Report for the SNP's Growth Commission

Analysis of Scotland's Balance of Payments

Author: John McLaren

Revised version: mid May 2018

(Note: this is a revised version of the original report supplied to the Growth Commission in early 2017. The main revisions to the tables and text are in relation to updated trade data.)

EXECUTIVE SUMMARY

- The element of Scotland's **Balance of Payments (BoP)** that is of most interest in economic terms is the Current Account, which consists of the Trade (Goods and Services) Balance and the Primary Income (Investments) and Secondary Income (Transfers) Balances.
- The data available on Scotland's **Current Account** is generally poor. Survey data for onshore exports is available but not for offshore exports. Imports figures are available but mainly derived as a balancing item. Primary Balance data is still experimental and and Secondary Balance data is not available.
- Unlike many countries Scotland's Primary Balance is likely to be an important element in determining the size of the Current Account balance, due to **high overseas (i.e. non-Scottish) ownership of key export industries** like oil & gas and whisky.
- Overall, post Devolution, Scotland's **Trade balance** with the RoUK has worsened and so gone deeper into deficit. Its Trade balance with the RoW has also deteriorated, although it still moves between surplus and deficit, year-by-year.
- Growth rates of exports and imports tend to be relatively high and erratic.
- Scotland's **Primary Income Balance** has only very recently been estimated on a regular basis and remains a work in progress. Calculating it is complicated by ultimate ownership issues, in particular in relation to the UK, which is currently a single market.
- There are no estimates available for the **Secondary Income Balance**.
- Scotland's **onshore Trade balance is estimated to be close to £12 billion in deficit in 2017**, equivalent to nearly 8% of GDP. This is a relatively poor position for a country with a small open economy.
- The **PIB is estimated to be close to £9 billion in deficit in recent years** (up to 2016).
- Due to **data omissions**, including with respect to offshore activity, Scotland's full Trade balance and Current Account cannot be calculated. After incorporating the North Sea, both measures are likely to improve, the former by more than the latter. However, the degree to which this happens is highly uncertain, in part due to the lack of data and in part due to the erratic-ness of North Sea output.
- Looking at Scotland as an independent economic entity, its **onshore,** rather than total, Trade balance (or Current Account) may be a more relevant government target, due to the volatility of the resource based offshore element.
- Improving Scotland's onshore Trade balance will have policy implications, although these may not be straightforward and may need to be introduced over time. Much **more research and analysis** needs to be undertaken in order to derive the most appropriate trade policies for Scotland.
- Achieving an improved export performance - while still working within the UK's macro policy framework which has resulted in a long term, often large, Current Account deficit - may be difficult.
- To improve our understanding of Scotland's external position **more resources** (in terms of both physical resources and funding) need to be put into data collection of the various elements of the Balance of Payments. Even if initiated in 2018 it will take some time to reap the rewards.

1. INTRODUCTION

A country's external balance (more commonly termed its Balance of Payments (BoP)) is a record of its transactions with the rest of the world.

It is essentially an accounting identity that consists of three basic elements:

- **the Current Account, which is the balance of (i) trade, (ii) employment and investment income and (iii) cash transfers between a country and the rest of the world;**
- **the Capital Account, which includes, for example, the transfer of titles to fixed assets and of the rights to natural resources or to intangible assets, and:**
- **the Financial Account, which includes, for example, flows of official reserve, government and private assets.**

The Current Account is the mirror image of the sum of the Financial and Capital Accounts. (Note that historically the Financial and Capital Accounts were not separately identified and were simply identified as the Capital Account, which was the equal and opposite of the Current Account.) The latter two equate to the net change in ownership of foreign assets that inevitably follows from whether the Current Account is in surplus (when the net stock of assets will be growing) or deficit (when the net stock of assets will be falling).

As it is easier to follow the flow of trade and factor income, it is the Current Account that dominates analysis of a country's BoP.

Within the Current Account, the main elements consist of:

- the Export and Import of goods (e.g. manufactured products) and services (e.g. education and financial services) - known as the **Trade Balance (TB)**;
- earnings on, domestically owned, overseas investments and payments on, overseas owned, UK investments (note: both sides include employment earnings) - known as the **Primary Income Balance (PIB)**;
- outgoing and incoming cash transfers to and from overseas - known as the **Secondary Income** Balance **(SIB)**.

As part of a full set of National Accounts most countries collect all of the data described above, although the reliability and robustness of the data can vary. As we are dealing with balances here, in each case derived from two very large numbers, then providing accurate estimates can be difficult.

In the case of Scotland, which does not have a complete set of National Accounts, there are considerable gaps in its Balance of Payments data and so in understanding the size and composition of its Current Account.

In particular, Scotland's PIB and SIB need further development. Furthermore, the data for imports is scanty and even for exports is not complete.

A specific difficulty with Scottish BoP data stems from the fact that the rest of the UK counts as 'overseas' but it is difficult to measure what is exported and imported to and from the RoUK when

the UK is effectively a single market. This is particularly true of the PIB, especially when many big companies (e.g. supermarkets) run UK wide operations and the allocation of profits and dividend within the UK is not available.

As a result, analysing Scotland's BoP is a very difficult proposition. However, it is also an important one when trying to understand the long term economic health of the country.

The importance of the Current Account

The Current Account of a country determines whether it is purchasing more than it produces or vice versa.

In the case of an external deficit, while such a position can exist for many consecutive years (for example the UK has had a Current Account deficit in every year since 1984) it is generally considered to become destabilising if such a deficit becomes large (as a % of GDP) and prolonged. This can prompt market concerns potentially leading to devaluation and increased borrowing charges for funding such a deficit (when this involves issuing government bonds).

To many economists the external balance position is more important than the fiscal balance (relating to the balance of government revenues and spending), as the former takes into account the position of the country as a whole, while the latter is a subset that can be paid for in a variety of ways (witness Japan, which has a large fiscal deficit but no trouble in funding it and a large external surplus).

The Current Account can also be viewed as a mixture of the immediate balance of external transactions (dominated by trade) and the impact of the long term build up of assets and liabilities with respect to the rest of the world, as reflected in its PIB.

So the Current Account is both an important measure of the economic health of a country but it is also difficult to measure and to forecast.

Structure of the report

The report looks at the key elements of the Current Account: the **Trade Balance (Section 2)**, including **Onshore Exports (Section 3)**, **Imports (Section 4)** and **North Sea Exports (Section 5)**; the **Primary Income Balance (Section 6)**; and the **Secondary Income Balance (Section 7)**. It then goes on to briefly consider some wider aspects of the external balance and how it might be judged **(Sections 8 to 11)**, before concluding with a summary and some recommendations.

2. ONSHORE TRADE BALANCE

Data for exports and imports of goods & services with regards to both the Rest of the UK (RoUK) and the Rest of the World (RoW) are available as part of the Scottish Government's National Accounts publication.

