

# Scottish VAT Assignment: Summary of Assignment Model

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ISBN 978-1-912809-18-9

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# Contents

Chapter 1	Introduction	2
Chapter 2	VAT assignment principles	3
Chapter 3	The Scottish VAT assignment model	4
Chapter 4	Categories of expenditure	8
Annex A	VAT assignment and the Scottish Government Budget	15

# Chapter 1

## Introduction

- 1.1 In 2015 the Smith Commission, convened to examine which further powers could be devolved to the Scottish Parliament, 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....”.
- 1.2 Following the Smith Commission’s recommendations, the UK and Scottish Governments subsequently agreed in the Scottish Government’s Fiscal Framework that a VAT assignment methodology would be jointly developed by UK and Scottish Government officials, to calculate the Scottish share of UK VAT receipts. The fiscal framework also set out how the Scottish Government’s block grant would be adjusted, to account for the fact that more of the Scottish Government’s spending power will be determined through assigned VAT.
- 1.3 This paper outlines the Scottish and UK Governments’ implementation of the assignment of Scottish VAT and details the methodology for calculating Scottish VAT receipts - the Scottish VAT assignment model. In line with the Smith Commission’s recommendations, the model outlined in this paper was jointly developed by HMRC, the Scottish Government and HM Treasury. It is based on HMRC’s VAT Total Theoretical Liability (VTTL) model, which is an internationally recognised method for calculating the theoretical amount of VAT that should be received by a tax jurisdiction. We are publishing this paper at this time to invite comments and provide technical detail for the Office for Budget Responsibility and Scottish Fiscal Commission’s benefit.
- 1.4 Further detail on how VAT assignment will interact with the Scottish Government’s Budget is outlined in Annex A.

# Chapter 2

## VAT assignment principles

- 2.1 VAT is a tax on final consumption and applies to most goods and services. Although VAT is borne by consumers it is collected by HM Revenue and Customs (HMRC) through VAT registered businesses across the UK.
- 2.2 The information collected by HMRC through its VAT compliance work does not specify the UK region in which goods and services are consumed. Therefore, to calculate the Scottish share of UK VAT, a VAT assignment model is required to estimate the VAT incurred on goods and services which are consumed within Scotland compared with other UK regions.
- 2.3 VAT on final consumption is equal to the VAT incurred on expenditure which is not reclaimable from HMRC under VAT recovery and refund rules. The Scottish VAT assignment model uses this principle to calculate the Scottish share of UK VAT. It uses comprehensive UK expenditure data, together with Scottish shares of that expenditure, and applies relevant VAT rates to derive an estimate of the VAT receipts attributable to consumption in Scotland. This model therefore calculates the VAT Total Theoretical Liability (VTTL) for Scotland. The VTTL is a measure of the theoretical VAT collected by a jurisdiction's tax authority assuming there are no losses in collections from non-compliance.
- 2.4 UK VAT forecasting currently uses the internationally recognised VTTL model to estimate theoretical VAT liabilities for the UK as a whole. The Scottish VAT assignment model is similar to the VAT revenue sharing arrangements the Canadian Government uses with some Canadian provinces.

