Residential LBTT
Model Guidance – May 2021

Contents

Introduction

1.1 This document sets out guidance for using our May 2021 Residential Land and Buildings Transaction Tax (LBTT) revenue spreadsheet model. The model can be found alongside our How we forecast devolved taxes report on our website.[1] Our aim is that a reader of this document can use our LBTT model to produce their own forecasts, based on their views about the prospects for the residential property markets.

1.2 We have published this model to increase the transparency of the residential LBTT forecasts, and to allow users to better understand our January 2021 forecast. This is the first time we have published one of our models on our website. We have chosen to do this now with our residential LBTT revenues model as it is a reasonably small model with a well-developed framework and is based entirely on published data. We will look into publishing other models in future where we think this will help our stakeholders and where it is feasible. If you are interested in finding out more about any of our modelling approaches, or would like to give feedback on the published LBTT model, please email info@fiscalcommission.scot.

1.3 We are constantly developing and refining our forecasting models. Therefore, the residential LBTT revenues forecasting model we use in future forecasts may differ from the May 2021 version of the model published alongside this guide. We'll keep users up to date on model developments through our regular reports and occasional methodology papers.

1.4 A model is ultimately just a framework within which forecasts are created. Forecasts are very sensitive to the judgements made, for example around future house price growth, and what really drives our forecasts are the judgements made by our Commissioners. Using our published residential LBTT model you can make your own judgements and see what this could mean for LBTT revenues in Scotland.

1.5 The document is split into three sections. First we explain the residential LBTT revenue calculation, which is the foundation for how the model works and how we account for reliefs. We also explain how we capture taxpayer behaviour and introduce the idea of the semi-elasticity, a crucial assumption built into the model. We then explain how to use each section of the spreadsheet model in detail. Finally, we provide a brief overview and explanation of the data used in the model.

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[1] Scottish Fiscal Commission (2021) How we forecast devolved taxes (link)

LBTT Calculations

Introduction

2.1   This section explains how LBTT is calculated, how we account for reliefs and how we capture taxpayer behaviour in response to changes in the tax. These form the basis of the residential LBTT model.

LBTT revenues calculation

2.2   LBTT is a slice tax, meaning that each tax rate is only applied to the portion of the value of the property that falls into a particular tax band. Figure 2.1 sets out the LBTT rates and bands at the time of publication and an example calculation of how much LBTT would be paid for a property worth £500,000.

Figure 2.1 Example LBTT calculation for a property worth £500,000

Tax band	Tax Rate (per cent)	Portion of property value in tax band (£)	Tax paid (£)
£0 to £145,000	0	145,000	0
£145,000 to £250,000	2	105,000	2,100
£250,000 to £325,000	5	75,000	3,750
£325,000 to £750,000	10	175,000	17,500
£750,000 and above	12	0	0
Total LBTT Paid			**23,350**

Source: Scottish Fiscal Commission

2.3   If the buyer already owns one or more properties at the time of the new purchase, ADS will be paid. ADS charges four per cent of the total value of the property, if the property is worth above £40,000. Figure 2.2 again sets out the tax calculation on a property worth £500,000, this time paying ADS.

Figure 2.2 Example LBTT calculation for a property worth £500,000, including ADS

Tax band	Tax Rate (per cent)	Portion of property value in tax band (£)	Tax paid (£)
Residential LBTT (excluding ADS)			
£0 to £145,000	0	145,000	0
£145,000 to £250,000	2	105,000	2,100
£250,000 to £325,000	5	75,000	3,750
£325,000 to £750,000	10	175,000	17,500
£750,000 and above	12	0	0
Total LBTT (excluding ADS) paid			**23,350**
Additional Dwelling Supplement			
Total property value	4	500,000	20,000
Total LBTT paid			**43,350**

Source: Scottish Fiscal Commission

2.4   Our model applies these calculations across the distribution of all transactions in the most recent financial year for which we have data available. To preserve taxpayer anonymity, data from Revenue Scotland has the distribution sorted in price bins – ranges of transactions worth between two values. For example, one price bin in the residential LBTT data contains 90 transactions worth between £200,000 and £205,000.