Table 1 shows the annual data from 1998 (as far back as it goes) to 2017, excluding extra-regio (principally the North Sea).

Some key points that emerge from Table 1 include:

Overall Onshore Trade Balance:

- has been in deficit since 1998;
- worsened between 1998 and 2000, then again in 2005 and in 2016;
- is currently (2017) equivalent to about 8% of GDP (higher if measured as a % of GNI).

Onshore Trade Balance with the RoUK:

- has seen little change since 1999 (especially when considered in real terms) with imports remaining around 20% higher than exports and so a substantial trade deficit exists throughout;
- a worsening of the deficit since 2014.

Onshore Trade balance with the RoW:

- has moved between a small surplus and a small deficit over time.

Table 1: Onshore Scottish Trade in Goods and Services, £ million, current prices

Year	Exports to the Rest of the UK	Imports from the Rest of the UK	Net trade with the Rest of the UK	Exports to the Rest of the World	Imports from the Rest of the World	Net trade with the Rest of the World	Total Exports	Total Imports	Net Trade
1998	22,805	-29,484	-6679	18,094	-15,833	2261	40,899	-45,317	-4,418
1999	23,283	-32,417	-9134	18,688	-15,902	2786	41,971	-48,319	-6,348
2000	24,838	-34,076	-9238	20,146	-18,898	1248	44,984	-52,974	-7,990
2001	25,631	-34,307	-8676	19,472	-18,423	1049	45,103	-52,730	-7,627
2002	27,843	-37,272	-9429	18,084	-17,500	584	45,927	-54,772	-8,845
2003	29,896	-39,213	-9317	18,505	-17,257	1248	48,401	-56,470	-8,069
2004	32,610	-41,046	-8436	18,993	-18,381	612	51,603	-59,427	-7,824
2005	33,334	-43,298	-9964	19,379	-19,436	-57	52,713	-62,734	-10,021
2006	34,266	-45,172	-10906	20,641	-20,971	-330	54,907	-66,143	-11,236
2007	36,921	-48,977	-12056	22,439	-22,104	335	59,360	-71,081	-11,721
2008	38,814	-49,909	-11095	23,750	-22,897	853	62,564	-72,806	-10,242
2009	39,338	-49,794	-10456	24,641	-21,687	2954	63,979	-71,481	-7,502
2010	38,189	-48,872	-10683	25,349	-24,080	1269	63,538	-72,952	-9,414
2011	39,533	-50,181	-10648	27,001	-25,697	1304	66,534	-75,878	-9,344
2012	40,558	-49,049	-8491	25,731	-26,853	-1122	66,289	-75,902	-9,613
2013	44,003	-53,461	-9458	27,123	-28,243	-1120	71,126	-81,704	-10,578
2014	47,119	-55,641	-8522	28,505	-29,751	-1246	75,624	-85,392	-9,768
2015	46,912	-56,496	-9584	29,031	-29,934	-903	75,943	-86,430	-10,487
2016	47,018	-58,694	-11676	29,590	-30,520	-930	76,608	-89,214	-12,606
2017	49,630	-62,426	-12796	32,562	-31,700	862	82,192	-94,126	-11,934

Source: Table G, Scottish Quarterly National Accounts Statistics QNAS), May 2018.
Orange denotes a deficit (i.e. exports < imports) and Blue denotes a surplus (i.e. exports > imports).

3. ONSHORE EXPORTS

The best data available as part of Scotland's Current Account is in relation to onshore Exports.

Data sources

There are a variety of official sources available which provide an insight into onshore (non North Sea) exports:

1. Annual Export statistics
   - published in **Export Statistics Scotland (ESS)**, based on the **Global Connections Survey** (GCS)
   - covering all industry sectors
   - covering both exports to the Rest of the UK and to the Rest of the World
   - in cash value terms
   - data available 2002 - 2016

2. Quarterly Manufacturing Export statistics
   - based on **survey data collected by the ONS**
   - covering Manufacturing only
   - covering exports to the Rest of the World only
   - in real value terms
   - data available 1999Q1 - 2017Q4

3. Quarterly Export statistics
   - based on **Quarterly National Accounts for Scotland** (QNAS)
   - covering total exports only
   - covering both exports to the Rest of the UK and to the Rest of the World
   - in cash value terms
   - data available 1998Q1 - 2017Q4

4. Annual Export statistics
   - based on **Input-Output tables** for the Scottish economy
   - covering all industries, by sub sector
   - covering both exports to the Rest of the UK and to the Rest of the World
   - in cash value terms
   - data available 1998 - 2014

Between these sources we can begin to build up a picture of Scotland's export performance over the past couple of decades. Table 2 shows the latest data as published in QNAS.

Table 2: Onshore Scottish Exports of Goods and Services, £ million, current prices

Year	Exports to the Rest of the UK	% change	Exports to the Rest of the World	% change	Total Exports	% change
1998	22,805	-	18,094	-	40,899	-
1999	23,283	2.1	18,688	3.3	41,971	2.6
2000	24,838	6.7	20,146	7.8	44,984	7.2
2001	25,631	3.2	19,472	-3.3	45,103	0.3
2002	27,843	8.6	18,084	-7.1	45,927	1.8
2003	29,896	7.4	18,505	2.3	48,401	5.4
2004	32,610	9.1	18,993	2.6	51,603	6.6
2005	33,334	2.2	19,379	2.0	52,713	2.2
2006	34,266	2.8	20,641	6.5	54,907	4.2
2007	36,921	7.7	22,439	8.7	59,360	8.1
2008	38,814	5.1	23,750	5.8	62,564	5.4
2009	39,338	1.4	24,641	3.8	63,979	2.3
2010	38,189	-2.9	25,349	2.9	63,538	-0.7
2011	39,533	3.5	27,001	6.5	66,534	4.7
2012	40,558	2.6	25,731	-4.7	66,289	-0.4
2013	44,003	8.5	27,123	5.4	71,126	7.3
2014	47,119	7.1	28,505	5.1	75,624	6.3
2015	46,912	-0.4	29,031	1.8	75,943	0.4
2016	47,018	0.2	29,590	1.9	76,608	0.9
2017	49,630	5.6	32,562	10.0	82,192	7.3
*Average % change**		*4.6*		*4.8*		*3.9*

Source: Table G, Scottish Quarterly National Accounts Statistics QNAS), May 2018.
* average change figures refer to size of annual change regardless of whether positive or negative

The most obvious shift in exports seen in Table 2 came from the rise and fall of ‘Silicon Glen’. This was a short period of time where international (overseas) companies involved in the production of microprocessors for computers set up large assembly plants in central Scotland. As a result exports (and imports) in this sector rocketed and then plummeted as the plants opened and, a few years later, closed. This partly helps explain the RoW exports profile from 1998 to 2002.