# Chapter 3

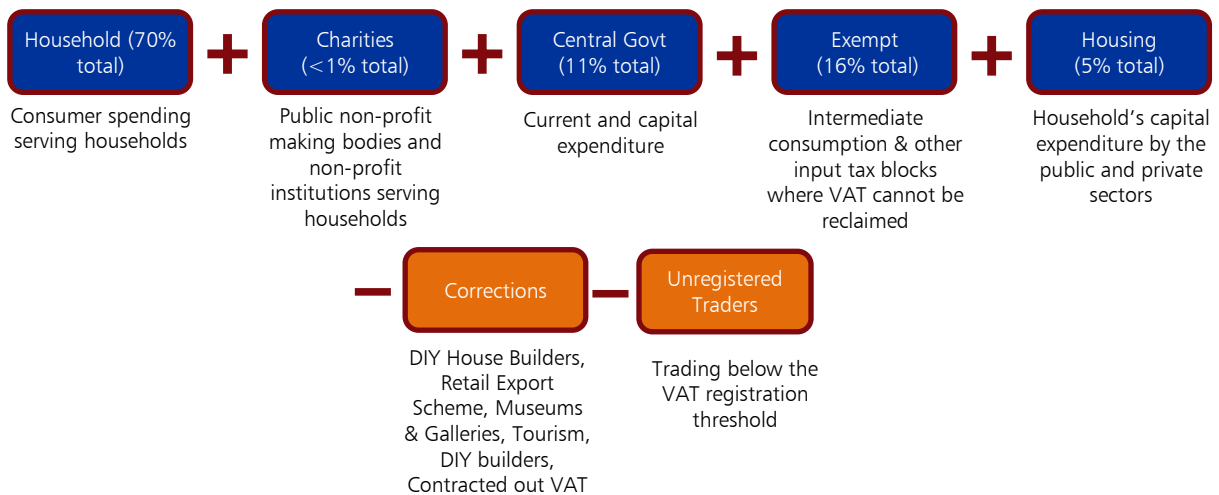
## The Scottish VAT assignment model

### Summary of the model

- 3.1 The VAT assignment model calculates the theoretical proportion of UK VAT that would arise in Scotland in the absence of any compliance losses. This is calculated by multiplying comprehensive categories of expenditure in Scotland by their appropriate VAT rates, allowing for any other relevant rules determining liability for tax, and calculating the share that this represents of the Total UK VAT.
- 3.2 There are a number of areas of expenditure which contribute to the UK VAT base, with the largest contribution coming from household spending. The VAT assignment model is made up of five spending components and two adjustment components.
- 3.3 Each spending component represents an area of expenditure where the consumers are 'final consumers'. As noted in Chapter 2, VAT is collected from consumers through the VAT registered businesses that sell goods and services. VAT registered businesses can generally recover VAT that they incurred on their purchases to the extent that those purchases are used for taxable business activity and are therefore not final consumers. In addition, some charities, local government and central government organisations can also recover the VAT they incur on certain purchases through special VAT refund rules for these organisations.
- 3.4 The VAT assignment model therefore calculates the VAT on expenditure in Scotland by consumers, businesses and other organisations who cannot recover the VAT they incur (final consumers). The majority of these consumers are private individuals and families and their expenditure is included in the Household component of the model. Others include VAT exempt businesses (financial services, property, health etc.), non-VAT registered traders, charities and central government organisations.
- 3.5 The adjustment components take into account special rules in VAT which may allow some organisations or individuals to recover VAT which would not normally be recoverable or vice versa. These components are outlined in more detail in Chapter 4.



### Box 3.A: Categories of expenditure contributing to VAT base



### Expenditure components

- 3.6 The VAT Assignment model takes the expenditure in Scotland in each of the above expenditure components and then estimates the amount of that expenditure that is subject to VAT. This can be compared to the same expenditure component analysis for the whole of the UK to calculate the Scottish share of UK VAT. The Scottish share of VAT can then be applied to VAT receipts to calculate the Scottish share of UK VAT receipts.
- 3.7 The model analyses these expenditure components using data from multiple, mostly publicly available, sources of information including, but not restricted to: the ONS Blue Book, ONS Living Cost and Food Survey, ONS International Passenger Survey, VisitBritain and Statistical tables published by other government departments.

