This paper examines the concentration of a number of large aircraft leasing companies in Ireland within the context of the rules governing the statistical recording of acquisitions and disposals of aircraft in the international merchandise trade statistics and in the balance of payments. The challenges to the compiler of statistics are outlined as well as the impact on the trade, balance of payments and the national accounts.

The paper was prepared by Patrick Quill of the CSO (Ireland).

The complete document is only available in PDF format.

Contact: Patrick Quill, CSO Ireland. Email: Patrick.Quill@cso.ie
Trade in aircraft and aircraft leasing structures in Ireland

Patrick Quill, Central Statistics Office, Ireland

Introduction
This paper examines the concentration of a number of large aircraft leasing companies in Ireland within the context of the rules governing the statistical recording of acquisitions and disposals of aircraft in the international merchandise trade statistics and in the balance of payments. The challenges to the compiler of statistics are outlined as well as the impact on the trade, balance of payments and the national accounts.

1 Changes to the methodology and the impact on the accounts

Conceptual issues
The international merchandise trade statistics cover goods “which add to or subtract from the stock of material resources of a country by entering (imports) or leaving (exports) its economic territory”. There are however some exceptional cases of items where the change of ownership principle, fundamental to the balance of payments, is also applicable for the recording of international merchandise trade transactions. In particular, ships and aircraft are included in international merchandise trade statistics based on the change of economic ownership between residents and non-residents. The United Nations International Merchandise Trade Statistics: Concepts and Definitions 2010 (IMTS) states

... the acquisition of a ship or aircraft is treated as adding to the material resources of a country (the reverse also applies). The concerned ships and aircraft are included whether they enter/leave the economic territory of the involved countries or remain in international waters or are used in international flights.

In the European Union, the guidance is covered by legislation so that the transfer of ownership of a vessel or aircraft, between natural or legal persons in different Member States constitute the only arrivals and dispatches in the intra-EU international trade statistics.

---

1 The views expressed in this paper are those of the author and do not necessarily reflect the policies of the CSO.

2 To avoid ambiguity, the terms “international merchandise trade statistics” and “monthly trade statistics” are used to describe trade under the IMTS concept as distinct from merchandise trade on a balance of payments basis.


It is worth mentioning that the treatment in the international merchandise trade statistics is new. For example United Nations IMTS: Concepts and Definitions 1998 does not refer to change of ownership.

The treatment in the balance of payments is relatively straightforward. Again the recording is on a change of ownership basis implying in this case no adjustment necessary in the transition from the merchandise source data to total goods on a balance of payments basis.

Transition to new methodology
In 2011, a Eurostat task force was established to examine the data collection challenges of the new methodology. Up to the implementation of the new methodology recording of aircraft in the international merchandise trade statistics was based on the movement of aircraft across a country’s frontier. In Ireland’s case this was when an aircraft was added to or removed from the national register of civil aircraft.

Cross border purchases and sales of aircraft by resident aircraft leasing companies were recorded in the financial account of Ireland’s balance of payments (unless the transaction was shown on the aircraft register).

In 2015 the CSO implemented the changes to meet the new requirements. Under the transfer of economic ownership principle, all trade in aircraft by an Irish resident with the rest of the world is recorded as imports and exports of goods – regardless of where the aircraft is registered for aviation purposes. Therefore, an import of an aircraft is recorded when a company buys an aircraft and it appears on their balance sheet as an asset. An aircraft is included in the exports of goods statistics when it is sold or shown as a disposal in the balance sheet of the company. In the balance of payments, cross border purchases and sales are now shown as imports and exports rather than changes in financial assets.

Aircraft leasing companies in Ireland
The change in methodology impacts economies with large aircraft and shipping fleets, especially where airplanes and vessels are not registered in the economy of ownership. Ireland has for a long time been a location for the aircraft leasing companies (ALCs). It is further a feature of globalization that companies can change the location of their centre of economic interest relatively easily. The aircraft leasing industry has grown in recent years and many of the top ALCs have chosen to place the operating offices of their businesses in Ireland. In fact estimates have placed Ireland among the most important locations for the operation of leasing activities of aircraft worldwide. Figure 1 shows the scale and growth of the industry in Ireland since 2000.
Figure 1 shows the net income of operating leasing industries which are dominated by ALCs. The treatment of operational leasing in the trade in services statistics is unchanged under the new methodology.

