

# The development of Scottish economic statistics

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## Abstract

The economic statistics produced by the Scottish Government have evolved markedly over the last decade. As part of this, in 2008, the Scottish National Accounts Project (SNAP) was launched with the aim to develop a full set of National Accounts for Scotland. This has been a significant undertaking, and the work is only partly complete. However for the first time, there now exists a fully integrated and coherent Scottish National Accounts system which continues to expand its coverage of economic data in Scotland. This article sets out what has been put in place to date, and highlights key areas for further improvement. It shows how this work fits with an historic programme to improve Scottish economic statistics by the Scottish Government. New priorities are outlined and users – including Commentary readers - are invited to engage with the Scottish Economic Statistics Consultation network to feed in their views as to how Scotland's vital economic statistics can be developed further to better describe, measure and analyse the Scottish economy for the public benefit.

## I Introduction

Economic statistics are an essential source of information for policy makers and government, parliament, the media, academics and researchers. The financial crisis and subsequent recession alongside Scotland's constitutional debate has only served to emphasise the critical importance of the production of impartial, accurate, respected and timely statistics that inform our understanding of the Scottish economy and its performance.

The National Accounts Unit in the Scottish Government is responsible for producing many of the headline figures of the Scottish economy and its public finances. It sits in the Office of the Chief Economic Adviser (OCEA) which is the central economic analysis and economic statistics unit in the Scottish Government.

What are National Accounts, and why are they produced? In broad terms, National Accounts are an internationally comparable and consistent set of accounts that measure the economic activity of a given country. They are produced to measure the progress of the economy, assess the impacts of policy changes, monitor and evaluate the scale of economic 'events' or 'shocks' such as the financial crisis, and – in the case of Scotland - to place Scottish economic performance in a comparable international context.

One of the most important figures produced in National Accounts (and Scotland is no different) is Gross Domestic Product (GDP). This measures the total output of the economy, including from firms, households, government and non-profit institutions in one single figure - with no double counting.

Another high-profile 'output' or 'product'<sup>1</sup> of any set of National Accounts is information on public sector finances. The Government Expenditure & Revenue Scotland publication – more popularly known by its acronym as GERS (GERS, Scottish Government, 2014) - is produced in March each year. It provides information on the total amount of public sector expenditure on behalf of Scottish residents and the total amount of revenue raised in Scotland.

The article describes how the Scottish National Accounts have been developed over the past decade, and discusses the current range of products and plans for further development to meet the increased demands for accurate, detailed and timely Scottish economic statistics.

## II History of Scottish National Accounts

Prior to 2008, economic statistics in Scotland were focussed mostly on short-term indicators to monitor current economic conditions. This meant a focus on GDP growth and its component series. The index of production, index of services and index of manufactured exports were the first outputs produced and were followed by a composite index of GDP.

While relatively limited, the development of a distinct 'Scottish GDP' series post-devolution was a major step-forward. Most countries only publish such regular economic statistics at a national level. Indeed in the UK, Scotland is the only part of the UK to publish its own quarterly GDP series.

Periodically, the Scottish government has also constructed Input-Output (I-O) and Supply-Use tables. In simple terms these provide an overall measure of the value of the economy in cash terms – as opposed to seeking to measure growth – and importantly they seek to capture the flow of goods around an economy and the important linkages between industries. These tables underpin virtually every model of the Scottish economy both in academia and private sector, including the model used by the Fraser of Allander Institute.

Since the launch of these statistics, there has been a growing demand for ever more detailed information on the Scottish economy. In light of this in 2008, the Scottish National Accounts Project (SNAP, Scottish Government, 2008) was launched with the aim to move towards the creation of a full set of National Accounts for Scotland.

The United Nations describes the System of National Accounts as:

*"The System of National Accounts (SNA) is the internationally agreed standard set of recommendations on how to compile measures of economic activity. The SNA describes a coherent, consistent and integrated set of macroeconomic accounts in the context of a set of internationally agreed concepts, definitions, classifications and accounting rules.*

*In addition, the SNA provides an overview of economic processes, recording how production is distributed among consumers, businesses, government and foreign nations. It shows how income*

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<sup>1</sup> Here the term 'output' and 'product' is used interchangeably and simply refers to any unified set of economic statistical series produced by the Scottish Government within the context of the Scottish National Accounts.

