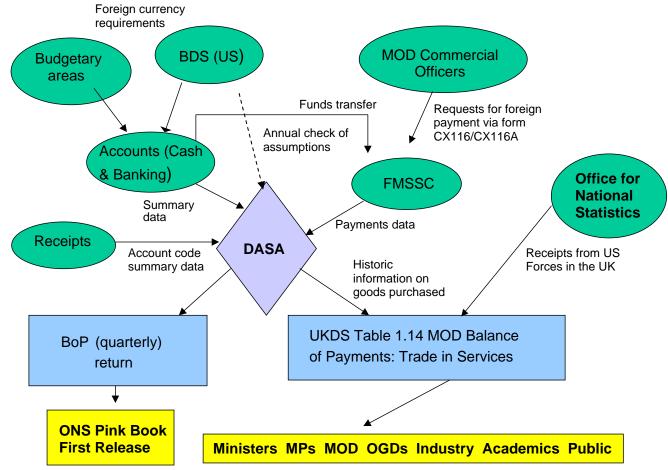


Figure 1: Summary of main data flows for MOD Balance of Payments, Trade-in-Services

4.2 Sections 4A and 4B below outline how these data are then used to calculate the imports and exports estimates.

A: IMPORTS (PAYMENTS)

- 4.3 The starting point for DASA's calculation of MOD Balance of Payments relating to Trade-in-Services imports is aggregate Foreign Currency Purchase (FCP) data from the MOD Financial Management Shared Service Centre (FMSSC). Using aggregated data on total MOD foreign currency purchases means that we widen the scope for potential overseas transactions on services which might not ordinarily be handled by the FMSSC these include payments made by BDS(US) and those made via cash offices The data show the total amount of foreign currency purchased by the MOD in any given period broken down by currency unit and country of destination. It is assumed that this currency is either used to pay MOD staff (civilian and service personnel) overseas or for the purchase of goods and services overseas.
- 4.4 Since the aggregate purchase of foreign currency data includes more than currency used to pay for services, DASA obtain data from which to remove that part of the currency that does not relate to the purchase of services. This comprises any payments, in either national or local currencies, attributed to the country in question, for goods including any such payments for goods attributable to collaborative projects.
- 4.5 Considering only the data attributable to the country in question as inputs, Trade-in-services imports are calculated as follows:

For all Countries other than the US:

MOD Imports of Trade-in-Services =

Total MOD purchases of the country's national currency

- **(-) LESS** Total requests for foreign payments relating to goods (as identified via the CX116) in the country's national currency i.e. excluding payments requested in sterling or dollars. Since the MOD, at the request of contractors, make payments to UK companies in foreign currency a further deduction from the total MOD purchase of foreign currencies is required. This is because such payments are not related to an import.
- (-)LESS payments to UK companies in foreign currency (as identified via the CX116)

The penultimate step is to subtract payments made (in foreign currency) to international organisations (e.g. NETMA, OCCAR) for use on collaborative projects. The majority of these payments are excluded since payments to collaborative projects are generally considered to be in respect of goods rather than services.

(-) LESS payments in foreign currency for collaborative projects which relate to goods.

The final stage is to add the payments for services, where the foreign payment has been requested in Sterling or Dollars. This is because, whilst a foreign organisation may have requested a payment in Sterling or Dollars rather than their national currency, the payment still relates to an imported service and would not otherwise be captured.

+ PLUS payments for services (in Sterling & Dollars) (as identified via the CX116)

For the US:

The calculation for the US is carried out slightly differently to take account of the fact that some of the dollars purchased by MOD are used to make foreign payments to countries other than the US.

MOD Imports of Trade-in-Services =

Total MOD purchases of US Dollars.

(-) LESS Total requests for foreign payments (to the US) relating to goods in US dollars i.e. excluding payments requested in sterling. Since the MOD, at the request of contractors, make payments to UK companies in dollars, a further deduction from the total MOD purchase of dollars is required. This is because such payments are not related to an import from the US.

(-) LESS payments to UK companies in US dollars

The next additional step for calculating Trade-in-Service imports with the US is to remove all US dollar payments (to any country outside of the UK) where the payment is in respect of goods. This figure includes an assumption that BDS Washington purchase around £6 million of goods (not picked up by FMSSC). In the case of services, any requests for payment to a company/organisation outside of the US also need to be removed. This stage is necessary because the MOD's purchase of US dollars include an amount with which to meet the demand for non-US companies/organisations to be paid in dollars. This reflects the US dollar's reputation as a stable currency and is not relevant to Trade-in-Services with the US.

