About this release

This first Experimental Statistics publication on Scottish VAT Assignment (VA) presents the share of the first 10 percentage points of standard rated VAT and 2.5 percentage points of reduced rated VAT raised in Scotland as an annual proportion of UK VAT receipts. The share has been estimated using the Scottish VA model, jointly developed by officials from UK and Scottish Governments. This publication contains the provisional estimate for the Scottish VA share of UK VAT receipts for 2016 and a historic back series to 2011. The 2016 figure will remain provisional for a period of time to allow for revisions to the underlying data to be accommodated; the duration of this time period will be agreed by UK and Scottish Governments.

Executive summary

Chart 1: Scottish VA share of UK VAT receipts (%), 2011 to 2016

Chart 1 shows the estimated Scottish VA share presented in calendar years 2011 to 2016. The estimated Scottish VA share of UK VAT declines in 2012, remains unchanged in 2013 and then declines in 2014 to 2016. This could be partly due to Scotland’s population growing slower than that of the UK since 2011. This is reflected in a range of economic indicators such as Gross Domestic Product (GDP) and household incomes where Scotland’s share of UK totals has declined. In Chart 3 presented later on in this publication, it appears that fluctuations in the VA share is primarily driven by household expenditure that is subject to VAT. Household expenditure is typically correlated with movements in GDP and household incomes.
Smith Commission

In 2015 the Smith Commission convened and recommended that “the receipts raised in Scotland by the first 10 percentage points of the standard rate of Value Added Tax (VAT), and the first 2.5 percentage points of the reduced rate of VAT, will be assigned to the Scottish Government’s budget.” The Commission further recommended that “these receipts should be calculated on a verified basis to be agreed between the UK and Scottish Governments, with a corresponding adjustment in the block grant....”

This Experimental Statistics release provides VA share estimates for 2011 to 2016 (provisional). It was scheduled to include an interim provisional estimate for 2017. This has now been re-scheduled to August 2019 to allow sufficient time for quality assurance (QA). As per the Code of Practice for Statistics, we want to ensure the appropriate level of quality assurance (QA) has been undertaken before sharing this estimate with users. We will release an updated version of this publication including the 2017 interim provisional estimate in August 2019, once HM Treasury (HMT), HM Revenue and Customs (HMRC) and Scottish Government (SG) are jointly content that the figure has had the appropriate level of QA. When published in August the 2017 estimate will represent an interim provisional estimate as it will include some input data based on forecasts. By the end of autumn 2019 the 2017 estimate will be updated with outturn from the Office of National Statistics (ONS) Blue Book and a final provisional 2017 estimate will be published in a further VA statistical release.

Some of the information in this publication is presented on a calendar year basis whereas others are presented on a financial year basis. This is because the Scottish VA model calculates the share on a calendar year basis using data that is primarily based on when the expenditure occurs and the VAT liability arises. In Table 3 in this publication we illustrate what the size of assigned VAT may be on a national accounts basis. To calculate this, the VA share is applied to UK VAT receipts on a financial year basis (ONS). UK VAT receipts are on a national accounts basis to reflect the 3 month time lag between VAT liabilities arising and VAT receipts being paid to HMRC.

Table 1: Estimated Scottish VA share of UK VAT (%) 2011 to 2016

Table 1 shows the Scottish VA share figures presented in Chart 1.

<table>
<thead>
<tr>
<th>Calendar Year</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
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<tbody>
<tr>
<td>VA share (%)</td>
<td>4.43%</td>
<td>4.39%</td>
<td>4.39%</td>
<td>4.27%</td>
<td>4.25%</td>
<td>4.12%*</td>
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*The 2016 figure will remain provisional for a period of time to allow for revisions to the underlying data to be accommodated; the duration of this time period will be finalised by UK and Scottish Governments.

Table 2: UK VAT receipts (ONS), 2011-12 to 2016-17

Table 2 shows UK VAT receipts on a financial year basis calculated from monthly receipts published by the Office for National Statistics (ONS), which can be found at https://www.ons.gov.uk/economy/governmentpublicsectorandtaxes/publicsectorfinance/datasets/appendixdpublicsectorcurrentreceipts.

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<tbody>
<tr>
<td>UK VAT receipts (£m)</td>
<td>£98,098</td>
<td>£100,694</td>
<td>£106,455</td>
<td>£111,176</td>
<td>£116,626</td>
<td>£121,793</td>
</tr>
</tbody>
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Chart 2 illustrates the trend in the £m figures presented in Table 3 in % growth rates. These VA growth rates are based on applying the Scottish VA share on a calendar year basis (in Table 1) to ONS VAT receipts on a financial year basis (in Table 2). The increase in the illustrative £m VA figure across the time series is driven by a combination of growth in UK VAT receipts over the period (shown in Table 2) and the varying trend in the VA share estimated by the model (shown in Table 1). In Chart 2 it can be observed that in all years the impact of growth in UK VAT receipts outweighs the impact of any reductions in the VA share.