*originating in production, modified by taxes and transfers, flows to these groups and how they allocate these flows to consumption, saving and investment. Consequently, the national accounts are one of the building blocks of macroeconomic statistics forming a basis for economic analysis and policy formulation.” (United Nations, 2008)*

In essence this is what the Scottish National Accounts Project seeks to deliver for Scotland. The original aims of the specific SNAP work streams were to:

- Produce different component breakdowns of GDP, on expenditure and income methods;
- Produce consistent multi-year Input Output tables
- Present quarterly revenue estimates
- Investigate the production of Gross National Incomes, and consider the production of per capita Gross Disposable Household Income (GDHI) and a Household Savings Ratio
- Present comprehensive trade estimates, including a Balance of Trade, and investigate the flows between Scotland and the North Sea.
- Improve investment estimates for Scotland, including consideration of the collection of primary data through tailored surveys.
- Investigate the quality of price information for Scotland

There have been significantly advances in this work over the past few years, but much work still has to be done.

### III So, what economic statistics does the Scottish Government produce?

The Scottish Government has a fully integrated system of National Accounts, with our Input-Output and Supply-Use tables forming the foundation of a balanced accounts. Each time a new set of I-O tables is released, it is on a consistent basis back to 1998. This approach ensures that all data are coherent, accurate and comparable over time and across all our products for balanced years. It also allows for a much more fluid programme to improve data sources and methods and to enable positive incremental change in the quality of *all* estimates.

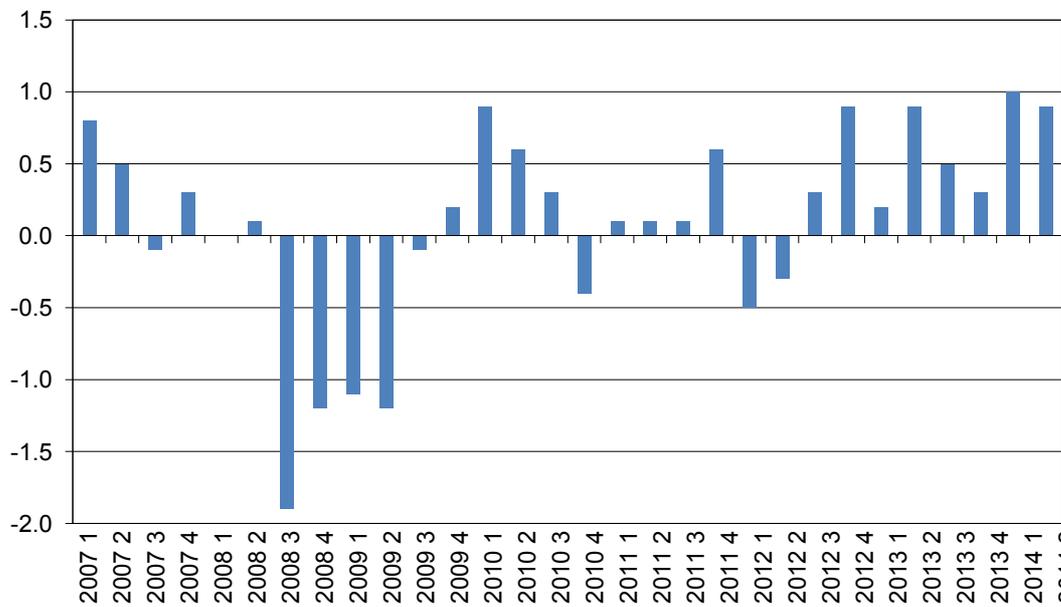
The following are some of the key economic statistics produced by the Scottish Government.