Table 2 also shows, perhaps unexpectedly, that exports to the RoUK can be equally as erratic as exports to the RoW.

After a couple of poor years in 2015 and 2016, 2017 turned out to be one of near record growth, after 2007, possibly aided by the post Brexit vote depreciation of sterling.

QNAS vs ESS

For a number of reasons (see Scottish Government, 2018, Section 8) the data from ESS differs from that for QNAS. This applies both to the level and to the annual changes. In terms of the latter these growth differences can be quite large and can result in annual falls rather than rises and vice versa.

For example, in the one year of major decline in QNAS published exports to the RoUK, 2010, data from the Global Connections Survey (GCS) data used in ESS shows a rise of over 4%. Equally, the fall in ESS measured exports to the RoW in 2014 is not observed in QNAS.

In fact, in general, there is a fairly weak correlation between annual movements in GCS and QNAS exports data. This is a surprise given that the QNAS data is based on the annual Input Output tables which are in turn informed by the GCS. While some degree of difference between the two is understandable, the scale of divergence seen is difficult to explain.

Scottish Government officials advise that, while both sources are of interest, the QNAS data, at least in the context covered here, is the better source to concentrate on. This is due to the fact that the QNAS data has been adjusted and balanced in order to be consistent with National Accounts data and concepts. Furthermore, there is no imports data directly comparable to the ESS results and, in some cases, the inherent methodological differences that result in QNAS and GCS export data being different will apply equally to imports (i.e. be offsetting).

As a result, the GCS data can provide little assistance in terms of informing us of where, (in terms of products or countries) and why, good and bad years occur in QNAS terms. However, GCS can still be used to provide useful information on Scottish export trends.

Based on the GCS data (to 2016) the detailed figures available for the type and (international) destination of Exports show some interesting, but little understood, trends. For example:

- Food & Drink was the biggest international exporting sector (£5.5 billion, or about 10% of the total), with 'Spirits' accounting for 80% of this, while Services accounted for around 40% of all international exports;
- Services accounted for 55% of exports to the RoUK, with Financial & Insurance activities (£7.8 billion) being the biggest exporting sector. Outside of Services, Utilities (£4.2 billion) and Food & Drink (£3.8 billion, of which only 15% was 'Spirits') were the biggest exporters;
- the USA is (and has been since at least 2002) Scotland's biggest export destination (£4.8 billion). Clearly, scale will have something to do with this, although exports to other large non EU economies are nothing like as large (China £555 million, Japan £460 million). After the USA, Brazil (£770 million) is the next biggest non EU export destination;
- within the EU, Netherlands (£2.1 billion) remains (since 2003) Scotland's biggest export destination, followed by France and Germany (each around £1.9 billion). (Note: the high ranking of the Netherlands is most probably distorted by the fact that Rotterdam acts as both a landing port but also as a major redistribution point).

The **Input Output** tables also give detailed breakdowns by industry sub sectors which highlight some expected results, e.g. sales of Spirits to the RoW is Scotland's biggest export area, and some less expected results, e.g. sales from Architectural services are a major source of export income to both the RoUK and the RoW (note: this sector covers a large part of the offshore services industry).

Further issues worth exploring in this area might include i) whether some RoUK exports ultimately end up as effectively RoW exports, via England, although this should not affect total exports (see Scottish Government 2018, Section 10) and ii) the breadth of Scotland's exporting base in terms of: the variety of products; the number of companies involved; and the variety of destination countries. In other words how vulnerable are Scottish exports to a narrow base in each case?

On the latter point, data from the Global Connections Survey (GCS) suggests that, in 2013, around 60% of the total value of Scottish exports was accounted for by 100 companies. Furthermore, data on international exports from the HMRC on the number of Scottish manufacturing exporters and from the Small Business Survey on the % of SME's exporting, both suggest falling trends over the period 2008 to 2014. Neither finding is very reassuring with respect to on-going Scottish export performance.

4. NORTH SEA EXPORTS AND THE TRADE BALANCE

The calculation of North Sea exports relating to Scotland's Trade Balance is not a straightforward one. It involves not just sales of crude oil and gas but also intermediary inputs (imports), in order to get to a net Exports figure. Its contribution to the Current Account also needs to take into account wages and profits that are repatriated overseas, which is likely to be considerable given the ownership make-up of North Sea operators.

Total Scottish exports including the North Sea (i.e. oil and gas) has only been officially estimated once before, in 2013, for the calendar year 2012. The results are shown in Table 3.

Table 3: Scottish exports including North Sea

Scotland's exports including the North Sea (2012, £ billion)	Rest of UK exports	International exports	Total exports
Onshore Scotland	£47.7	£20.9	£68.7
Less			
exports of mining support to North Sea	£5.7	-	£5.7
Plus			
exports of oil and gas	£10.7	£13.8	£24.4
Scotland including the North Sea	£52.7	£34.7	£87.4

Source: Scottish National Accounts Project

Source: Scottish Government, 'State of the Economy: December 2013'.

However, these figures are not consistent with the latest data for exports (e.g. total onshore exports in 2012 are now estimated to be £66.3 billion). Furthermore, there are additional adjustments to exports and imports required to produce the total Trade balance, as shown in the box below.

Conceptually it may be easier to think of the adjustments needed in terms of the constituent components of (expenditure based) GDP. This involves splitting the following identity into two components - onshore and offshore:

GDP (E) = Consumption (C) + Investment (I) + Government spend (G) + Exports (X) - Imports (I)

The equation below does this, with currently unknown quantities in red and quantities which are currently unknown but could be derived from existing data in green.

Scottish GDP (E) inc Extra Regio = Onshore (C + I + G)

+ Overseas Government Expenditure + Offshore Private Investment

+ Onshore Exports (less Scottish Exports to Offshore) + Offshore Exports (to RUK & ROW)

– Onshore Imports (less Scottish Imports from Offshore) – Offshore Imports (from RUK & ROW).

Important Notes:

1) 'Overseas Government Expenditure' relates principally to embassies etc
2) 'Scottish Exports to Offshore' includes mining services, catering etc
3) 'Offshore Imports from RUK & ROW' includes mining services, catering etc and also capital investment
4) 'Scottish Imports from Offshore' and 'Offshore Exports to RUK & ROW' covers crude oil and gas
5) There is no onshore Scottish Consumption adjustment to GDP as all North Sea output is considered to be 'intermediate goods'.

The key unknown areas are - where does offshore expenditure on i) operating costs (e.g. mining support services, transport, engineering, etc.) and ii) capital investment (exploration, platforms, infrastructure, decommissioning, etc.) come from – i.e. how much of these costs, which have been considerable in recent years, have been sourced from Scotland, RUK and ROW?