### VAT liability of expenditure components

- 3.8 The VAT liability of the expenditure components outlined above is determined by the VAT treatment of the goods and services that are included in the expenditure component. Although most goods and services are subject to 20% VAT, many are subject to the zero and reduced rates (5%) of VAT. Therefore, expenditure categories need to be disaggregated to goods and services that have consistent VAT rate treatment in order to accurately calculate the VAT liability relating to that expenditure.
- 3.9 For example, certain foods in the UK are subject to the zero rate of VAT. The model must therefore disaggregate food expenditure by type of food in order to determine the proportion of food consumption which is subject to VAT at 20%. This analysis can then be used to calculate the VAT liability of the total food expenditure.

### Calculation of Scottish share of VAT

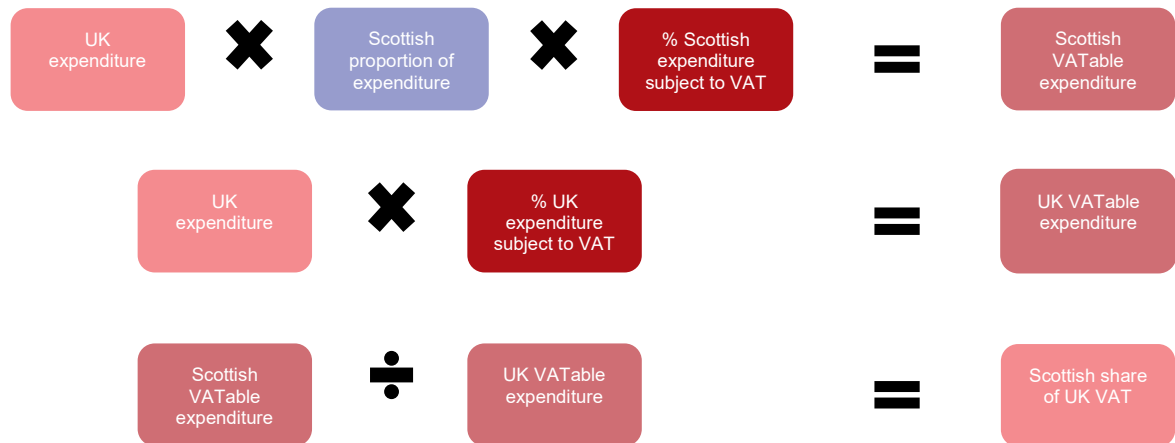
- 3.10 In simple terms, the model establishes expenditure on goods and services in the UK as a whole and then calculates an estimate of the proportion of that expenditure which took place in Scotland, using official statistics. It then

establishes the amount of VAT that would have been paid on that expenditure in both Scotland and the rest of the UK. The ratio between VATable expenditure in Scotland versus the rest of the UK can be applied to VAT receipts to calculate the Scottish share of VAT receipts.

**3.11** The following example illustrates how this works in practice and has been simplified to show the core calculations required. In brief, the method comprises:

- 1 Calculation of Scottish VATable expenditure
  - a) UK expenditure is split according to the expenditure components outlined above.
  - b) Each expenditure component is split by country/region to determine the Scottish percentage of expenditure – this uses mostly publicly available data (outlined in chapter 4).
  - c) This data is analysed further to calculate the VAT liability of each expenditure component in Scotland (outlined in chapter 4).
  - d) Combining each expenditure component provides the total VATable expenditure in Scotland.
- 2 Calculation of UK VATable expenditure
  - a) UK expenditure is analysed according to the expenditure components outlined above.
  - b) This data is analysed further to find the VAT liability of each expenditure component in the UK.
  - c) Combining each expenditure component provides the total VATable expenditure in the UK.
- 3 Calculation of Scottish share of UK VAT receipts
  - a) Scottish VATable expenditure as calculated in step 1 is divided by UK VATable expenditure as calculated in step 2. This percentage is the Scottish share of UK VAT.
  - b) This percentage is applied to UK VAT receipts to provide the Scottish share of UK VAT receipts.

### Box 3.B: Simplified calculation of Scottish share of UK VAT



3.12 Chapter 4 provides further details on each of the expenditure components that make up the mode and outlines how the Scottish proportion of expenditure and the VAT liability is calculated.