- (-) **LESS** Total of all requests for foreign payments in respect of goods where the payment is made in dollars, irrespective of country.
- (-) LESS Total of all non-US requests for foreign payments in respect of services where the payment is made in US dollars.

The penultimate step is to subtract payments made (in US dollars) to international organisations (e.g. NETMA, OCCAR) for use on collaborative projects. The majority of these payments are excluded since payments to collaborative projects are generally considered to be in respect of goods rather than services.

(-) LESS payments in dollars for collaborative projects which relate to goods.

The final stage is to add the invisible imports, where the foreign payment has been requested in Sterling. This is because, whilst a US organisation may have requested a payment in Sterling rather than their national currency (dollars), the payment still relates to an imported service from the US and would not otherwise be captured.

+ PLUS payments for services (in Sterling) (as identified via the CX116)

B: EXPORTS (RECEIPTS)

- 4.6 Exports (receipts) are currently identified via Commodity Codes (CC) which allow the distinction between goods and services to be made. The list of Commodity Codes (CCs) is actively managed by FMSSC There are two elements to the Trade-in-Service export figures:
 - "Receipts from US Forces in the UK", which are provided by the Office for National Statistics, via FMSSC.
 - "Other receipts" for Trade-in-Services, which are supplied by FMSSC via a web portal.
- 4.7 A small amount of foreign current receipts from local Cash offices are currently not picked up by the FMSSC. Any cash office foreign currency receipts will have a 'netting off' effect on currency purchase requirement. In view of this fact such receipts in a foreign currency coming within the scope of a Trade-in-Service should be added to both the imports and exports tally. All cash office data should be accessible via the central MOD financial systems which pull together data from many different sources. To date a solution has not been pursued since the sums involved were anticipated to be negligible and the effort in obtaining them was considered disproportionately large.
- 4.8 The 'netting off' effect discussed above may also be present where there have been payments for Government to Government projects. Current understanding is that where there is a two-way or reciprocal provision of services between Governments then payments may be made 'net'. However, the ONS would prefer a 'gross' figure. We are currently exploring with the ONS how we might address this issue.

KEY ASSUMPTIONS

- 4.9 A number of assumptions are necessary to enable the Trade-in-services to be calculated. These are that:
 - The payments data captures all UK government collaborative project spend.
 - Any collaborative project funding from foreign governments is excluded from both the foreign currency purchases and payments data.
 - Payments made by MOD staff located in the United States for services amount to about £6 million each quarter. Data for UK MOD spend in the US does not easily allow the separation of goods and services without disproportionate effort. During the recent review both DASA and British Defence Staff (United States) undertook their own analyses of BDS(US) data. They both concluded that approximately £6 million of quarterly spend can be attributed to service imports. This is the current assumed figure used in the trade-in-service imports calculation but it is to be reviewed on an annual basis to confirm that it remains valid.

- Most foreign currency payments to foreign companies for goods are captured on the payments data.
- All payments which are made in relation to international collaborative projects are included within the foreign currency purchases totals and are totally UK government funded. We then remove payments relating to goods only from these totals.

5 MINOR REVISIONS RESULTING FROM INCREASED RESOLUTION OF INTERNATIONAL PROJECT DATA

5.1 A minor revision to the annual totals for 2009 will be necessary following the receipt of more detailed data on payments related to services procured overseas as a result of international collaborative equipment projects. Recent improvements to the reporting capabilities of MOD administrative systems have provided greater clarity to these data sources and enabled us to separate out the services from goods elements of payments relating to multi-nation collaborative projects. The changes to the 2009 data will result in an upwards revision to the "debits" total of approximately 9%. Annex B provides details of the changes required to the published table in *UK Defence Statistics*.