**Figures may differ to those in the SFC’s Scottish Economic and Fiscal Forecast’s publication, published on the 30th May 2019 due to rounding.**

The share has been applied to financial year receipts to reflect the 3 month time lag between VAT liabilities arising and VAT receipts being paid to HMRC.

Table 3: Illustrative £m VA figures 2011-12 to 2016-17

Table 3 shows an illustrative £m VA estimate; calculated by applying the calendar year Scottish VA share (Table 1) to the UK financial year VAT receipts (Table 2).

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<tbody>
<tr>
<td>Calendar year Scottish VA share (Table 1) applied to Financial year UK VAT receipts (Table 2) (£millions)</td>
<td>£4,341</td>
<td>£4,422</td>
<td>£4,669</td>
<td>£4,747</td>
<td>£4,953</td>
<td>£5,018**</td>
</tr>
</tbody>
</table>

**Figures may differ to those in the SFC’s Scottish Economic and Fiscal Forecast’s publication, published on the 30th May 2019 due to rounding.**

Chart 2 shows comparative growth rates of:

→ Growth in UK VAT receipts based on ONS Public Sector Finance data.
→ A growth rate in the VA share produced by the VA model (jointly developed between HMRC, HMT and SG).
→ The percentage change in an illustrative cash value of VA, calculated by multiplying the VA share on a calendar basis to ONS VAT receipts on a financial year basis.
Methodology

A methodology document was published in November 2018, namely "Scottish VAT Assignment: Summary of VAT Assignment model", which can be found at [https://www.gov.uk/government/publications/scottish-vat-assignment-summary-of-vat-assignment-model](https://www.gov.uk/government/publications/scottish-vat-assignment-summary-of-vat-assignment-model). This paper outlines the Scottish and UK Governments' implementation of the assignment of Scottish VAT and details the methodology for calculating Scottish VAT receipts using the Scottish VA model.

The VA model enables the UK and Scottish Governments (SG) to estimate Scottish VAT without creating additional reporting and administrative burdens on businesses. The model is based on HMRC’s VAT Total Theoretical Liability model, which is an internationally recognised methodology. It has been jointly developed between HM Treasury (HMT), HM Revenue and Customs (HMRC) and SG officials and makes use of independent expenditure data. A detailed methodology paper will be published later in 2019 including discussion of limitations, data sources and associated levels of uncertainty of the VA share.

It is not possible to measure outturn VAT receipts arising from consumption in Scotland as the information collected by HMRC from businesses, through VAT returns, does not specify the UK region in which goods and services are consumed. Therefore, to calculate the Scottish share of UK VAT, a model is required to calculate the VAT incurred on goods and services which are consumed within Scotland compared with other UK regions.

Data sources used within the Scottish VA model

There are various data sources providing independent expenditure data which are used in the model to estimate consumption in Scotland and other UK regions.

There are a number of areas of expenditure which contribute to UK VAT, with the largest contribution coming from household spending. The VA model is made up of five spending components and several adjustment components. Each spending component represents an area of expenditure where the consumers represent final consumers.

The five expenditure components include Households, Charities, Central Government, Exempt and Housing. There are also adjustments to ensure VAT rules are applied correctly, for example Unregistered Traders, where an adjustment is made to correct for those traders included in expenditure components that are below the VAT registration threshold. This is included within the adjustment components, where further detail is provided in the annex.

By multiplying comprehensive components of expenditure in Scotland by their appropriate VAT rates, allowing for any other relevant rules determining liability for tax, we are able to estimate the Scottish share of Total UK VAT, and from this value derive the Scottish VA share.

What are Experimental Statistics?

Experimental Statistics are Official Statistics which are within their development phase and have been published in order to involve potential users at an early stage in building high quality statistics that meet users’ needs. On completion of the development phase HMRC will consider applying to the Office for Statistics Regulation to have these statistics assessed for designation as National Statistics.