2.5   We refer to this as the base year of data. The relevant tax rates are applied to the average value of transactions in each price bin to get the tax paid and the result is then multiplied by the forecast number of transactions in that bin to get the total LBTT revenues for that part of the distribution. The final step is to add up the tax payable across all parts of the distribution to get the total LBTT for the financial year.

Behavioural responses

2.6   We estimate two types of behavioural response in our LBTT model. The first is an estimate of taxpayer behaviour in response to increases in LBTT payable stemming from a rise in average property market prices. We refer to this as the behavioural response to fiscal drag. Second, is taxpayer behaviour in response to an LBTT policy change, either through altering the timing of a transaction (forestalling) or through altered buying behaviour in the future as a consequence of the policy change. The reasons for the inclusion of these effects are set out in our paper on how we forecast devolved taxes.[2] This section sets out how we calculate these behavioural responses.

2.7   Taxpayer behaviour is summarised into a single number referred to as a semi-elasticity. This is an estimate of the effect that a tax change will have on either property prices or the number of properties transacted. The semi-elasticity measures the percentage change in either prices or transactions as a result of a one percentage point change in the effective tax rate. The effective tax rate is simply the tax paid as a percentage of the price paid for the property. We use the same elasticities as the OBR for estimating behavioural responses. There is a high degree of uncertainty around these point estimates. The semi-elasticities are set out in Figure 2.3.

2.8   The way to read the table is that in the first year following a 1 percentage point cut in the effective tax rate (for example from 2 per cent to 1 per cent), our model would forecast a 1.5 per cent increase in prices and a 7 per cent increase in transactions in the market for properties valued between £0 and £250,000 relative to what would have been forecast in the absence of the tax change. In the second year following the tax change prices would be 2.25 per cent higher and transactions 6.5 per cent higher than would have been the case absent the 1 percentage point tax change.

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[2] Scottish Fiscal Commission (2021) How we forecast devolved taxes ([link](#))

Figure 2.3 Elasticities used in calculating behavioural responses in LBTT model

	Property value	Price elasticity	Transaction elasticity
Year one	£0 to £250,000	-1.50	-7.00
	£250,001 to £1,000,000	-1.00	-5.00
	Above £1,000,000	-1.00	-6.00
Year two	£0 to £250,000	-2.25	-6.50
	£250,001 to £1,000,000	-1.75	-4.75
	Above £1,000,000	-1.75	-6.00
Steady state	£0 to £250,000	-2.00	-6.00
	£250,001 to £1,000,000	-1.50	-4.50
	Above £1,000,000	-1.50	-6.00

Source: Scottish Fiscal Commission, Office for Budget Responsibility (2019) Property transaction taxes (link).

Reliefs

2.9   Reliefs can be claimed by buyers to reduce their LBTT bill. We apply these as an adjustment to forecast total revenues after accounting for the behavioural response to fiscal drag and any policy changes.

2.10   The most common relief claimed is first time buyers' (FTB) relief, which reduces LBTT paid by someone buying a property for the first time. FTB relief raises the threshold at which LBTT starts to be paid to £175,000, reducing LBTT paid by up to £600.

2.11   Other reliefs mostly relate to the type of property being bought. Because these reliefs are individually quite small as a proportion of all transactions, we do not estimate them individually.

2.12   We apply reliefs as a percentage of total LBTT revenues, rather than calculating them individually. This is because reliefs as a share of total revenues have been quite consistent over time. We estimate the adjustment based on the available historical data provided by Revenue Scotland on the amount of relief claimed.[3] More detailed information on LBTT reliefs can be found on Revenue Scotland's website.[4]