This requires data on the oil and gas supply chain which does not presently exist. However, we do know that in 2016 operating costs amounted to more than £14 billion (OPEX £5.7 billion and CAPEX £8.4 billion).

As a result of the adjustments outlined above, it would be wrong to simply say that Scottish sales income relating to the North Sea (£15 billion in 2016) is roughly equivalent to net Scottish Offshore exports.

Furthermore, the North Sea trade position in 2018 is very different to that seen in 2012, given the decline in both the production level and the price. To give some indication of the change in scale, Scottish sales income from the North Sea is estimated to have been been almost £26 billion in 2012 but to have fallen to £15 billion by 2016. This shift may also have changed some of the trading relationships that existed previously and makes it difficult to infer future positions from the past.

Information to help estimate the impact of Imports to the North Sea on the offshore trade balance is limited. Oil & Gas UK estimate that 15% of offshore workers are non British and also that 62% of total UK offshore workers (i.e. including induced and indirect workers) are non-Scottish. A crude calculation suggests that at least £3 billion of OPEX alone is accounted for by Imports to the North Sea, thereby reducing the £15 billion total sales revenue/exports figure to less than £12 billion. However, further reductions will also be necessary (for non Scottish CAPEX and for non exported oil and gas), but the scale of these adjustments remains unknown at present.

Overall, while we are able to say that the addition of the North Sea sector would improve Scotland's Trade balance, it is impossible to say by how much, even historically, and even more difficult to forecast how this aspect of trade may impact on the overall balance in the future.

Further complications may also arise in attempting to determine the North Sea's contribution to Scotland's Trade balance, including the shift to large scale decommissioning in the future.

5. IMPORTS

Far less information is available on onshore imports than on onshore exports. While QNAS and the I-O tables include publication of total imports (split between RoUK and RoW), in both cases this is largely a residual value needed to balance the wider identities. However, the I-O tables do at least give us a proxy for which industries are most important in terms of imports and whether the RUK or the RoW tends to dominate.

Table 4 shows the QNAS data back to 1998. As with onshore exports the annual changes are erratic and, with respect to the RoUK and the RoW, tend to be uncorrelated. Table 4 also shows growth rates of imports are equally as erratic as for exports, with annual growth rates of over 10% seen on occasion.

A brief analysis of I-O tables shows that in some industries exports and imports are both relatively high, for example in the areas of Construction and Financial Services with respect to the RoUK, whereas in others imports far outstrip exports, for example in the areas of Computing and Electrical Equipment with respect to the RoW.

One might have expected that the rise and fall of 'Silicon Glen' would have also been reflected in the Import figures, given that in many cases the factories were simply assembly plants of imported components. This may help explain the rise seen in 2000, although there is no corresponding fall thereafter.

Unlike with exports, we have no information on the source of Imports by country.

Table 4: Imports of Goods and Services, £ million, current prices

Year	Imports from the Rest of the UK	% change	Imports from the Rest of the World	% change	Total Imports	% change
1998	-29,484		-15,833		-45,317	
1999	-32,417	9.9	-15,902	0.4	-48,319	6.6
2000	-34,076	5.1	-18,898	18.8	-52,974	9.6
2001	-34,307	0.7	-18,423	-2.5	-52,730	-0.5
2002	-37,272	8.6	-17,500	-5.0	-54,772	3.9
2003	-39,213	5.2	-17,257	-1.4	-56,470	3.1
2004	-41,046	4.7	-18,381	6.5	-59,427	5.2
2005	-43,298	5.5	-19,436	5.7	-62,734	5.6
2006	-45,172	4.3	-20,971	7.9	-66,143	5.4
2007	-48,977	8.4	-22,104	5.4	-71,081	7.5
2008	-49,909	1.9	-22,897	3.6	-72,806	2.4
2009	-49,794	-0.2	-21,687	-5.3	-71,481	-1.8
2010	-48,872	-1.9	-24,080	11.0	-72,952	2.1
2011	-50,181	2.7	-25,697	6.7	-75,878	4.0
2012	-49,049	-2.3	-26,853	4.5	-75,902	0.0
2013	-53,461	9.0	-28,243	5.2	-81,704	7.6
2014	-55,641	4.1	-29,751	5.3	-85,392	4.5
2015	-56,496	1.5	-29,934	0.6	-86,430	1.2
2016	-58,694	3.9	-30,520	2.0	-89,214	3.2
2017	-62,426	6.4	-31,700	3.9	-94,126	5.5
*Average % change**		*[4.5]*		*[5.4]*		*[4.2]*

Source: Table G, Scottish Quarterly National Accounts Statistics QNAS), May 2018.
* average change figures refer to size of annual change regardless of whether positive or negative

6. PRIMARY INCOME BALANCE (PIB)

So far this analysis has concentrated on the Trade Balance, which is the most straightforward of the elements of the Current Account to collect data for. The other elements of the Current Account relate to non trade aspects of external transactions, which are more difficult to assess.

The **Primary Income Balance** (PIB) refers to income earned by Scottish residents from non-residents and vice versa. This is dominated by income earned from direct and portfolio investments. As such, it largely represents the repatriated profits and dividends to Scottish residents (i.e. resident businesses, households or government) from their foreign (i.e. Rest of the UK (RoUK) and overseas) holdings of stocks, shares, bonds etc less the repatriated profits and dividends to foreign residents from their holdings of Scottish stocks, shares, bonds etc.

It also includes employment earnings, which in the case of the RoUK will include any cross border commuter working within the UK.

In order to calculate the PIB, statisticians need a good knowledge of the types of foreign assets owned (and foreign ownership of domestic assets), as well as knowledge on the rate of return associated with such assets. As if this weren't difficult enough, there is also the accounting practices of multi-nationals who do not repatriate profits, or at least not on an annual basis, to take into account.

The calculation is made even more challenging due to the complicated nature of understanding ultimate ownership of a business. It is especially awkward in Scotland's case when profits accruing to UK wide companies have to be divvied up.

The PIB is likely to be particularly important in Scotland's case due to the large discrepancy between domestic ownership of foreign productive activities and the (higher) foreign ownership of domestic productive activities. This is the case in relation to North Sea activity but is also true in a number of other areas like, energy and food and drink.

As a result, it is crucial for the PIB to be known and not just the Trade balance when trying to understand Scotland's Current Account and the economic implications of its relationship with the external world.

Until recently very little information was available at the Scottish level on the PIB element of the Current Account. The best information came from an attempt in 2013 to calculate Gross National Income (GNI) for Scotland for a single year, 2010.

However, Scottish Government officials have now published annual experimental statistics on the Scottish PIB up to 2016. The data suggests that the Scottish PIB has been in deficit in recent years by around £9 billion. (The PIB for 2013 to 2016 is £-9/-11/-7/-9 billion.)