As with other operational leasing companies there is a high turnover of assets in the aircraft leasing industry. The impact on the international merchandise trade statistics of acquisitions and disposals of ALC assets can be seen in table 1 which presents the imports and exports of CN 88024000 (Aeroplanes and other powered aircraft …) as a percentage of total imports and exports. In particular the table indicates that Ireland’s imports can comprise up to 19% of aircraft imports.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Trade in Aircraft as a percentage of total trade, Ireland*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2015</td>
</tr>
<tr>
<td>imports</td>
<td>17%</td>
</tr>
<tr>
<td>exports</td>
<td>5%</td>
</tr>
</tbody>
</table>

* Notes: (a) The table includes trade in aircraft by Irish resident ALCs and by Irish resident airlines. (b) The percentages of total international merchandise trade imports and exports

Impact of the new methodology on the accounts
The new treatment of aircraft acquisitions and disposals introduced by the CSO in 2015 revised the data back to 2000. This had a very significant impact on the international merchandise trade statistics in Ireland due to the scale of the aircraft leasing industry in Ireland. There were also significant changes to the balance of payments (where transactions in aircraft assets are recorded in the current account rather than the financial account as was the case previously), and the national accounts (with trade in aircraft being offset by changes in capital formation and further depreciation being recorded). Figure 2 shows the revision to the trade balance as a result of implementing the new methodology with some revisions as large as €5 billion (2.5% of GDP in 2012).  

Figure 2: Revision to the trade balance in implementing the new methodology, 2000-2014 Ireland

Further discussion is found in the CSO’s methodology document http://www.cso.ie/en/media/csoie/methods/balanceofinternationalpayments/Aircraftleasing2015updatev2.pdf
In the national accounts there is also an increase in imports. There is however an offsetting increase in capital formation and the new methodology has little effect on GDP. An increase in provision for depreciation is introduced through implementation of the new methodology which impacts net measures of value added such as net domestic product.

2 Data collection challenges

Data collection
In Ireland as elsewhere the international merchandise trade statistics are collected by the tax authorities through the Intrastat survey and VAT returns for intra-EU estimates, and customs based data for statistics of trade with non-EU countries. The monthly trade statistics are published by the CSO.

Previously, the trade statistics were impacted when an aircraft was added or removed from the national register of civil aircraft. The registration or de-registration triggered an enquiry from the tax authorities to the owner of the aircraft.

The registration system remains valid for increases and decreases of aircraft of the domestic airlines. One of the challenges with the new methodology, however, is that most of the aircraft belonging to the multinational ALCs are not registered in the country of ownership. This leads to a break in the link between the trade in aircraft and reliable administrative data sources in a highly regulated industry.

Implementation of the new methodology
In the years leading up to the transition to the new recording the CSO engaged with the tax authorities on this issue. Because European law demanded that trade in aircraft between member states be treated on a transfer of economic ownership basis, it was agreed that the collection by the tax authorities had a strong legal basis. As with other trade data, once a company is in the collection system, the company is obliged to report on an ongoing basis, for a certain duration, regardless of further instances of trade by the company.

At the same time, the quarterly survey conducted by the CSO and issued to the ALCs and other companies is an integrated survey that collects data for balance of payments purposes. The CSO
survey collects trade in services; profit and loss; depreciation; tax; equity liability by immediate parent or shareholders; as well as full balance sheet information by counterpart country and other characteristics. The data on opening position, closing position, transactions, and other changes of tangible fixed assets is of particular relevance to the ALCs. These data provide definitive evidence of change of ownership of aircraft through additions to or removals from a company’s balance sheet.