The Experimental Statistics label highlights to users that HMRC are still working on further developing the methodologies used in producing these statistics. HMRC will conduct a user survey to learn what can be done to further improve these statistics. In addition, it should be emphasised that the label of Experimental Statistics does not mean that the statistics are of low quality, but it does signify that the statistics are novel and still being developed.
Standard rate equivalent (SRE) expenditure

Why do we need this concept?
VAT is a consumption tax paid on goods and services. There are 3 main rates of VAT (standard rated (20%), reduced rated (5%) and zero-rated (0%)) and there are also goods and services that are exempt or outside the scope of VAT. In order to translate expenditure, subject to different rates of VAT, into a common VAT currency, we make use of a concept called standard rate equivalent expenditure (SRE). Each unit of SRE expenditure represents the same amount of VAT. This concept is simply a mechanism to reflect the equivalent value of expenditure if the standard rate of VAT is applied. It is used here in order to make meaningful comparisons across expenditure components for the purposes of understanding the Scottish VA modelling.

What is standard rate equivalent (SRE) expenditure?
SRE expenditure is where expenditure liable to VAT is converted to a standard rate equivalent. For example, if net expenditure (excluding VAT) of £10.00 is liable to a reduced rate of VAT (5%), gross expenditure would be £10.50 (net expenditure + VAT of £0.50). The standard rate equivalent would be a gross amount that includes the same level VAT i.e. £0.50 at the standard rate of 20%. The standard rate equivalent would be net expenditure of £2.50, because with a standard rate applied (20%), the VAT would be £0.50, and gross expenditure would be £3.00. SRE expenditure presented in this publication is all on a gross expenditure basis (i.e. inclusive of VAT).

What does this look like for the household expenditure components that include standard rated, reduced rated and zero-rated expenditure?
The Household expenditure component is made up of sub-components within the Living Costs and Food Survey (LCFS) at the classification of individual consumption by purpose (COICOP) level, which have some element of expenditure within them liable to VAT. For example, the Health component which is a sub-component within Household expenditure, contains goods and services liable to standard rate, reduced rate and zero-rated VAT, as well as goods and services which are exempt from VAT. Within the Health sub-component all hospital services are exempt from VAT so expenditure in this component is not included in the Scottish VA model. Expenditure on pharmaceutical products is predominantly standard rated but this component also includes products sold on prescriptions that are zero-rated and smoking cessation products that are reduced rated. Thus, by converting all expenditure on these separate sub-components of expenditure within Health to SRE expenditure, this removes all expenditure from the model that is zero-rated, converts all reduced rated expenditure to a value 4 times smaller (the equivalent amount of net expenditure which would be liable to the same amount of VAT at the standard rate of VAT i.e. 20%/5% = 4), and includes all the standard rated expenditure, in a common currency.

How does SRE expenditure compare to overall expenditure?
When expenditure is converted to SRE expenditure, the assumptions related to standard rated goods and services across all sectors are applied on a UK basis. Therefore, calculating SRE expenditure does not introduce any regional variation in expenditure in Scotland relative to the rUK. Using SRE expenditure is a more relevant way of comparing expenditure between Scotland and the rUK for VAT purposes.
What other adjustments have been made to SRE expenditure?

The Scottish VA estimates presented incorporate all aspects of the Scottish VA modelling including adjustments.

The SRE expenditure analysis presented below shows the expenditure components before deducting adjustments. This is because adjustments are made at the final stage of the modelling and cannot be incorporated at the component expenditure levels presented below.

What components of the model are driving movements in the Scottish

Chart 3: Breakdown of the year on year change in Scottish VA share of UK VAT by Scottish VA model components 2012 to 2016

Chart 3 shows the impact that each component of the model¹, the five expenditure components and adjustments as described above, have on the Scottish VA share over time. Domestic Tourism is shown separately due to the magnitude of its impact on the VA share in 2012. Domestic Tourism is a sub-component of the adjustments made to the model. This chart uses SRE expenditure figures for each component within the model to estimate their impact on the Scottish VA share over time.

The grey line in the chart shows the annual change in the Scottish VA share while the bars show how much each component of the model contributes to the change in the VA share over time. For example, in 2013 the VA share did not change due to the positive impact from changes in Household expenditure and Domestic Tourism components being offset by the negative impact of changes in the Exempt, Government and Housing components. In 2013 the Household expenditure bar shown in this graph represents a faster increase in SRE expenditure in Scotland than in the rest of the UK (rUK) on goods and services that fall within the Household component of the model. The effect of expenditure in this component growing faster in Scotland than in the rUK resulted in an increase in the Scottish VA share of 0.04%.

Chart 3 shows that for most of the series the Household expenditure component appears to be the main driver in the change in Scotland’s VA share for each year, except in 2012, where the decrease in Domestic Tourism outweighs the impact of the Household spending component.