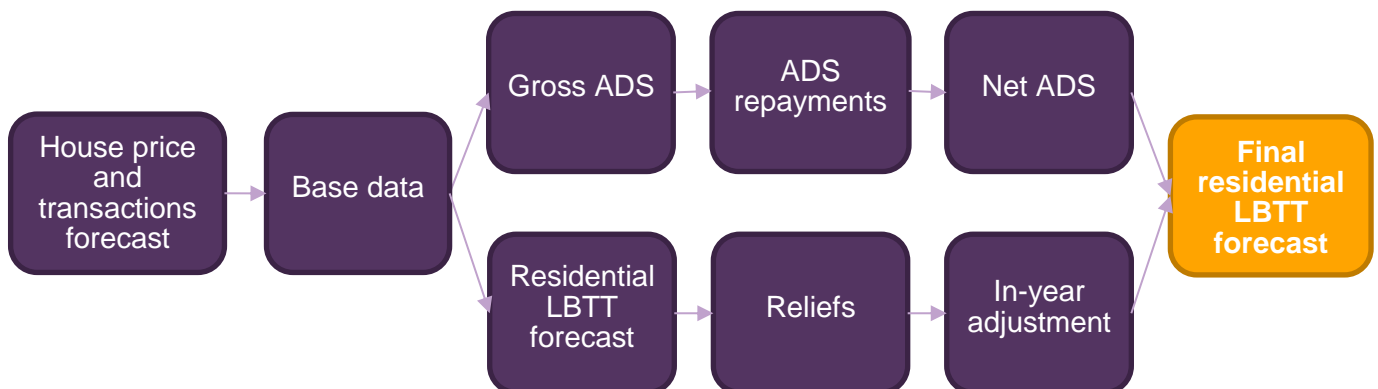
[3] Revenue Scotland (2021) LBTT statistics (link)
[4] Revenue Scotland (2021) LBTT3010 – Tax Reliefs (link)

Details of the Model

Introduction

3.1   This section of the document explains how the forecast spreadsheet works. It talks though each section of the spreadsheet and gives a high-level explanation of the information on each sheet.

3.2   **We proceed in the order in which the user should update the model.** We start with the input data and assumptions, followed by the forecasts for growth in house prices and transactions, then the calculation of LBTT revenues before and after any policy changes.

3.3   As well as explaining how to update the model, we describe the structure of each of the calculations involved. The main calculations described here are the behavioural responses to fiscal drag and policy changes, the calculation of LBTT revenues, and the adjustment for LBTT reliefs.

3.4   Figure 3.1 sets out a high-level overview of how the model is structured. This document is laid out to match Figure 3.1, while the spreadsheet is laid out to present the outputs of the model first. Throughout this chapter, underlined headings are summary tabs in the Excel workbook, while bold headings refer to specific calculations tabs.

Figure 3.1: Overview of residential LBTT forecasting approach

Source: Scottish Fiscal Commission

Modelling Inputs

3.5   Modelling inputs refers to the user defined inputs to the model. **These are the only parts of the model that should be edited**. This section explains how to edit the model outputs, to see how different assumptions will affect LBTT revenues.

Forecast Base Data

3.6   This tab pulls out the relevant data for the base year of the forecast from the Revenue Scotland datasets.[5] It then uses this data to calculate forecast inputs such as the average price of properties in each price bin, and the percentage of transactions which pay ADS.

3.7   The base year is currently set to 2019-20, though this can be changed by the user in cell **E6** if desired. The model will then automatically select the new financial year of data. We recommend that this tab should **not** be edited, because the model is designed to specifically forecast between 2020-

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[5] For a full description of the data, please see Annex A.

21 and 2025-26 for which 2019-20 is the latest full financial year of outturn data. The table below describes the main columns and components which form the basis of our revenues forecast.

Figure 3.6: Main components of the Forecast base data Excel worksheet

Column or component	Contains
N (Gross) (Column D)	Number of transactions in each price bin, before reliefs are accounted for. This is the basis for our transactions forecast.
Total consideration in band (Column F)	Total value of all transactions in bin. Used to calculate the average price in each bin.
Implied average price (Column I)	Number of transactions, total consideration, and average price (calculated as total consideration divided by number of transactions) for the forecast year.
Relief (%) Column (L)	Reliefs as a percentage of pre-relief LBTT revenues. Used to calculate the average share of revenues going to reliefs.
Elasticity Alignments	Takes the elasticities from the 'Determinants and Behavioural' tab, and applies those to each price bin so they can be easily picked up by the forecast year calculations.
ADS Input Data	Number of transactions and total value of properties which paid ADS.
ADS data transformation	Calculates transactions liable for ADS as a share of total transactions for each bin.
	The 'Smoothed Average' column then calculates a rolling average over the 5 nearest price bins to avoid any outliers from the base year of data.