**Table 1: Summary of main Scottish Government economic statistics publications**

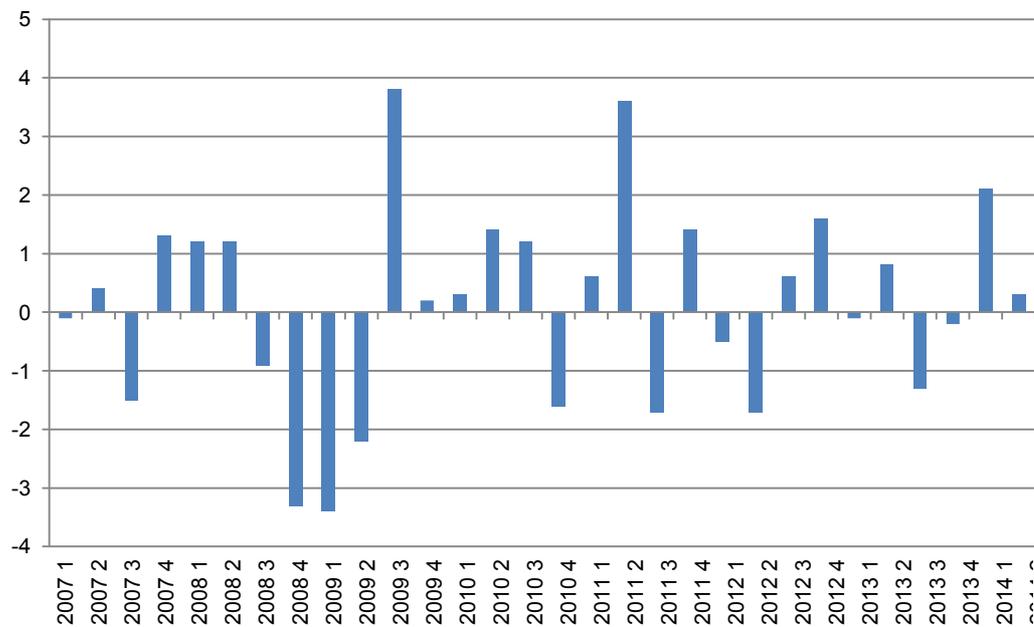
Product	Frequency	Latest Release	
		was for	Released on
Gross Domestic Product (GDP)	Quarterly	Q2 2014	41927
Index of Manufactured Exports (IME)	Quarterly	Q2 2014	41935
Retail Sales Index for Scotland (RSIS)	Quarterly	Q3 2014	41948
Quarterly National Accounts Scotland (QNAS)	Quarterly	Q2 2014	41955
Oil and Gas Statistics	Quarterly	Q2 2014	41955
Supply-Use and Input-Output tables for Scotland	Annual	1998-2011	41836
Government Expenditure & Revenue Scotland (GERS)	Annual	2012-13	41710

**Gross Domestic Product** (GDP – Scottish Government, 2014) is the most high profile quarterly Scottish economic statistic. It shows how the economy has grown (or contracted) over the previous quarter, using pure volume measures or turnover adjusted for inflation. Figure 1 shows the headline results from the most recent release (15 October 2014). This shows the quarterly growth rates for each quarter from 2007, including over the period of the recession.

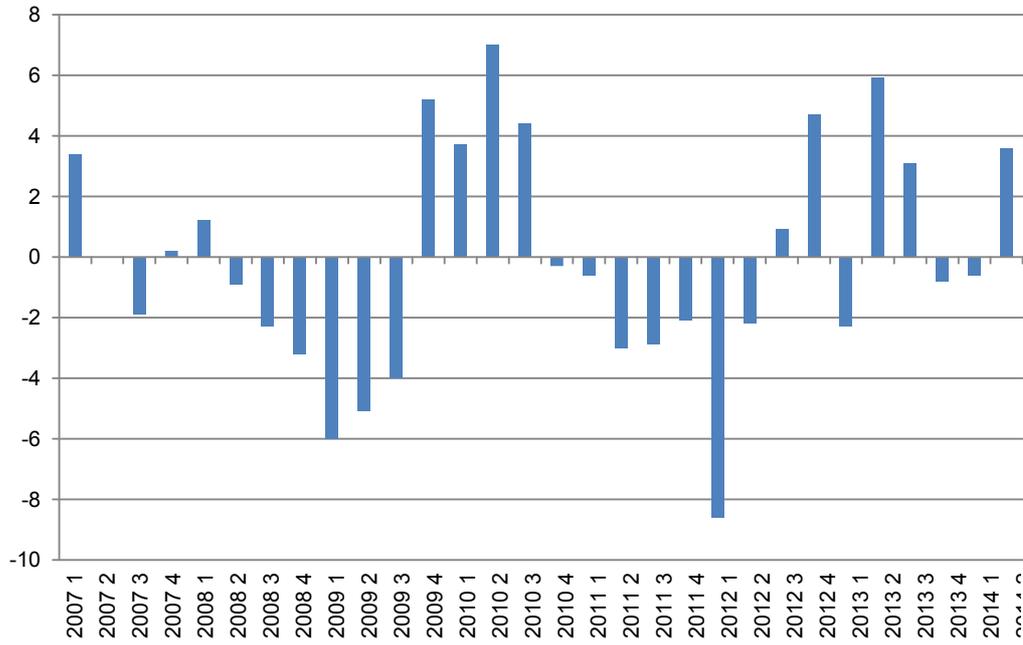
**Figure 1:** GDP Quarterly Growth Rates 2007 - 2014 Q2