On balance to maintain the current institutional arrangements for collecting international merchandise trade statistics, it was decided that the collection of trade in aircraft on a change of economic ownership basis was to be conducted by the tax authorities and used by the CSO in the compilation of monthly trade statistics. The balance of payments data on increases and decreases of tangible fixed assets is gathered quarterly and excludes important information on origin, destination and number of planes. The latter data is valuable, however, as a secondary source to validate the collection by the tax authorities. It was acknowledged that the new collection system was likely to underestimate the transactions at first but would improve over time as more ALCs become respondent companies.

**Problems encountered**
Implementing the new methodology has been quite challenging for the CSO. On a monthly basis the data is collected by the tax authorities. Later data becomes available on the CSO’s quarterly balance of payments form. The latter data is consistent with the reporting of operating leasing, depreciation, income flows and other aggregates used throughout the balance of payments and national accounts frameworks. The CSO also maintains regular contact with the reporting companies. For these reasons the data collected by the CSO acts as a control total.

It has proven difficult to achieve consistency between the data collected from individual companies by the tax authorities and the balance of payments survey data. Some of the reasons for difficulties that we have found with our current arrangement are:

1) The difference in frequency of the two surveys - monthly and quarterly;
2) There may also be timing differences between the recording in the two surveys
3) There are different reporting units to the two sources. The unit of collection employed by the customs tax authorities is related to the VAT id whereas the CSO survey consolidates all units of a group operating in Ireland.
4) The CSO quarterly balance sheet data is consistent with company accounts and is used as a control total in Ireland’s statistics on trade in aircraft. The survey, however, does not have information on geography and number of planes which is needed in the international merchandise trade statistics. The CSO contacts the companies directly to gather further information but in some cases these may need to be estimated.

There are further some general features of the industry which complicate the collection and compilation of statistics:

5) Although there is a relatively small number of ALC names operating in Ireland the company structures can be quite fragmented. In some instances individual subsidiaries are set up to manage one or two planes. This makes the collection of data difficult.
6) There is a significant amount of trade of second hand aircraft within the ALC sector. When an ALC purchases or sells an asset the respondent may know the name of the counterpart
company, but may not know the geography of the counterpart. For instance sales within Ireland may be viewed by one or both respondents may view an export or an import.

7) The timing of an acquisition is not always clear. In some cases aircraft are shown on the balance sheet which have not yet arrived as physical assets of use to the company. In other words, there may be a contract for future production that is entered in the balance sheet under fixed assets.

8) It is a feature of operational leasing industries that there is ongoing turnover of assets. In the case of ALCs, this can result in irregular shocks to the trade statistics because these are high value capital assets. Among other complications this impacts seasonal adjustment of the monthly trade statistics.

How the collection system has worked
The CSO had anticipated difficulties to the new collection processes. It was envisaged that the process would improve in time. There remains however a gap between the reported imports and exports collected by the tax authorities and the survey information collected by the CSO.

The CSO carries out an exercise to align the monthly trade in aircraft with the additions and removals from the balance sheet. This exercise is done as the new quarterly data becomes available and monthly estimates have to be revised accordingly. This has resulted in an ongoing delay in compiling the definitive figures and leading to significant revisions to the monthly imports and exports.

In the context of the ongoing work to improve the statistics on trade in goods and services the current system is being reassessed with engagement of the industry to make some changes to the collection process in Ireland and with the particular aim of reducing the level of revisions to the monthly trade statistics in Ireland.

Final comments
The new methodology for recording trade in ships and aircraft aligns the international merchandise trade statistics with the change of ownership principle of the balance of payments. Because Ireland has a high concentration of aircraft leasing companies the impacts of switching to the new methodology are significant. The compilation of timely statistics has proven challenging. The collection departs from the traditional customs-based collection of trade statistics. Some features of the industry itself also make collection difficult.

Some of the issues encountered by Ireland are unique to its position as a location of aircraft leasing operations. However other countries with activity in this and related industries such as shipping there are likely to have similar concerns. The experience in Ireland illustrates the limitation of using national and international registers of civil aircraft to determine arrivals and dispatches of planes. Furthermore the difficulties that Ireland has experienced may be indicative of trade asymmetries with other countries.