Source: Scottish Fiscal Commission

Determinants and Behavioural

3.8   This tab sets out the forecasts of house price and transactions growth, and the behavioural elasticities used in the model.

3.9   The user can edit the forecasts or elasticities as desired, to judge their effects on the forecast. These will then automatically be applied to the model, and the resulting LBTT revenues will be calculated in the output section.

3.10   To edit the price or transactions forecasts, edit the **growth rates** in the blue coloured sections not the indexes at the bottom of the table. The indexes will automatically be recalculated, and applied to the LBTT revenues forecast. The model allows you to input up to five separate forecasts for prices and transactions. Use the drop down boxes in cells **C10** and **C20** to select which of your five options you want the model to use. This allows you to quickly compare the LBTT implications of multiple different scenarios for the housing market.

3.11 To edit the semi-elasticities, simply change the relevant elasticity number in the table called Residential Price Elasticities. This table starts with cell **C24**. Your chosen semi-elasticities will then automatically be applied to the correct price bands in the distribution data, and used to estimate the behavioural responses to fiscal drag and any policy costings. When editing the semi-elasticities recall that they represent the percentage change in prices or transactions in response to a 1 percentage point change in the effective tax rate. Box 3.1 shows an example of how elasticities are used to estimate taxpayers' response to fiscal drag.

Box 3.1: Estimating the behavioural response to fiscal drag

The effect of taxpayer reactions to fiscal drag is estimated in three steps.

We begin by estimating LBTT tax revenues, after price and transactions growth are applied to the base data. This is our baseline forecast for how LBTT revenues will grow.

We then estimate the effective tax rate (ETR) for transactions in each band of the base distribution. The effective tax rate is the LBTT paid as a proportion of the total value of a property. The effective tax rate of a transaction worth £500,000 (paying no ADS) is:

ETR = LBTT paid / Property value = £23,350 / £500,000 = 4.7 per cent

Fiscal drag is determined by the change in the effective tax rate as property values grow while the tax system remains constant, because the tax revenue from the transaction will increase the effective tax rate.

If the price of the property rises to £510,000 in the next year, this will increase the tax paid and cause a behavioural response to the fiscal drag. Below is an example of how we estimate this:

New ETR = £24,350 / £510,000 = 4.8 per cent

ETR change = ETR now – ETR in base year = 4.8 – 4.7 = 0.1 per cent

Behavioural change = Property price * Price elasticity * ETR change = £510,000 * -1.5 * 0.1% = -£765

We then reduce the price by this behavioural change, and re-calculate LBTT revenues. This estimates how much revenues are reduced by fiscal drag. In this example, the price would become:

Price after fiscal drag = Forecast price + behavioural response = £510,000 - £765 = £509,235

In this example, the LBTT revenue after fiscal drag would be £24,274, or £76 lower than if fiscal drag wasn't accounted for.

Rates and Thresholds

3.12   This worksheet sets out the current LBTT rates and threshold for each year of the forecast. The threshold is the value above which a transaction pays LBTT at a given rate. This sheet also sets out the starting threshold and rate for ADS. The baseline table assumes no change in LBTT policy across the forecast horizon.

3.13   The policy table allows the user to input LBTT rates and bands that differ from current policy. For example, the user might wish to examine the effect of an increase in the starting threshold for LBTT from £145,000 to £200,000, beginning on 1 April 2022. To do this, you simply change cells **M9**, **M11**, **M13**, **M15**, and **M17** from 145,000 to 200,000.

3.14   The new policy parameters are automatically applied to each year of the forecast and the behavioural responses for the user's choice of semi-elasticities are calculated. The results of the policy costing are then shown in the residential LBTT output table, alongside the forecast prior to the tax change and the final forecast including the tax change.

Box 3.1: Example of policy costing calculation

Policy costings are estimated in four steps. This box sets out how we would cost the effects of the 2020-21 rise in the LBTT nil rate band, on a property worth £500,000. In this example, we say that there are 100 transactions worth £500,000, to show the effect of the transactions response.