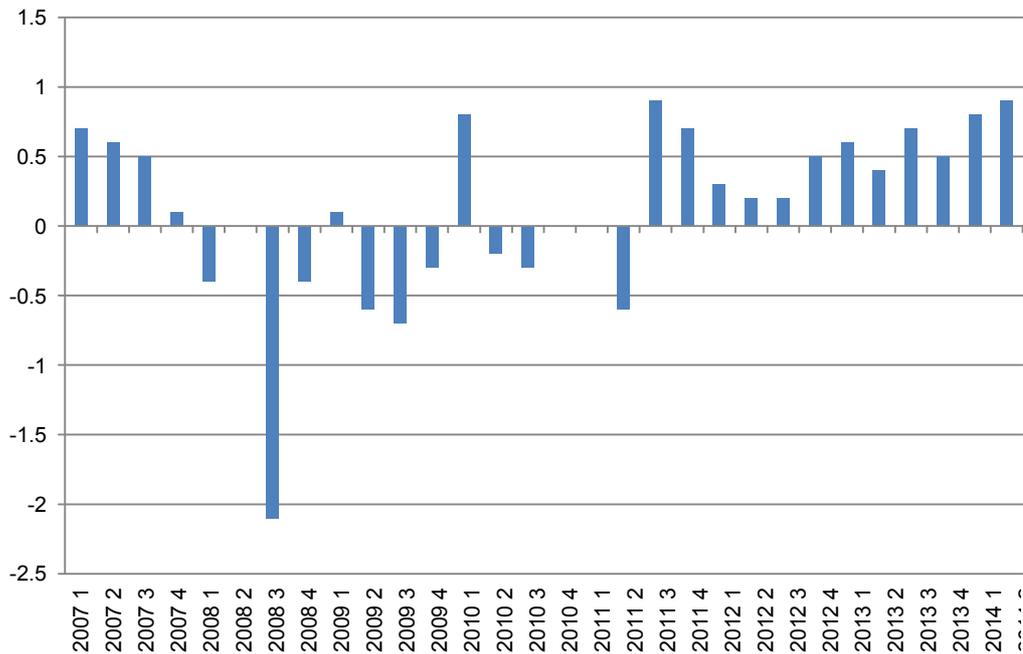
**Figure 2 (a):** Quarterly Growth Rates 2007 - 2014 Q2, Production