# Chapter 4

## Categories of expenditure

- 4.1 The following chapter outlines the calculations required for each expenditure component of the model:
- Household expenditure
  - Charities and Central Government
  - Exempt sectors
  - Housing
  - Corrections
  - Unregistered traders
- 4.2 For each expenditure component, the data sources and method for calculating the UK and Scottish VATable expenditure is outlined below.

### Household expenditure

- 4.3 The household component of the model accounts for around 70% of total VAT receipts and arises from spending on household goods and services, such as adult clothing and fuel and power.
- 4.4 The estimate of UK households' total VAT liability is based on the Household Final Consumption Expenditure (HHFCE) quarterly data set classified by Classification of Individual Consumption by Purpose (COICOP), at current prices and not seasonally adjusted (CPNSA), published by the ONS.
- 4.5 The calculation for estimating the Scottish share of household VAT is outlined below:
- 1 Relevant VAT rates are assigned to each category of expenditure. In most cases a single rate of VAT applies and can be assigned as standard, reduced or zero rate or as exempt expenditure. In other cases, expenditure must be split using additional data to assign appropriate VAT rates (an example with respect to clothing is outlined below).
  - 2 Expenditure is split by country/region to determine the Scottish percentage of expenditure. Detailed series from various sources are used to determine the Scottish proportion of the expenditure at the different VAT rates. The main source of the data for Scottish proportions is the Living Costs and Food Survey (LCFS). The high-level data from this survey is a major contributor to the calculation of the HHFCE and the detailed information can be used to provide the Scottish share. In order to increase the accuracy of the regional splits HMRC and the Scottish Government have jointly

sponsored a boost to the sample size, the first results of which are due in March 2019.

- 4.6 An example with respect to the VAT receipts attributable to clothing expenditure in Scotland is provided below:
- 1 Clothing is generally standard rated however, children's clothing and footwear is zero rated where it is designed for children 13 years old and younger.
  - 2 The ONS Living Costs and Food Survey reports clothing expenditure with respect to children under 16 years old. Therefore, for the purposes of the model, Scottish population demographics are used to calculate the proportion of this expenditure spent on clothing for under 13s. This calculation provides the proportion of Scottish spending on clothing which is subject to VAT at the standard rate and zero rate.
  - 3 Regional expenditure data is used to calculate VATable expenditure in Scotland. The Scottish VATable expenditure in spending categories which contribute to clothing are combined to calculate the Scottish share of VATable expenditure on clothing.
  - 4 This process is repeated for the UK.
  - 5 The Scottish and UK VATable expenditure on clothing is combined with all other VATable expenditure in the household sector. The proportion between UK and Scottish Expenditure provides the Scottish share of VAT.

## Charities

- 4.7 There are several complex VAT rules for charities which mean that, unlike most businesses, they do not recover all of the VAT incurred on their purchases. This means VAT incurred by these bodies should be included when calculating the UK VAT base and the Scottish share of UK VAT receipts. Therefore, a separate component of the VAT assignment methodology is required to calculate the VAT on consumption of goods and services by these bodies in Scotland and the UK.
- 4.8 For the purposes of the charities component of the model, only VAT incurred in relation to charitable activities is considered. Some charities carry out business activity as well as charitable work and where this business activity is VAT exempt it is accounted for as part of the VAT Exempt Businesses expenditure component of the model (see below). Where charities carry out taxable business activity, then this VAT is recoverable and therefore does not form part of the UK total VAT receipts.
- 4.9 The VAT assignment methodology uses NPISH (non-profit institutions serving households) data which includes charities, higher and further education institutions, political parties and trade unions to calculate VAT incurred by charities.
- 4.10 Relevant VAT rates are applied to expenditure in these sectors to calculate the total VATable expenditure of in the charities component:
- Research and development

- Other professional, scientific and technical activities
- Services to buildings and landscape activities
- Office administration, office support and other business support activities
- creative arts and other entertainment activities
- Sports activities, amusement and recreation activities

4.11 The Scottish share of charitable expenditure is calculated using labour market data. The proportion of staff costs (full time employees) arising in Scotland is calculated using data from the Annual Survey of Hours and Earnings (ASHE) and the Business Register Employment Survey (BRES).