6 CONCLUSIONS

- 6.1 This Bulletin has provided the methodological background to why we collect information on MOD Balance of Payments transactions and has sought to clarify the conceptual understanding of their measurement. This explanation has built on previous work presented in Defence Statistics Bulletin No.4 and the 2004 National Statistics Quality Review. It then went on to set out the current methodology (which has been subject to an internal review), before describing recent improvements to underlying data sources following changes to MOD data systems. Finally, it briefly outlined some minor revisions to the 2009 data following the receipt of more detail data on payments related to services procured overseas via international collaborative equipment projects.
- Whilst the methodology underpinning these statistics has been proved to be statistically robust, the coverage and quality of some of the underlying data sources (particularly in relation to purchases made by the outlying MOD cash offices) continue to require further refinement to bring them up to National Statistics standards. As MOD systems change, there may be scope to further improve these data (as was the case recently for the treatment of purchases relating to international collaboration). For now though these statistics continue to be de-badged as National Statistics until such time that we have full confidence in the quality of the data we extract from internal MOD systems. At present the data does not meet all of the high quality standards required for this to be the case.

GLOSSARY

Export

An export can be defined as something of economic value being provided by a **resident** to a non-resident in exchange for a financial asset of equal value (usually cash). Exports equate to 'receipts'.

Import

An import is something of economic value being received by a **resident** from a non-resident in exchange for a financial asset of equal value (again, this is usually cash). Imports equate to 'payments'.

NETMA

NATO Eurofighter and Tornado Management Agency (NETMA) is the prime contractor for the Eurofighter Weapon System. The arrangements for the management of the Eurofighter programme were set out in the NATO Charter dated 18 December 1995 in which the international management agencies of the Tornado and Eurofighter programmes were integrated into a single agency, the NATO Eurofighter and Tornado Management Agency (NETMA). This NATO agency is essentially a multi-nation HQ project office for these two collaborative projects involving the UK, Germany, Italy and Spain. In the UK, Eurofighter is now called "Typhoon".

OCCAR

OCCAR (Organisation Conjointe de Cooperation en Matiere d'Armement) – the Organisation for Joint Armaments Co-operation was originally set up in November 1996 by France, Italy, Germany and the UK with the aim of improving the efficiency and lowering the cost of managing co-operative defence equipment programmes involving European nations (e.g. A400M). Belgium and Spain are also now members.

Trade-in-Services

The provision of services between a **resident** of a territory and non-resident, and transactions in goods which are not freighted out of the country in which the transactions take place, for example purchases for local use by foreign forces in the UK and by UK forces abroad, and purchases by tourists. Transactions in goods which are freighted into/ out of the UK are included under trade in goods.

The Pink Book

The annual Office for National Statistics (ONS) Pink Book contains estimates of the balance of payments of the United Kingdom. The presentation of the accounts is based on the IMF Balance of Payments Manual 5th edition (BPM5).

Residency / Resident

An economic entity that has a closer association with a given territory than with any other territory is said to be a resident of that territory. Any economic entity which is not regarded as a resident is described as a non-resident. The concept of residency is not based on nationality. The UK's economic territory is defined to include the territories lying within its political frontiers and territorial seas, and in the international waters over which it has exclusive jurisdiction. It also includes its territorial enclaves abroad holding embassies, consulates, military bases, scientific stations, information or immigration offices, aid agencies etc., whether owned or rented by the UK governments with the formal agreement of the countries where they are located. The UK offshore islands – Jersey, Guernsey and Isle of Man – are classified as non-resident to the UK.

REFERENCES

DASA,(1994) Statistics of Exports and Imports of Defence Equipment and of Defence Balance of Payments Invisible Transactions. Defence Statistical bulletin 4, DASA, July 1994

DASA (2004) National Statistics Quality Review Series Report No.32,,pp.86 - 112. DASA 2004.

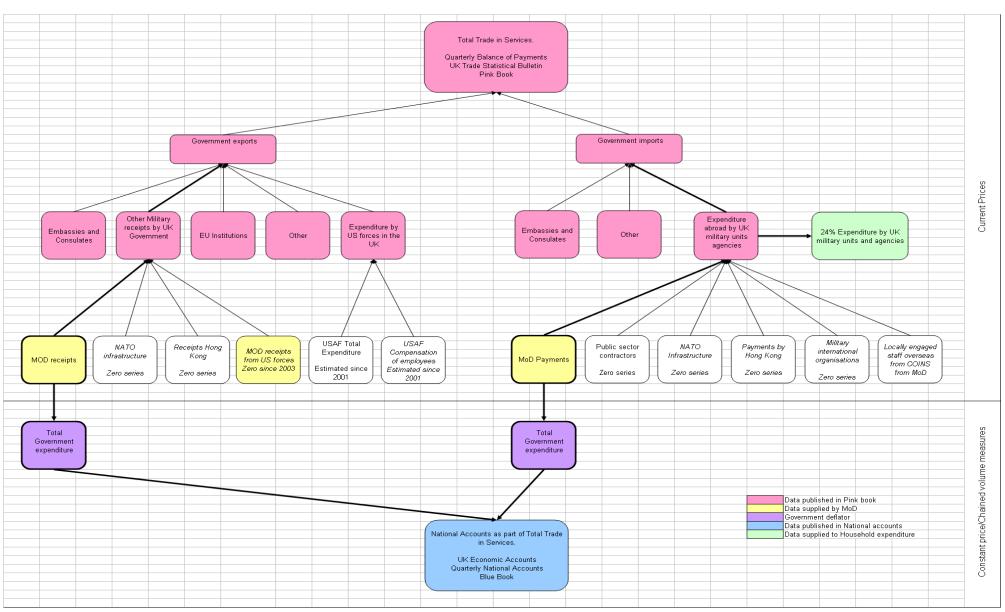
DASA,(2007) Recent Developments relating to the improvement of Defence related Export Statistics. Defence Statistical bulletin 8, DASA, December 2007