Static policy costing

We begin by estimating LBTT tax revenues before and after the policy change, and finding the difference between these to get the static costing (here, minus numbers mean lower LBTT revenues, because the policy is a tax cut):

Static costing per property = LBTT after policy – LBTT before policy = £21,250 - £23,350 = - £2,100

Total static costing = -£2,100 * 100 = **-£210,000**

The static costing is the effect of the policy change before any behavioural responses. In this example, because the policy is a tax cut, the behavioural response will raise revenues, as prices and transactions increase. To estimate the behavioural response, we first estimate the difference in the effective tax rate:

ETR before policy = £23,350 / £500,000 = 4.7 %

ETR after policy = £21,250 / £500,000 = 4.3 %

Difference in ETR = ETR after policy – ETR before policy = 4.3% - 4.7% = -0.4%

Prices behaviour effect

We then multiply this by the price elasticity and the price of the property to find the change in prices due to the behavioural response. Because this policy was introduced for 2020-21 only, in this example we use the first year elasticity :

Price Change = Difference in ETR * Price * Elasticity = -0.4% * £500,000 * -1 = £2,100

Effect of price change on total LBTT revenues = Price Change * Marginal tax rate * Number of transactions = £2,100 * 10% * 100 = **£21,000**

Transactions behaviour effect

Similarly, for transactions we estimate the change by multiplying the transactions elasticity, number of transactions, and change in the effective tax rate. We then estimate how these additional transactions will affect LBTT revenues by multiplying the number of new transactions by the tax paid on each one.

Transactions change = Difference in ETR * Transactions * Elasticity = -0.4% * 100 * -5 = 2

Effect of transactions change on total LBTT Revenues = Transactions change * LBTT after policy = 2 * £21,250 = **£41,500**

Final policy costing

These behavioural effects are then added on to the original static costing, to give the final effect of the policy.

Final costing = Static costing + Price effect + Transaction effect = -£210,00 + £21,000 + £41,500 = **-£146,500**

Reliefs

3.15　This tab sets the reliefs assumption for the forecast. The model calculates how much of pre-relief LBTT revenue went to First Time Buyers and other reliefs using historical data from Revenue Scotland. Currently, the model is set to take the average of reliefs claimed in the past two years. The user can average over other years if desired, by editing the formulae in the orange coloured cells (**F5**, **F6** and **F7** for FTB relief and **C4** for other reliefs).

COVID-19 Adjustments

3.16　The model currently has two adjustments for the COVID-19 pandemic. The first of these is outputs from our costing of the temporary increase in the nil rate band from £145,000 to £250,000, while the second is an in-year adjustment to our forecast using the most recently available data at the time of our last forecast in January.

Nil rate band policy

3.17　On 15 July 2020 the Scottish Government raised the nil rate band for residential LBTT, from £145,000 to £250,000. The table below sets out the change in the LBTT rates and bands. As the policy change took effect during the financial year rather than at the start of it, we added two separate calculation worksheets to the model in order to capture the policy change correctly.

Figure 3.4: Rates and bands for residential property transactions, before and after policy change

Per cent (%)	Rates before 15 July	New rates from 15 July
Up to £145,000	0	0
Above £145,000 to £250,000	2	0
Above £250,000 to £325,000	5	5
Above £325,000 to £750,000	10	10
Over £750,000	12	12

Source: Revenue Scotland, Scottish Government

3.18 Our model outputs the results of this change to the 'Nil rate band policy' sheet. This sets out the costings for residential LBTT, how the behavioural changes will affect ADS, and the effect on total LBTT revenues.

3.19 The underlying calculations for the costing can found in the '2020-21' worksheet, starting from column AZ and the '2021-22' worksheet, starting from column BM. These calculate the effects of the policy on LBTT and ADS during 2020-21, the behavioural responses, and how many transactions will be brought forward (forestalled) from 2021-22 into 2020-21. Details on the effect on ADS repayments can be found in the 'ADS Repayment calculation' tab.

2020-21 Outturn Alignment

3.20 This tab aligns our forecast for 2020-21 to the outturn data from Revenue Scotland. Because of the unique effect of restriction in 2020-21 due to the COVID-19 pandemic shifting transactions throughout the year, we use a slightly different method to the approach we would normally use.

3.21 The model begins by splitting our full-year forecast out to a monthly estimate. This uses our monthly transaction forecast, accounting for how the lockdowns led to lower levels of transactions in those months.