## Central government

4.12 Most government activity is outside the scope of VAT as it is part of the statutory functions of government organisations. However, some central government bodies do not recover VAT on certain expenditure and therefore VAT incurred by these bodies must be considered for the purposes of the model.

4.13 VAT incurred by local government does not need to be considered for the VAT assignment model. This is because local government organisations and other bodies funded through local taxation can recover the VAT they incur when carrying out local authority activities.

4.14 VAT rates are applied to each component of central government current expenditure included in the model. The following categories of central government current expenditure are used:

- Public administration and defence services; compulsory social security services
- Education
- Human health activities
- Residential care activities
- Social work services without accommodation

4.15 The Scottish share of central government current expenditure is calculated using labour market data. The proportion of staff costs (full time employees) arising in the government sector in Scotland is calculated using data from the Annual Survey of Hours and Earnings (ASHE) and the Business Register Employment Survey (BRES).

4.16 Central government capital expenditure is analysed separately in the VAT assignment model. VAT rates are applied to the following categories of central government capital expenditure included in NPIS:

- other buildings and structures,
- transport equipment
- other machinery and equipment

- 4.17 The Scottish share of central government capital expenditure is calculated using identifiable capital spending.
- 4.18 The final part of government expenditure regards the VAT on Contracted Out Services. These are services on which central government departments can recover VAT and therefore do not form part of the VAT incurred by central government. As this expenditure is included in the current and capital central government expenditure calculations outlined above, a correction must be made to the model to deduct any VAT that departments can recover.
- 4.19 For the purposes of this correction, the VAT assignment model uses data that HMRC receives from government departments on the VAT relating to Contracted Out Services. The Scottish share of this VAT is calculated with reference to the expenditure incurred in relation to devolved responsibilities and regional employment splits by government departments. Exceptionally for defence, the VAT on contracted out services is shared on the basis of population. This is on the basis that defence is for the benefit of all members of the population equally.

### VAT exempt businesses

- 4.20 No VAT is charged on VAT exempt goods and services but the suppliers of goods and services cannot recover the VAT incurred on their purchases from HMRC. As such, expenditure incurred by businesses who supply exempt goods and services is considered for the VAT assignment model.
- 4.21 Businesses or other organisations can recover the VAT paid on purchases which relate to taxable supplies (standard, reduced or zero rated) but not on those purchases which relate to exempt supplies. If a business supplies both taxable and exempt goods and services, it must apportion any VAT that they incur on its purchases in proportion to how those purchases are used in making taxable or exempt supplies. The VAT which cannot be recovered is known as irrecoverable VAT and is the amount of VAT which is paid by the business and not recovered from HMRC.
- 4.22 The amount of VAT due in relation to these businesses is therefore based on the proportion of their consumption which is standard rated as well as the proportion of their outputs which is exempt. These proportions are estimated at the UK level using confidential HMRC survey data and HMRC tax rates.
- 4.23 The UK VAT exempt sector is mainly made up of the following significant partially exempt industries:
- Postal and Courier Services
  - Financial Services
  - Education
  - Human Health Activities
  - Residential and Social Care
  - Activities of Membership Organisations

- Other personal services

4.24 The model calculates the VAT incurred in each of these sectors by using intermediate consumption figures. The Scottish share of VAT in the UK VAT exempt sector is calculated using labour market data, as described above.