**Figure 2 (b): Quarterly Growth Rates 2007 - 2014 Q2, Construction**



**Figure 2 (c): Quarterly Growth Rates 2007 - 2014 Q2, Services**

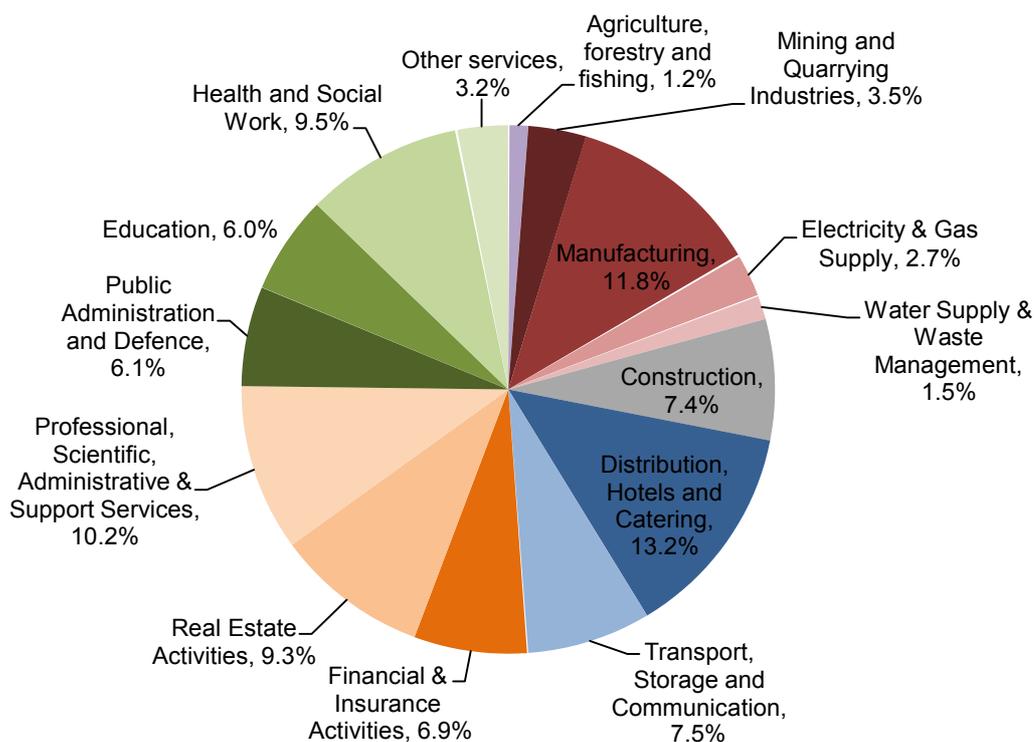


There is also significant interest in the industrial or general sectoral breakdown of GDP and how they have been performing (see Figures 2a, 2b and 2c). They show the performance, over the last few years, of the three broad components of the Scottish economy, namely the production, construction and services sectors.

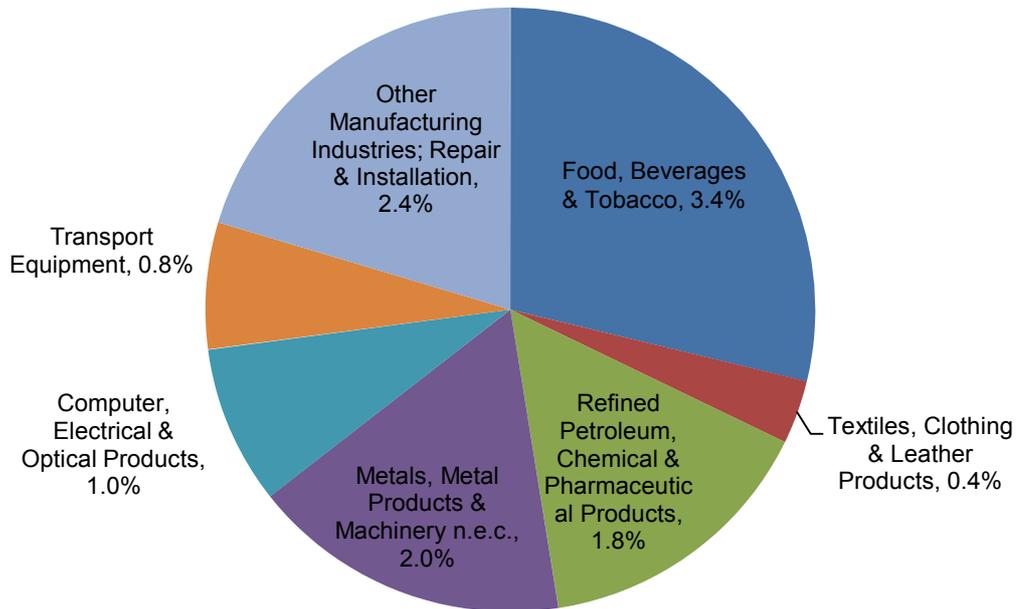
Two quarterly outputs on specific sectors of the economy are also produced. The **Index of Manufactured Exports** (IME, Scottish Government, 2014) provides quarterly real terms movements for exports from manufacturing industry to the rest of the world. We also produce the **Retail Sales Index for Scotland** (RSIS, Scottish Government, 2014), which seeks to capture the performance of the retail sector of the Scottish economy. These products both rely on the same core data – the Monthly Business Survey – used for turnover in GDP estimation.

The **Input-Output** and **Supply Use** tables at the very aggregate level produce the weight – or scale - of each sector in the Scottish economy, in each year. Figure 3(a) shows the weight of each sector in the economy for the latest balanced year, 2011, and Figure 3(b) shows a breakdown for manufacturing.

**Figure 3 (a):** GVA Weights by Broad Industry Group, 2011



**Figure 3 (b):** Manufacturing Weights by Broad Industry Group, 2011



The Input Output tables support many other systems in the Scottish Government's Office of the Chief Economic Adviser (OCEA) and the wider Scottish Government. For example, it forms the basis of our Computable General Equilibrium (CGE) model run by the Fiscal and Economic Modelling Unit, and the I-O team is responsible for producing the carbon analysis which sits alongside the budget. This team also does numerous economic impact assessments to calculate the contributions of industries or the effect of policy spend.