Results for 2016 are shown in Table 5 and show that the Primary Income deficit is dominated by a net outflow relating to direct investment (which includes investments made with respect to the North Sea). Overall, Scotland's PIB in relation to the RoUK is a little in deficit and in relation to the RoW it is significantly in deficit.

Comparing the 2018 based result for 2010 with the earlier (2013) estimate, revisions to data and methodology have resulted in the deficit worsening in the latest estimate, from the original £-7.4 billion to £-12.8 billion. This deterioration is mainly due to a worsening of the Portfolio Investment balance with respect to the Rest of the World.

The latest estimates should be seen as approximations to the actual position. In places they are still based on little hard data and the accuracy of the PIB estimates in relation to areas like the North Sea and Financial Services in particular remains questionable. Nevertheless, things are definitely improving on this front.

Table 5: Experimental estimates of the Primary Income Balance for Scotland for 2016, £ billion

Category	Inflow	Outflow	Net Flow
Compensation of employees - Total	4.7	4.8	-0.1
of which, RUK	*4.6*	*4.3*	*0.3*
of which RoW	*0.1*	*0.5*	*-0.4*
Direct Investment - Total	2.3	7.7	-5.4
of which, RUK	*1.0*	*2.8*	*-1.8*
of which RoW	*1.3*	*4.9*	*-3.5*
Portfolio Investment - Total	6.9	9.7	-2.8
of which, RUK	*3.3*	*2.9*	*0.4*
of which RoW	*3.6*	*6.8*	*-3.2*
Other Investment - Total	10.5	11.6	-1.1
of which, RUK	*8.8*	*9.6*	*-0.8*
of which RoW	*1.7*	*2.0*	*-0.3*
Other - Total	0.5	0.3	0.2
of which, RUK	*0*	*0*	*0*
of which RoW	*0.5*	*0.3*	*0.2*
Total Flows	**24.9**	**34.0**	**-9.1**
of which, RUK	***17.7***	***19.6***	***-1.9***
of which RoW	***7.3***	***14.5***	***-7.2***

Source: Scottish Government, 'Development of a Primary Income Account and Gross National Income (GNI) for Scotland', 2018.

The impact of high foreign ownership of domestic output on a countries Current Account is well illustrated in the case of Ireland, where its overall Current Account surplus (worth around 3% of GDP in 2016) comprises a large Trade surplus (€61 billion), partly offset by a large Primary Income deficit (€48 billion) and a small Secondary Income deficit (€4 billion).

How to account for profits to overseas owners that are not, at least initially, repatriated is another concern and one where Ireland may be able to offer some lessons.

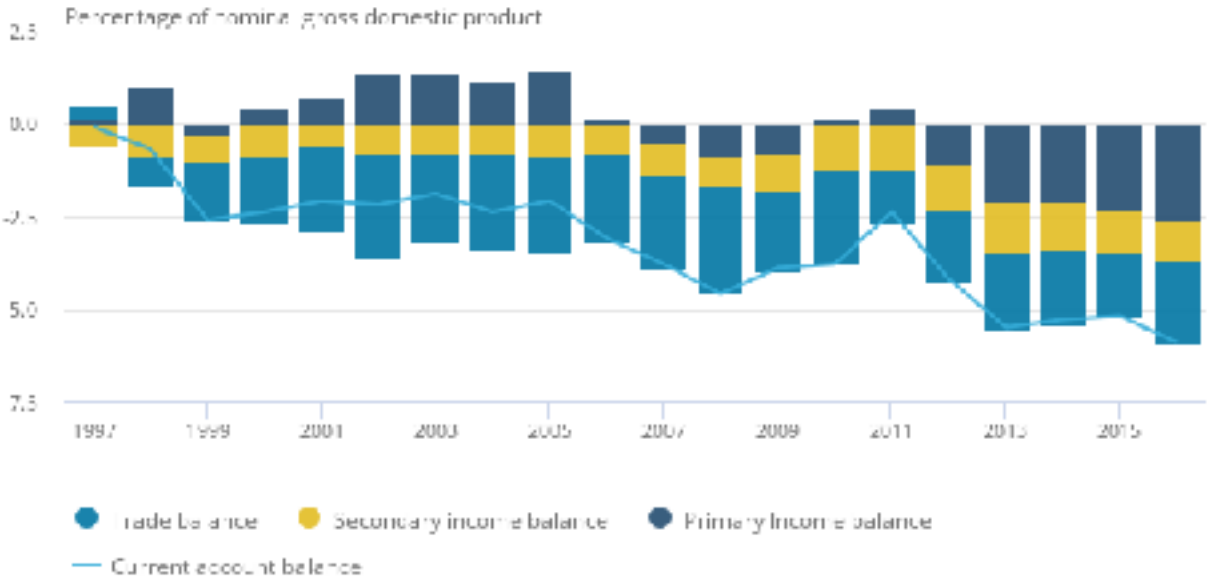
Overall, this is a crucial area in understanding a countries Current Account and in Scotland's case even more so due to the known large foreign ownership in a number of exporting areas. Unfortunately very little information is currently available in this area and the little that is (from the 2010 analysis) has strong caveats attached to its accuracy.

Box 1: The relationship between Net External Assets and the Primary Income Balance

While a country's PIB will be related to its net foreign asset position the relationship is not straightforward. The PIB is affected not just by the net asset position but also by the rate of return received on such assets and liabilities. For example, until recently the UK had a negative net asset position but because of a higher rate of return on its assets than on its liabilities this contributed positively to the Current Account through a Primary Income surplus. However, more recently this position has turned around and led to a considerable worsening of the UK's overall Current Account balance. The reason(s) for this turnaround are still not well understood.

As Figure 1 shows the UK's PIB has moved from being a substantial surplus through the early 2000's, helping to partly offset a large Trade deficit and a smaller Secondary Income deficit, to a substantial deficit by 2013. Much of this can be explained by the decline in returns on UK owned foreign assets, relative to foreign owned UK assets.

Figure 1: UK current account balance as percentage of nominal gross domestic product, 1997 to 2016



Source: Office for National Statistics

'UK Balance of Payments, The Pink Book: 2016', ONS, 2017

7. SECONDARY INCOME BALANCE (SIB)

The SIB covers transfers in and out of a country, including: international payments by the government (e.g. to the EU and with respect to bilateral aid), private transfers (i.e. remittances by migrant workers) and social security benefits.

The Scottish GNI analysis for 2010 did not cover the Secondary Income Balance (SIB) as it is excluded from the GNI calculation, being seen as a voluntary transfer of funds.

Generally, credits and debits relating to the SIB are on a much smaller scale than the PIB. In the case of many EU countries the SIB will be dominated by net EU payments, alongside international aid payments.