## Housing

4.25 The housing sector considers elements of housing construction and repairs that are not included in household expenditure. This includes purchases of dwellings (including transfer costs) and major improvements to dwellings (e.g. conversions and extensions but not painting walls), which are standard rated. New builds do not attract VAT and certain other elements of house building and improvements are zero rated. Additionally, the reduced rate of VAT is applied (instead of the standard rate) on improvements to buildings (a change made originally as part of the Urban Regeneration Scheme).

4.26 The VAT incurred in this expenditure component is calculated using construction industry data from the ONS. The Scottish share of VAT incurred in this sector is calculated using sub-national breakdowns for the public and private sectors using construction statistics and data from the UK House Price index.

## Corrections

4.27 Once the theoretical VAT liability has been calculated in each expenditure component of the model, corrections are required to take into account areas of expenditure where special rules or VAT reliefs are relevant.

4.28 Corrections arise from government schemes and reliefs which allow organisations or individuals to reclaim VAT. If these corrections are not adjusted for, then VAT on consumption in the sectors outlined above would be overestimated. There are bespoke methodologies in place for each of the corrections as outlined below.

## Retail Export Scheme

4.29 The Retail Export Scheme allows non-European Union visitors to claim a refund of VAT on goods they buy and take home from the European Union in their personal luggage. The refunds are deducted from the model as the expenditure is otherwise included in the household expenditure component of the model but the VAT that has been included is not due to HMRC as it has been reclaimed by the visitor. The Scottish share of VAT relating to the Retail Export Scheme is based on International Passenger Survey data.

## Do-It-Yourself Builders

4.30 A VAT refund is available under the "DIY Builders and Converters Refund Scheme" on building materials and services used for:

- Building a new home
- Converting a property into a home
- Building a non-profit communal residence e.g. a hospice
- Building a property for charity



- 4.31 The scheme involves single claims of VAT refunds on completion of projects by unregistered, non-taxable persons. These refunds must be corrected for as the VAT would otherwise be included in the Housing expenditure component of the model. HMRC internal data on the DIY Builders and Converters Refund Scheme is used to produce a sub-national breakdown in order to calculate the Scottish share.

### Museums and Galleries

- 4.32 Under UK VAT rules, museums and galleries that offer free admission to the public can recover VAT that they incur on their purchases related to free admission. As such, there is no VAT incurred on this activity.
- 4.33 A correction is required to the model to take account of the VATable expenditure of museums and galleries that has been included in the charities component of the model. Hence, adjustment needs to be made for the VAT refunds provided to museums and galleries, and therefore is included in the VAT assignment calculations.
- 4.34 HMRC internal data is used to calculate the VAT refunded to museums and galleries in the UK and Scotland to calculate the Scottish share.

### Domestic Tourism

- 4.35 Expenditure related to domestic tourism is included in the household component of the model in each of the relevant expenditure categories. However, in the Living Costs and Food Survey the expenditure will be included in the usual residential country/region of the purchaser rather than the country/region in which the expenditure occurred.
- 4.36 According to 2014 tourism figures English and Welsh visitors spend approximately £1.7bn in Scotland and Scottish visitors spend about £1.2bn in England and Wales. This would produce an extra £500m of expenditure in Scotland that has been accounted for in England and Wales. In order to take account of this there is an adjustment made to take into account the additional expenditure that occurs in Scotland on domestic tourism.
- 4.37 The model uses expenditure data from the Great Britain Tourism Survey (GBTS) and the Great Britain Day Visits Survey (GBDVS) is combined to give an estimate of Scottish share of domestic tourism expenditure in Great Britain.

### Foreign Tourism

- 4.38 There are estimates of the expenditure by foreign tourists included in many sectors of the household component of the model with the majority of this expenditure being included in the accommodation and catering sector.
- 4.39 For VAT Assignment, foreign tourism expenditure is removed from household expenditure component of the model and then distributed according to where tourists visit according to the international passenger survey.