3.22 The model then overwrites months for which data are available using the outturn data. This adjustment meant that the January 2021 forecast accounted for changes in the distribution over time, and used the most up-to-date information to update our in-year forecast.

3.23 The blue shaded cells in this tab are sourced from the Revenue Scotland monthly data, while the teal cells are from our request for Revenue Scotland data based on effective date. These two datasets are slightly different, as the blue-shaded data is based on when the LBTT return was submitted to Revenue Scotland, not when the transaction took place. Because submission-date data has the advantage of being more up to date than the effective date data, we have used it here to better reflect the estimated pattern of transactions throughout the year during the pandemic. Normally, we would only use effective-date data in our forecast, because seasonal patterns are not usually as far from previous years as they were in 2020-21.

ADS Repayments

3.24 The two tabs separate our standard ADS repayment calculation, which includes a costing of the effects of the 2020-21 nil rate band rise, and our costing of the extension of the ADS repayments period for transactions that was introduced in response to the COVID-19 pandemic.[6]

ADS Repayment calculation

3.25 This sheet estimates quarterly repayments on the same accounting basis as in Revenue Scotland's Devolved Taxes Accounts using our annual forecast of gross ADS. This is different from the monthly published statistics, because the Annual Accounts record the ADS repayment for the period in which it is made by Revenue Scotland. In the monthly statistics the repayment is accrued back to the month in which the tax return was submitted for the additional dwelling purchase.[7]

3.26 The calculation begins in the Quarterly Repayment Curve table in cell **A20** by taking the average of the monthly data from the Revenue Scotland on the proportion of ADS reclaimed, to get the average repayments curve for ADS. It then changes the monthly average to a quarterly average, and uses this to estimate the percentage of revenues that will be repaid in each quarter. The quarterly repayments profile is shown in Figure 3.5.

Figure 3.5: Quarterly ADS repayments profile

Quarter where repayment is applied	Months since initial transaction	Cumulative percentage of revenues repaid	Percentage of revenues repaid in each quarter
Q1	3 months	10	10
Q2	6 months	16	6
Q3	9 months	20	4
Q4	12 months	23	3
Q5	15 months	24	2
Q6	18 months	26	2
Q7	21 months	26	0

Source: Scottish Fiscal Commission, Revenue Scotland.

3.27 The next step of the calculation is set out in row 8, starting in column C. This combines our financial year forecast for gross ADS (row 6 in the table) with the historical average of the share of gross ADS that has fallen into a given quarter of the financial year (shown in cells **I27** to **L27**). The resulting quarterly gross ADS forecast is shown in row 8, beginning with cell **C8**. Starting in cell **K9**, the quarterly repayments profile (column D starting in cell **D21**) is applied to each quarterly gross ADS forecast, with repayments applied to the relevant tax year. This means that changes to any one year of gross ADS revenue affect the net ADS revenues up to two years in the future. For example, a part of any change in gross ADS revenues in 2020-21 Q4 will continue to be repaid until 2022-23 Q3. This means that changes to any one year of ADS revenues will also feed into future years.

3.28 We calculate repayments using the gross ADS estimate before the 2020-21 rise in the nil rate band (table starting with cell **A4**) and after (table starting in cell **A12**). This is because we expect taxpayer

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[6] For more details on this policy, see our costing document Scottish Fiscal Commission (2021) Supplementary Costings – Coronavirus (Scotland) (No. 2) Bill – May 2020 (link).

[7] For more detail on the differences between the two data types, see Revenue Scotland (2021) Annual Summary of Trends in Devolved Taxes – Appendix B (link).

behaviour to change when ADS transactions will take place, which changes the ADS repayments profile between 2020-21 and 2023-24. This sheet estimates the repayments profile in each case, and finds the difference caused by the introduction of the policy.

ADS Repayments Extension

3.29   This sheet estimates the effects of the extension to the ADS repayments period, introduced on 11 May 2021. Previously, buyers could only reclaim ADS if they sold their previous main dwelling within 18 months of buying a new property. This policy extended that period to 27 months for transactions which took place between 24 September 2018 and 24 March 2020.