As part of the Scottish National Accounts Plan work has been ongoing to develop new products that are required to fulfil the objectives set out for SNAP (see above). One flagship product is the **Quarterly National Accounts Scotland** (QNAS, Scottish Government, 2014), which started to be published in early form in 2010 and has now become an established and kite-marked National Statistics product.

QNAS produces on a regular basis many of the economic statistics that were set out in the original SNAP plan, including:

- GDP (Expenditure) and its components
- Quarterly Revenue Estimates
- Household Savings Ratio
- Onshore Balance of Trade
- GDP deflators
- Productivity estimates

Work to develop these strands has not stopped with creation of QNAS. In November 2013, the first estimates of Scotland's Gross National Income for 2010 (Scottish Government, 2013) was produced. In addition, quarterly oil and gas statistics (Scottish Government, 2014) are now produced with estimates of production, operating costs and sales revenue. This also includes estimates of trade flows between 'onshore' and 'offshore' (i.e. the UK continental shelf) Scotland which allows for the calculation of an overall balance of trade.

In 2014, capital investment data were collected by the Scottish Government for the first time from Scottish businesses. These are currently being analysed and will lead to improvements in estimates of investment in the 2012 Input/Output (I/O) tables, and a follow-up survey is planned for autumn 2015.

Finally, there is the public sector finances publication, **GERS** or **Government Expenditure and Revenue Scotland**. GERS estimates the contribution of revenue raised in Scotland towards the goods and services provided for the benefit of the people of Scotland under the current constitutional arrangement. In essence, GERS provides an estimate of Scotland's overall fiscal position - the current budget balance and the net fiscal balance – as well as a detailed account of over 1,000 expenditure budget lines of the Scottish, UK and local governments and all taxes raised and collected in the UK. It also addresses the question of the North Sea and its contribution to public sector finances in Scotland.

#### **IV What's next for Scottish National Accounts?**

The construction of National Accounts for Scotland has been likened to building Scotland's own "Sagrada Familia"<sup>2</sup>, a journey towards a beautiful construction that will never be complete. It is unarguable that there are many areas that one could seek to improve Scottish economic statistics but given existing resources, improvement need to be prioritised - in conjunction with feedback and engagement with users.

##### *Migration to the European System of Accounts 2010*

Over the next six months, work will take place to migrate the Scottish National Accounts System to conform to the European System of Accounts 2010 (EuroStat, 2014). This conversion has already taken place at the UK level and across Europe in September 2014, but in Scotland we need to wait until the UK level information is available to be able to convert the Scottish Input-Output tables and therefore all products on to this new basis.

In the meantime, users have been alerted to the (interim) comparability problems that this presents. Of particular interest in Scotland is how Scotland's economy or 'numbers' compare to that of the UK as a whole. Recognising this, users have been advised that while comparisons over the previous quarter and year are likely to be valid, comparisons over a longer time period are likely to be subject to a greater degree of uncertainty than normal.

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<sup>2</sup> Sandy Stewart, who started the SNAP and has developed economic statistics for Scotland for the past 20 years.

## GERS 2013-14

Alongside this programme of work, GERS 2013-14 will be published in March 2015 and a consultation on this publication will be launched before the end of 2014.

### *New programme areas*

Post April 2015, the focus will be on three main programmes of improvement work to continue to develop SNAP:

- **Trade** – to improve the coherence between estimates of exports from the National Accounts and Global Connections Survey (in conjunction with the Business and Digital Analytical Unit in OCEA);
- **Oil and Gas** – to improve Scottish oil and gas statistics in conjunction with a sub-group of users, including how to understand better the flows between onshore and offshore Scotland (i.e. the continental shelf);
- **GDP** – to review the timeliness of the main GDP publication and the sequence of release of key economic statistics.

However, these are our *broad* plans and the Scottish Government is keen to discuss these with users over the coming few months to December 2014.