Within the SIB there is one particular sum of interest with respect to Scotland, its net contribution to the UK. However, it should be noted that the interpretation of this figure within the current context very much depends on whether the Scottish BoP is being considered within the UK or as an independent entity. Within the UK it is interpreted as a positive transfer. Outside of the UK it is very likely to disappear and so would be excluded from any calculation.

Inclusion of this element within a Scottish Current Account calculation would effectively be incorporating part of the Fiscal Balance, which would be out of line with how the figure is normally calculated. As such it seems best to exclude this element from any calculation of the SIB and of the CA. Doing so is likely to result in Scotland's SIB being in deficit, due to net payments out. However, the scale of this deficit will depend on future Scottish arrangements with the EU, on top of other international aid payments.

8. CAPITAL/FINANCIAL ACCOUNT AND EXTERNAL DEBT POSITION

The analysis in this report concentrates on the Current Account but full Balance of Payments information, by definition, also needs to take into account how any surplus or deficit is funded, i.e. the equivalent change in net foreign assets.

Unfortunately there is next to no information available at the Scottish level. The best approximation may be to assume a pattern similar to that seen at the UK level.

Knowledge of Scotland's External Debt would be useful in a wider understanding of Scotland's external position but again is unavailable. Such a calculation is also complicated by how the historical position of changing assets and liabilities is treated, in particular in relation to North Sea assets over time.

This makes such an area a very difficult one to estimate, as important assumptions need to be made which could significantly alter the final outcome.

9. OVERALL CURRENT BALANCE

The following summarises our existing knowledge on what Scotland's Current Account might look like for 2017.

Onshore Trade Balance

- **£12 billion in deficit (close to 8% of onshore GDP).**

Total Trade Balance, including the North Sea

- **in deficit by an unknown amount but <£12 billion**

  Adding in North Sea trade will improve the balance by an uncertain amount.

  (**Note** - while adding net offshore exports will improve the Trade balance, the degree to which this impacts on the Current Account will be tempered by the (unknown) PIB net outgoing relating to non Scottish ownership of North Sea operating companies.)

Primary Income Balance

- **in deficit by approximately £9 billion**

  Due to a high non Scottish ownership of companies operating in major export industries.

Secondary Income Balance (excluding any current net UK transfers)

- **in deficit by an unknown amount**

  Due to net payments to the EU and for international aid.

Current Account

- **in deficit by an unknown amount**

  Due to the high level of uncertainty over both the level of net exports relating to the North Sea and the ultimate destination of North Sea profits, it is impossible to quantify, or even approximate, what the final figure might be now or in the future.

Another way to consider the question is looking at it in a **'sense-check'** manner. This approach suggests the following:

- existing Scottish data suggests a large onshore Trade deficit (which is also in line with the UK's Trade deficit position);
- Exports from the North Sea will help reduce this Trade deficit;
- however, significant overseas ownership of North Sea, and onshore, assets will further deteriorate the overall Current Account;
- this is likely to leave a significant Current Account deficit.

Such an approach reinforces the general conclusion from above but still does not allow us to quantify the Current Account position.

10. STANDARDISING THE CURRENT BALANCE AS A % OF OUTPUT

As the scale of any Current Account balance is highly dependent on the size of a country's economy, measuring its importance is usually done in terms of its size relative to GDP (i.e. as a % of GDP).

However, where external income transfers are unbalanced then GDP may not be the most appropriate denominator to use and Gross National Income (GNI) may be preferred.

Moving from GDP to GNI incorporates the Primary Income Balance (but not the Secondary Income Balance, as the latter is seen to be a voluntary redistribution of domestically earned income). For most countries the difference is not great, with domestic holdings of overseas assets being not dissimilar to overseas holdings of domestic assets, but for some, as is the case in Ireland for example and Luxembourg, it is significant.

The Scottish Government's latest calculation of GNI for Scotland in 2016 estimated that it was around 6% lower than GDP in that year. However, at present this is still something of a guesstimate and concerns remain over the veracity of some of the assumptions made in deriving it.

A further problem with the 2016 estimate of Scottish GNI is that it excludes both taxes paid to the UK and funds from the UK to Scotland. This is on the grounds that the latter is technically a Transfer i.e part of the Secondary Income Balance, which is excluded from GNI (but included in Gross National Disposable Income (GNDI)). In order not to unbalance the results, the 2016 estimate also excludes taxes paid to the UK government.

For the sake of clarity:

- the Trade Balance is part of (expenditure based) Gross Domestic Product (GDP)
- the Trade Balance and the Primary Income Balance are both part of Gross National Income (GNI)
- the Trade Balance, the Primary Income Balance and the Secondary Income Balance are all part of Gross National Disposable Income (GNDI)

11. PROBLEMS RELATING TO THE CURRENT ACCOUNT

Current Account deficit as a problem

In individual country terms, a Current Account deficit is seen to be a problem if it is both large and prolonged. Having said that, both the UK and the USA have had, at times significant (>3% of GDP), external deficits for over a decade without any issues emerging in terms of being able to finance them.

A problem emerges when such a deficit is seen to reflect an underlying weakness in the economy that is unsustainable. This can lead to high lending rates for government borrowing and or to high interest rates and runs on the exchange rate, if market confidence is lost.

In international terms, a Current Account surplus can also be a problem, especially if it is large and prolonged, as in the case of Germany, Japan and China for example. This can lead to issues in terms of the rebalancing of economies, which have knock on effects on government fiscal balances.

In Scotland's case we lack the data to make a judgement on the scale of Scotland's past Current Account. The position is also complicated by the role of North Sea oil.

Where a natural resource, like oil, is concerned then relying on such an erratic, and non-renewable, resource to ensure a long term Current Account balance has obvious risks attached. As a result, targeting a non-oil Trade/Current Account balance, or at least movement towards such a position, is advisable, especially when North Sea oil output is on a declining trend.

12. MOVING TOWARDS AN ONSHORE BALANCE

Comparing external balances across OECD countries

Since 2002 the only OECD countries that have consistently experienced a Current Account deficit have been: Australia; Greece; Mexico; New Zealand; Poland; Turkey; the UK; and the USA. (Note: of the more economically developed OECD nations, the english speaking ones appear to have a tendency to run external deficits, although it is unclear what, if any, other link there may be across these countries.) Most recently (2016) the highest OECD country Current Account deficit was seen in the UK (5.8%).

A countries external balance can change from surplus to deficit, or vice versa, over time, and on occasions very dramatically. For example, Iceland moved from a deficit of 25% of GDP in 2008 to a surplus of 6% in 2013.

Most small countries tend to be export (and import) intensive which is not surprising given that their small scale will necessitate more trade than larger country like the USA or Japan.

Trade surpluses can be achieved in different ways. For example, in Ireland it is connected to the presence of large scale US investments, whereas in Scandinavian countries it relates more to domestically owned manufacturers.

In some cases (e.g. New Zealand) the Primary Income balance deficit can overturn any Trade surplus, resulting in an overall deficit.