3.30   This sheet sets out our estimate of the additional repayments that will take place because of this policy. Because gross ADS outturn is available for those months, it takes the outturn and extends our repayments curve up to 27 months. We assume that repayments will continue in line with the Revenue Scotland data, with the vast majority of repayments taking place within the first seven quarters. Because this costing is based on outturn data, it does not change as the forecasts are updated.

Financial Year Forecasts

3.31   These sheets forecast pre-relief LBTT revenues for each year of the forecast period. Currently they are set up to forecast between 2020-21 and 2025-26. **These worksheets process the model calculations and as such we do not recommend users altering them.** The 2019-20 sheet is set up to account for any differences between our forecast model and the outturn data from Revenue Scotland.

3.32   These sheets go through a number of calculations to get to the final revenues forecast. The table below summarises each step of the revenues forecast. Each calculation step corresponds to headings above the groups of columns containing the calculations.

Figure 3.6: Financial year forecast calculations

Calculation step	Contains
Base Year	Base data for the forecast before any adjustments are applied.
Determinants	Indices of growth in transactions, average price, and the total value of all properties in each price band.
Forecast Year	Number of transactions, total consideration, and average price for the forecast year.
Unadjusted Forecast – Before Fiscal Drag	LBTT revenues calculation before any behavioural adjustments are applied.
Fiscal Drag – Behavioural Response	Calculates taxpayer behaviour in response to Fiscal Drag, and how that changes the total value of properties.
Fiscal Drag – Tax Calculation	Calculates LBTT revenues with inputs adjusted for Fiscal Drag.
Policy Change and Behavioural Change	Calculates LBTT revenues after policy changes, and calculates the taxpayer's behavioural response.
Summary Table	Shows LBTT revenues before and after policy, and the total policy costing.
Additional Dwelling Supplement	Calculates the total value of transactions which pay ADS, and the value of ADS revenues.

Source: Scottish Fiscal Commission

Outputs

3.33   The outputs of the model are our final forecasts of residential LBTT. Outputs are split into three sections, one of total residential LBTT revenues, and the outputs split between the components of residential LBTT (excluding ADS) and ADS. These allow users to see how the forecast is constructed in more detail.

Final Output

3.34   This sheet gives the final forecast. There are two tables, one which gives the final forecast split into residential LBTT and ADS, and one which splits out total residential LBTT into pre-policy and policy costings. The chart shows how our forecast of LBTT changes over time.

Residential LBTT Output

3.35   This sheet gives outputs for residential LBTT (excluding ADS). It sets out the stages of the forecast, accounting for fiscal drag, reliefs, policy changes and the outturn adjustment. The table below explains each stage of the calculations in this sheet.

Figure 3.2: Residential LBTT Outputs

Row name	Contains
Pre-Fiscal Drag	Baseline LBTT revenues forecast, before accounting for any taxpayer behaviour.
Post-Fiscal Drag	LBTT revenues after accounting taxpayers' responses to fiscal drag, before accounting for any policy changes.
Reliefs	Reductions to LBTT based on our forecast of reliefs. These cells calculate how much of LBTT revenues will be claimed as reliefs, using the post-fiscal drag forecast.
Residential LBTT forecast	The forecast, reduced to account for reliefs.
Outturn adjustment	An alignment of the forecast, to account for any differences between the outturn revenues data, and the outputs in the first year of our forecast model
Policy costings	Forecasts of the effect of policy changes to LBTT revenues. This is split into two rows – the 2020-21 nil rate band rise, and a row for any user input policies.
Post-measures residential LBTT	The revenues forecast, with the effects of any policy changes added on.
2020-21 adjustment	The post-measures forecast, with the value for 2020-21 overwritten with our in-year adjustment.

Source: Scottish Fiscal Commission

ADS Output

3.36   This sheet gives outputs for Gross ADS, repayments and revenues net of repayments. The ADS revenues net of repayments is our final forecast.

3.37   Because repayments can be claimed over multiple years, we only align gross ADS to the outturn data. The '2020-21 ADS adjustment' aligns gross ADS to the current outturn, and then applies ADS repayments to this outturn aligned value.