### **Scottish Government economic statisticians and statistics**

The Scottish Government National Accounts Unit has nine professional statisticians. It works in three broad areas, although the integrated nature of the National Accounts calls for a significant degree of joint working across the following steams:

- **Input-Output** – A team produces the supply-use and Input-Output tables, which form the foundation of the Scottish National Accounts system.
- **Short term indicators** – A team produces 3 quarterly publications – GDP, Index of Manufactured Exports and the Retail Sales Index. It has the responsibility for the highest profile outputs of the National Accounts Unit.
- **Scottish National Accounts** – This is, in essence, a development team and is the newest and most flexible part of National Accounts Unit. It was established in 2008, and publishes new products, including the now-well established QNAS.

The National Accounts Unit works closely with other areas of the Office of the Chief Economic Adviser. This includes the Business and Digital Analytical Unit which has responsibility for business data - which it receives from the UK Office for National Statistics (ONS) - and it produces many products on the nature, structure and performance of businesses in Scotland. It is also responsible for publishing the Global Connections Survey that estimates Scotland's exports to both the rest of UK and the rest of world and which is an essential source of information for the Scottish National Accounts.

Input from government economists is essential to our work, both to provide context and to allow quality assurance from the wider range of economic intelligence that is monitored by OCEA. Our products often underpin key economic publications, such as the Chief Economist's **State of the (Scottish) Economy** (Scottish Government, 2014) which is published approximately every four months.

#### *Professional Standards*

Professional statisticians in government work to a Code of Practice for Official Statistics (UK Statistics Authority, 2009). This is overseen by the UK Statistics Authority, which routinely assesses our products to ensure they meet the standards set out in the Code and to meet the quality threshold of being deemed "National Statistics". To explain, the different labels statistics produced by Government can be categorised as follows:

- **National Statistics:** are statistics assessed by the UK Statistics Authority as meeting the Code of Practice (i.e. they meet an identified user need, are well explained and readily accessible, produced according to sound methods and are managed impartially and objectively in the public interest.
- **Official Statistics:** are statistics that meet many of the parts of the Code and which in time will be presented for assessment as 'National Statistics'.
- **Experimental Statistics:** is a term used for official statistics which are in the early stages of development, are subject to methodological developments and likely to be revised more often than other types of estimates. They are published in a way to allow them to be developed in conjunction with user feedback and to allow their methodology to evolve openly.

All fully developed products – such as GERS, GDP, I-O tables and the Quarterly National Accounts – have been kite marked by the UK Statistics Authority as National Statistics products.

## **V The way ahead, how users can get involved**

User consultation is critical to the development of the Scottish National Accounts and is an essential part of operating under the Code of Practice for Official Statistics. As the Code points out, user involvement and engagement ultimately makes for better (economic) statistical products and higher quality methodologies.

There are many ways that users of Scottish Government economic statistics can get involved with on-going work and future developments.

The simplest way is to sign up to ScotStat (Scottish Government, 2014), the Statistics Consultation Network. Users can select their statistics of interest and be kept updated on their development. If one selects 'Economy', you will be alerted to new publications and consultations and to any issues with our statistics.

Users can feed back comments and views directly about certain products, or raise questions or requests for different or further types of analysis, by simply emailing the Unit's economic statistics mailbox – [economic.statistics@scotland.gsi.gov.uk](mailto:economic.statistics@scotland.gsi.gov.uk).

Finally, to engage more directly and to help shape the Unit's work programme, there is the **Scottish Economic Statistics Consultation Group (SESCG)**. This is composed of users of our statistics, people with an expertise in using National Accounts information and other economic statistics as well as National Accounts Team staff. This group also oversees Business & Digital and Labour Market Statistics. The group meets annually – usually in February / March - and sub-group meetings take place on an ad-hoc basis throughout the year.

If any users – including Fraser Economic Commentary readers - would like to get involved in this group or wish to simply find out more about the Business & Digital or Labour Market Statistics areas then they are encouraged to email the Unit at [economic.statistics@scotland.gsi.gov.uk](mailto:economic.statistics@scotland.gsi.gov.uk).

## VI Conclusion

The production of Scottish economic statistics is vital to Scotland, not only to government and policy makers, but to business and civic Scotland more generally - individual businesses and business representative bodies, Trade Unions, local authorities, the third sector as well as academics and academic commentators such as the Fraser of Allander Institute. Scotland's economic statistics also will play a vital role in the debate over the powers devolved to the Scottish Parliament. As the Code of Practice for Official Statistics makes abundantly clear, it is only through ongoing user involvement, feedback and engagement that the Scottish Government will be able to produce Scottish economic statistics that are fit for purpose for Scotland and her citizens.

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