In Scotland's case its Current Account position is unknown, although its (onshore) Trade balance is known to be in long term deficit. Its export intensity is at a fairly typical level (around 50%) for small OECD countries, although such intensities vary considerably, from over 100% (Ireland) to under 30% (New Zealand). Scotland's import intensity (near 60%) is on the high side for smaller OECD countries, with only very high trading nations (Ireland and Belgium) being higher.

Table 6: Current Account positions and trade intensity across OECD countries

	Current Account (as % of GDP)			Exports as % of GDP	Imports as % of GDP
Country	**2009**	**2014**	**2016**	**2014**	**2014**
SMALL					
Austria	2.6	2.4	2.1	53	50
Belgium	-1.1	-0.9	0.1	84	83
Denmark	3.5	8.9	7.3	54	48
Finland	2.0	-1.3	-1.1	38	39
Iceland	-9.8	3.8	7.9	54	47
Ireland	-2.1	3.5	4.7	114	95
New Zealand	-2.5	-3.2	-2.6	29	27
Norway	11.7	11.0	3.9	38	30
Sweden	6.0	4.6	4.4	45	41
Switzerland	7.6	8.5	9.4	64	53
Scotland*	-	-	-	51	58
LARGE					
France	-0.8	-1.3	-0.9	29	31
Germany	5.8	7.4	8.2	46	39
Italy	-1.8	1.9	2.7	30	27
Japan	2.8	0.7	3.8	18	21
UK	-3.9	-5.3	-5.8	28	30
USA	-2.6	-2.1	-2.4	14	17

Source: OECD Factbook, 2015-16, World Bank database (accessed 3/5/18)
* Scottish figures onshore only

The trends exhibited in Table 6 suggest that, as a small developed economy, Scotland should be aiming to have a more balanced external position. Furthermore, as already discussed, there is good reason to believe that this balance should apply to the onshore (or non resource) trade position, rather than to the total.

Ways of improving Scotland's Trade balance

One of the key ways to improve Scotland's Trade balance is to identify those areas where it might have an international competitive advantage and assess whether this advantage is being maximised in terms of its current exporting performance.

For Scotland, such economic activities might include:
- oil and gas related products (offshore & onshore);
- whisky and other drinks;
- agriculture, fishing (including sea farming) and forestry;
- non oil and gas energy (including renewable energy);
- financial services;
- 'creative' industries;
- tourism related (including hotels and restaurants);
- tertiary education.

To see how these match up with the current reality, Table 7 shows the weight and trend in export outputs by industry sector.

Most of the sectors listed above are well represented in the figures shown in Table 7. However, for some the figures are perhaps lower than expected, for example with respect to, Tourism related, Hotels & Catering.

Table 7 also highlights the volatility of exports in many of these sectors.

In general, growth of the smaller exports sectors (not shown) tends to be even more erratic than for the larger ones.

Table 7: Exports by sector

	£, mn			% change	
Sector	**2011**	**2015**	**2016**	**11-16**	**15-16**
Agric, Forestry & Fishing	**1,000**	**980**	**1,040**	**4.0**	**6.1**
Mining & Quarrying	**4,456**	**5,540**	**5,065**	**13.7**	**-8.6**
Manufacturing, *of which:*	**26,620**	**26,775**	**25,985**	**-2.4**	**-3.0**
- Food & Drink	*8,915*	*9,155*	*9,240*	*3.6*	*0.9*
- of which, Spirits	*5,295*	*4,815*	*5,010*	*-5.4*	*4.0*
- Coke, Petrol & Chem's	*5,260*	*3,900*	*3,700*	*-29.7*	*-5.1*
- Transport Equipment	*2,320*	*2,510*	*2,165*	*-6.7*	*-13.7*
- Machinery & Equipment	*1,440*	*1,970*	*2,025*	*40.6*	*2.8*
- Computer & Electronics	*2,025*	*1,800*	*1,915*	*-5.4*	*6.4*
Utilities	**5,115**	**6,080**	**4,470**	**-12.6**	**-26.5**
Construction	**1,560**	**1,605**	**1,905**	**22.1**	**18.7**
Services, *of which:*	**32,950**	**38,550**	**37,115**	**12.6**	**-3.7**
- Financial & Insurance	*9,950*	*9,255*	*9,380*	*-5.7*	*1.4*
- Wholesale & Retail	*7,325*	*8,220*	*7,620*	*4.0*	*-7.3*
- Business services	*5,560*	*8,150*	*7,575*	*36.2*	*-7.1*
- Admin & Support	*2,350*	*4,000*	*3,825*	*62.8*	*-4.4*
- Transport'n & storage	*3,195*	*3,410*	*3,290*	*3.0*	*-3.5*
- Info & Comm's	*1,800*	*2,740*	*2,600*	*44.4*	*-5.1*
- Education	*965*	*1,230*	*1,260*	*30.6*	*2.4*
- Hotels & Catering	*1,245*	*1,020*	*960*	*-22.9*	*-5.9*

Source: Scottish Government, 'Exports Statistics Scotland', 2017

Looking at a specific example, **Tourism**, provides some insight into opportunities and limitations with respect to promising export areas. With respect to tourists, Scotland has a number of attractive features, including: natural environment; history; sport (e.g. golf); the Edinburgh Festival; food and drink; proximity to a very large tourist destination (London); and much more. However, the extent to which these advantages are being fully exploited is debatable.

GDP data suggests underperformance in this area, although survey based findings tend to be more positive. One might expect the 'Hotels and Catering' services sector to reflect growing tourism. However, in Scotland's case this is a long term under performing sector, both relative to other sectors in Scotland and to the same sector at the UK level. For example, Scottish Government published data shows that each Scottish private service sector has grown by over 40%, in real terms, since 1998 whereas 'Hotels & Catering' has grown by only 3%. This seems very strange and would appear to be at odds with the growth in the number of hotels and restaurants seen in major Scottish cities since 1998.

Why might Scotland be under performing in this area? Poor export promotion, poor level of facilities e.g. accommodation and food, poor transport links, each might explain such underperformance to some extent. However, insufficient sectoral analysis is available at present from which to determine the key problems and possible solutions.

Tourism

Scotland is both an important tourist destination, due to a variety of attractions, and, as a wealthy country, also an active contributor to international tourism.

However, the data that exists, once again, makes it difficult to draw strong conclusions on Tourisms net contribution to the BoP.

Visit Scotland data suggests the value of Tourism was just over £5 billion in 2015, or almost £4 billion once domestic tourism is excluded. (Note however that the UK data is erratic, with English spend disproportionately larger than Welsh spend.) Visit Scotland data also suggests that, using GB data, about half of this will be spent on Hotels & Catering, i.e. £2 billion.

However, GCS data suggests that exports in relation to Hotels & Catering was only around £1 billion in 2015.