¹ These components are shown using measures based on standard rated expenditure which is described in more detail in the above “Standard Rate Equivalent Expenditure” section of this publication on page 5.
Chart 4 represents the total SRE expenditure estimated in Scotland and rUK before adjustments are taken into account. Chart 4 shows the breakdown of SRE expenditure by expenditure components in 2016. In 2016 the composition of the high level expenditure component in Scotland and the rUK appears to be very similar. The Household expenditure component accounts for the largest proportion of SRE expenditure, around 70%. With the Government and Exempt expenditure components each accounting for approximately 10-15%. The Housing expenditure component accounts for 3-5% whilst Charities makes up <1%.
Chart 5: Breakdown of total SRE expenditure in Scotland by sector over time

Chart 5 displays a time series of the breakdown in expenditure components of total SRE expenditure in Scotland, before adjustments. The time series shows limited variability in the components of SRE expenditure in Scotland from 2011 to 2016, for example the biggest change in the Household expenditure component over the period was less than 1.5%.

Household SRE expenditure


Chart 7: Household SRE expenditure in the rest of the UK, 2016

The Household expenditure component of the Scottish VA model is largely based upon LCFS and Consumer Trends data which have both been published by the ONS with figures up to 2016. Charts 6 and 7 show the breakdown of Household SRE expenditure in Scotland and the rUK in 2016. The SRE expenditure shown in these charts is at ONS COICOP level 1, apart from Tobacco, where expenditure has been depicted at this lower level to show the difference between Scottish and rUK expenditure on Tobacco as a % of total Household SRE expenditure.
It appears that Household SRE expenditure patterns are broadly similar in Scotland and in the rUK. In terms of notable differences, expenditure on Miscellaneous Goods and Services deviates the most as a proportion of total SRE expenditure, between Scotland and the rUK, accounting for a 1.9% larger share of SRE expenditure in the rUK than in Scotland. SRE expenditure on Tobacco is the second largest difference between Scotland and the rUK, accounting for a 1.7% larger share of Scotland SRE expenditure than in the rUK. This is in keeping with statistics published by the ONS on tobacco consumption, suggesting a higher proportion of the population in Scotland consume tobacco products relative to the rUK².

**Publication timeline**

→ HMRC is committed to providing impartial quality statistics that meet our users’ needs. We encourage our users to engage with us so that we can improve our statistics and identify gaps in the statistics that we produce. Users can send us their thoughts and suggestions via the email address on the cover of this release.

2019

→ The next Experimental Statistics publication on Scottish VA will be published in August 2019 and will include an estimate for the 2017 Scottish VA share. This 2017 estimate will be an interim provisional estimate that includes some input data which is based on forecasts due to timing of outturn data being released by providers such as the ONS.

→ In Autumn 2019 an Experimental Statistics publication will be published with a final provisional estimate for 2017 that will replace the forecast data with outturn data. This will include updated data³ from the ONS Blue Book, published later this year.

→ A detailed methodology and uncertainty document will also be published by the end of Autumn 2019.

From 2020:

→ Following this transitional year, we propose releasing two publications on Scottish VA each year. The first being an interim provisional estimate by the end of May, and a final provisional estimate by the end of November.

→ This publication timeline is provisional and reliant on input data sources from the ONS amongst other providers, to be published to their usual timetables. If there is a delay in the publication of these input data sources, we will need to consider if this will delay the release our publications. This is to allow for the required level of quality assurance to release these estimates as Official Statistics.

→ We welcome users feedback on our proposed timeline for future publications.


³ Intermediate, Input-output supply and use tables, published with the ONS Blue Book 2 years after the year in question.
Annex 1

This statistical release focuses on the main expenditure components which contribute to the vast majority of the VA share. The model also includes adjustment components to accurately reflect different rules and exemptions in the VAT system.

The adjustments ensure the impacts of expenditure on VAT accurately reflects the VAT system currently in place. They are applied on a regional basis to the total SRE expenditure to account for expenditure by Unregistered Traders, Do-It-Yourself (DIY) Builders, Prostitution, Domestic Tourism, Museums and Galleries, Retail Export Scheme, Place of Supply and Government Departments Contracted Out Services.

For example adjustments are required for unregistered traders. Traders with annual VAT taxable turnover (turnover of non-exempt goods and services) below the VAT registration threshold (£85,000 in 2017/18) are not liable to register for VAT, and are not able to reclaim VAT on inputs.

As the expenditure data is largely based on surveys this will not specify if expenditure is on goods and services from a business above or below the VAT threshold. For simplicity the model starts by assuming the expenditure data relates to purchases from businesses above the VAT threshold. In order to adjust for expenditure by unregistered traders, a negative adjustment must be made to household expenditure, as no VAT will be paid by households on sales from these unregistered traders, and a positive adjustment must made to the intermediate current expenditure to capture the amount of ‘stuck’ VAT that is paid on the inputs of these traders, which they are unable to be reclaim.