DASA 2010, **UK Defence Statistics**, Sept 2010

Office for National Statistics (2010), **United Kingdom Balance of Payments - The Pink Book**, Palgrave Macmillan (2010)

Office for National Statistics (2010), **United Kingdom Economic Accounts**, Palgrave Macmillan (2010)

ANNEX A - MoD data flow in Balance of Payments and National Accounts



ANNEX B: UK Defence Statistics Table 1.14 showing Revisions to the 2009 data

	Current prices (£ million)		
	2009	2009	Change in
	(Original)	(Revised) ¹	Value
Net Balance	-3 007	-3 276	- 269
Total Debits	3 350	3 619	269
Expenditure ²			
Germany	2 099	2 371	272
Other identified NATO countries	1 035	1 032	- 3
Mediterranean	88	88	
Far East	-	-	-
Other areas	128	128	-
Total Credits	343	343	-
Receipts ³			
Receipts from US Forces in UK	149	149	-
Other Receipts	194	194	_

Other Receipts | 194 | 194 | - |

Revisions to 2009 figures due to better identification of the amount of payments made on Collaborative projects that relate to goods.

^{2.} Based on drawings of foreign currency.

^{3.} A mix of export sales and receipts from other Government and International Organisations for services provided overseas and to overseas forces based in the UK.

ANNEX C - Examples of main reports extracted from MOD administrative Systems

Figure 1 – PtP IntraStat Report

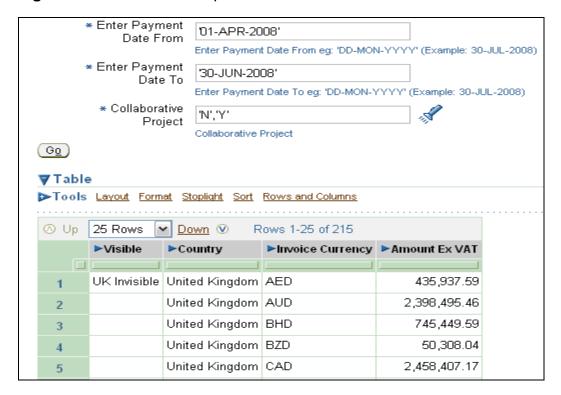


Figure 2 - O2C Invisible exports report - Receipt and CM Applications

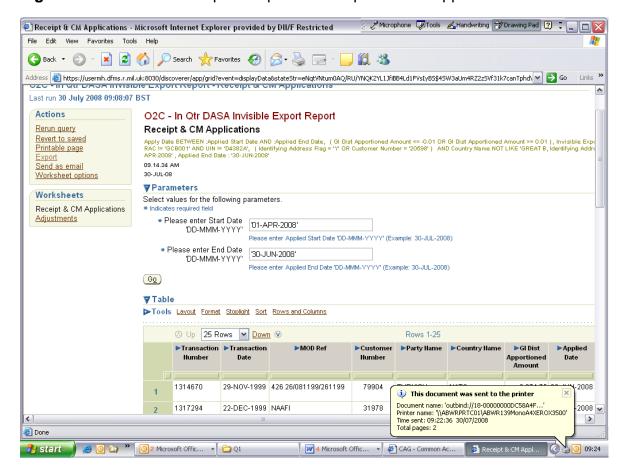


Figure 3 - RLB 005 report (US forces receipts)