Even if the Visit Scotland data is correct, H&C GDP data suggests a poor performance over time (as discussed above).

Neither Visit Scotland nor GCS has import data on Tourism, however, QNAS estimates Scotland to be in surplus by around £1 billion in 2015.

Overall, this area needs further work to be undertaken in order to more fully understand its potential with regards to boosting the Trade balance.

More information is needed on the breakdown of where Scottish tourism might be under performing in relation to: business tourism (conferences); weekend visits; domestic (inc UK) tourism; high quality tourism; seasonal markets; etc.

Moving beyond these examples there are more general policy questions in relation to how to improve the onshore Trade balance. For example:

- attraction of foreign investors;
- growth of domestic companies;
- business start-up rates;
- taxation policies
- immigration policies
- education policies (including languages)

Regardless of the causes of any underperformance, these are some of the areas that will need to be explored in order to bring Scotland's onshore Trade deficit more into balance or possibly into surplus, a position that is standard for most other small, developed, economies in the EU and beyond.

Some of the issues that emerge from even a cursory look at these areas include:

- The high degree of foreign (non UK) ownership in many of these industries (e.g. whisky), which may make it more difficult to expand production or, if achieved, to benefit fully from any such expansion;
- The ability to change from existing (UK) policy in a way that encourages higher exports e.g. in relation to tertiary education via immigration policy.

How far to go?

With an estimated onshore Trade deficit of £12 billion (8% of GDP) in 2015 then Scotland has a long way to go to even approach a balanced external trade position. Exports would need to grow by almost 15%, while imports remained flat, to achieve such Trade balance.

This would be a big ask under any circumstances but may be made more difficult if Scotland remains a part of the UK. The UK has maintained a Trade deficit for decades, even including North Sea oil. This complicates the ability of Scotland to move towards a balance, as many of the key macro economic tools and policies that may be useful in making such a transition (e.g. exchange rate, migration policy, tax policy etc) are out-with Scotland's control.

Scottish exports have grown very quickly in the past - by 36% between 2002 and 2008 - but often associated with fast rising imports alongside. The trick is to disengage the two. More research is needed to see whether the RoW or RoUK offers the better prospects for an exports drive, although to some extent both are likely to be targeted.

There are many unanswered questions in the analysis in this report, which reinforces the need for our understanding of Scottish trade issues to be improved upon before best practice public policy can be recommended or implemented.

The Setting of Trade related targets

One 'policy' that has been popular in the past has been the setting of targets, especially with respect to the level of international exports. The problems associated with such a target are clearly illustrated with respect to the Scottish Government's current target - to deliver a 50% increase in the value of international exports between 2010 and 2017. For example:

- the outcome varies depending on whether QNAS (+28% from 2010 to 2015)) or ESS (+24% to 2016) data is being used;
- a big increase in exports does not necessarily lead to an improvement in the Trade balance, e.g. from 2005 to 2013 Scottish international exports rose by over 40% but imports rose by 45% (both measured under QNAS), so worsening the international Trade balance.

Targets may still be useful be they need to be chosen with care.

13. SUMMARY AND RECOMMENDATIONS

Summary

Substantial elements of Scotland's Balance of Payments are currently either non robust or missing which means that it is not possible to calculate the extent of, what is likely to be, its Current Account deficit.

The major elements that are non robust or missing relate to:

- the North Sea Trade balance;
- Scotland's Primary Income balance, with respect to both the North Sea and with onshore activities.

Some of the key issues emerging from this analysis include:

- Data exists to identify which are our biggest export industries but not which are our biggest such industries in terms of benefits remaining in Scotland.
- North Sea oil exports complicate the picture and are far more erratic than onshore exports.
- Foreign ownership further complicates the overall picture.
- The missing data is important not only to understanding Scotland's Current Account position but also its level of prosperity. Real terms GDP is not the ultimate measure under current circumstances, but needs to be considered alongside GNI and GNDI (in both cash and real terms).

Recommendations

DATA

The amount of missing data is substantial and the collection of such data is complicated. As a result substantial funds may be needed in order to arrive at a reasonable estimate of Scotland's Balance of Payments.

There are three separate areas where improvement in the quality or availability of data is needed:

1) in relation to the quality of the existing Trade balance data, as currently published in QNAS;
2) in relation to an onshore Current Account estimate;
3) in relation to the offshore (and in turn total) Trade balance and Current Account estimates.

All three need to be addressed, although it may be easier to make rapid progress with some than with others, improving the existing onshore Trade balance estimate for example.

The Scottish Government would seem best placed to carry out this work. It will require extra resources for the Statisticians Group in order to undertake surveys and analysis of the survey data. As a result, the Scottish Government needs to put additional funds into i) expanding existing trade related surveys, in order to improve their quality, and ii) compiling new data that will allow for a full analysis of Scotland Current Account and its Balance of Payments.

PRIORITIES

While the overall Current Account position is clearly important there are a number of reasons why concentrating on improving the onshore position is more pertinent.

First, there are arguably more levers to be pulled with regards to onshore exports than offshore exports, which relate to one, private sector and highly mobile, industry - oil and gas.

Second, the offshore net export position is highly dependent on very erratic and internationally set prices.

Third, where a natural commodity contributes significantly to a country's Trade balance then a target for the Current Account excluding this element may be desirable, as would also be the case with regards to its Fiscal balance.

As a result of these considerations, it may be that an improvement in Scotland's onshore Trade balance, which currently sits at a deficit equivalent to 8% of GDP, is best sought. This could be achieved principally through an expansion of exports, although some import substitution may also contribute, especially in relation to private sector imports from RoUK.

In order to achieve such an improvement a deeper understanding of Scottish trade is necessary. Government economists, academics and the Council of Economic Advisers can all contribute to achieving this goal over time.

ENDS

REFERENCES

ONS (2017) - UK Balance of Payments, The Pink Book: 2017

Scottish Government (2013 a) - SNAP Income Account and Gross National Income - Methodology and Initial Experimental Results

Scottish Government (2013 b) - SNAP Estimating an Income Account and Gross National Income for Scotland

Scottish Government (2013 c) - State of the Economy: December 2013

Scottish Government (2016) - Scotland's Trade and Investment Strategy: Economic Evidence Discussion Paper

Scottish Government (2017 a) - Oil and Gas Production Statistics, 2016-17

Scottish Government (2017 b) - Input Output Tables, latest xls tables

Scottish Government (2018 a) - Quarterly National Accounts Scotland, latest xls tables

Scottish Government (2018 b) - Export Statistics Scotland, 2016

Scottish Government (2018 c) - Development of a Primary Income Account and Gross National Income (GNI) for Scotland, 2018

Scottish Parliament (2014) - SPICe Financial Scrutiny Unit Briefing, Scotland's economy: recent developments