## Unregistered traders

- 4.40 In the UK, traders below the VAT threshold do not have to register for VAT. If a trader is below the registration threshold, then they do not charge VAT on the goods and services that they sell. However, the sales of unregistered traders will be recorded as expenditure in other parts of the model, where the goods and services sold to consumers in those expenditure components (e.g. private individuals purchasing cleaning services from businesses below the VAT registration threshold). Therefore, the model will have overestimated the amount of VAT due.
- 4.41 As a result of this, an 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 made to the intermediate current expenditure to capture the amount of VAT that is paid on the inputs of these traders and is unable to be reclaimed.
- 4.42 Information on the number of businesses from the Department for Business, Energy and Industrial Strategy (BEIS), VAT registration information and Self-Assessment information is used to construct the Scottish proportion.

## Place of Supply

- 4.43 The place of supply is the place where a supply of goods or services is made and where VAT may be charged and paid. The Place of Supply adjustment concerns a change in treatment of electronic services and only applies to pre-2015 VAT assignment periods. From 1 January 2015 Place of Supply changes for business to consumer telecoms, broadcasting and electronic services means that these digital services are taxed in the EU Member State where the customer is located, not the location of the business supplying the service.
- 4.44 Prior to these reforms in 2015 HMRC would have not received any VAT from these specific digital services which are now taxed at the full standard rate. Therefore, any VAT accounted for in the model from digital services must be removed to reflect this difference.
- 4.45 As noted above, place of supply adjustments will not be used for VAT assignment in future years but are included to understand the Scottish share of VAT receipts for historic periods prior to 2015.

## Bias impacts

- 4.46 Some budget measures and the results of litigation are often very specific and impact a small number of traders. The impact of these particular measures are estimated at a national level and would impact on the VAT liability of specific sets of traders.
- 4.47 In these cases, it is assumed that the VAT liability is proportionally distributed across all countries/regions and therefore are not specifically taken into account for the purposes of the model.

# Annex A

## VAT assignment and the Scottish Government Budget

- A.1 The UK Government and Scottish Government agreed in the Scottish Government's Fiscal Framework that VAT assignment would be implemented in 2019-20 and that there would be a transitional period during which VAT assignment would be forecast and calculated but with no impact for the Scottish Government.
- A.2 Both Governments have subsequently agreed that 2019-20 will be treated as a transitional period during which Scottish VAT will be forecast and calculated, but with no impact on the Scottish budget. From 2020-21 the Scottish Government will be assigned receipts from the first 10p of the standard rate of VAT and the first 2.5p of the reduced rate of VAT in Scotland. At the same time the UK Government will reduce the Scottish Government's block grant to reflect the VAT receipts foregone in Scotland – this is known as a block grant adjustment.

### Block Grant Adjustments

- A.3 As agreed in the fiscal framework, the Scottish Government's block grant will be reduced to reflect the fact that more of the Scottish Government's spending power will be determined through assigned VAT.
- A.4 Arrangements for calculating the block grant adjustment are set out in the Scottish Government's fiscal framework. The block grant adjustment for VAT assignment will work in broadly the same way as the adjustments applied for Scottish Income Tax.

### Forecasting

- A.5 The VAT receipts assigned to the Scottish Government's budget and the corresponding block grant adjustments will both initially be based on forecasts, and then reconciled to outturn data once available. The Scottish Fiscal Commission will be responsible for forecasting the receipts assigned to the Scottish Government's budget, with the Office for Budget Responsibility in charge of producing forecasts of VAT for the UK as a whole, as well as forecasting comparable receipts in the rest of the UK to be used in calculations for the block grant adjustment.
- A.6 As set out in this document, the UK and Scottish Governments have jointly developed the methodology for VAT assignment outturn data, with the independent forecasters determining their own forecasting methodologies.

## Reconciliation to outturn

- A.7 The assigned VAT receipts and block grant adjustments will both be reconciled to outturn data once available. This outturn will be determined using the agreed VAT assignment methodology, as above.

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