Annex A
Data Sources

A.1   We base our forecast on Revenue Scotland data on LBTT revenues. Every fiscal event, we submit a request to Revenue Scotland, asking for data to help us understand the latest developments in the housing market, and resulting LBTT revenues. Revenue Scotland publish the data we request on the statistics page of their website.[8]

A.2   Our forecasts are based on Revenue Scotland **effective-date** data, which are based on when a property transaction took place. This is different from the monthly **submission-date** data, which are based on when the LBTT return is received by Revenue Scotland. Because the effective-date data more accurately reflect the effects of policy changes and economic developments on the property market (for example, the effective-date data more accurately reflect the lockdowns in response to COVID-19), we believe this is the best data source to base our LBTT forecasts.[9]

Figure A.1: Data Sources

Name of Series	Source	Model last updated
Forecast Data Release, Budget 2020-21	Revenue Scotland	November 2020
Monthly LBTT Data – December 2021	Revenue Scotland	January 2021

Source: Revenue Scotland (2021) Land and Buildings Transaction Tax Statistics (link).

Data details

A.3   We use seven tables from the Revenue Scotland dataset to create our model. These are (by the name of the sheet hosting them in the model):

- **Res monthly outturn:** Monthly data with the number of transactions, mean and median price, and total residential LBTT (excluding ADS) liabilities. This data is used for the in-year adjustment to create our final forecast.

- **Res distribution:** Data on the distribution of residential LBTT by fiscal year, with transactions split into 128 price bins. This contains data on the number of transactions, the total value of transactions in each price bin, and LBTT liabilities before and after reliefs are applied. This is the base data for our residential LBTT forecast.

- **FTB Relief Distribution:** Monthly data on transactions which claim First Time Buyers' relief. Used to estimate the share of LBTT revenues which are subject to reliefs.

- **ADS quarterly outturn:** Quarterly data on Gross ADS revenues and the number of transactions. Used to estimate the average share of annual ADS revenues by quarter, to calculate the quarterly repayments.

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[8] Revenue Scotland (2021) Land and Buildings Transaction Tax Statistics (link).
[9] For more detail on the differences between the two data types, see Revenue Scotland (2021) Annual Summary of Trends in Devolved Taxes – Appendix A (link).

- **ADS distribution:** Data on the distribution of ADS by fiscal year. Used to calculate the share of transactions which pay ADS, which forms the Gross ADS forecast.

- **ADS Reliefs:** Monthly data on the percentage of transactions which claim ADS repayment. Used to estimate the average quarterly ADS repayments rate, which constructs our ADS forecast of how many ADS repayments will take place, and in which year those repayments will take place.

- **2020-21 Pre-Policy:** The portion of 2020-21 before the nil rate band policy was introduced on 15 July 2021. Used as outturn in 2020-21, so our forecast year sheet only needs to cover the policy-affected portion.

- **Monthly Revenues:** Data sourced from Revenue Scotland's monthly publication of LBTT revenues. This data is used for the in-year forecast in 2020-21, because it was the only data we had on how the property market had responded to the easing of the lockdown in the second half of 2020. Normally, we do not explicitly include this data in our forecast.

A.4   For both residential LBTT and ADS, we base our forecasts on the most recent year of data. In our current model, this is 2019-20.

Data preparation

A.5   There are two parts to updating the base data used in the model. Firstly, the data tables under the 'Data Inputs' section of the should have the latest data release from Revenue Scotland added. Then the base-year value in cell **E6** of the 'Forecast base data' sheet should be updated to the required year. This then automatically selects the correct year of data from the Revenue Scotland inputs, which will be picked up as the base data in each forecast year.

Additional information

Abbreviations

ADS	Additional Dwelling Supplement
ETR	Effective Tax Rate
FTB	First Time Buyer
LBTT	Land and Buildings Transaction Tax
SFC	Scottish Fiscal Commission
SG	The Scottish Government

A full glossary of terms is available on our website:

https://www.fiscalcommission.scot/explainers/glossary/

Professional Standards

The Commission is committed to fulfilling our role as an Independent Fiscal Institution, in line with the principles set out by the Organisation for Economic Cooperation and Development (OECD).[10]

The Commission also seeks to adhere to the highest possible standards for analysis. While we do not produce official statistics, we voluntarily comply as far as possible with the UK Statistic Authority's Code of Practice for Statistics. Further details and our statement of voluntary compliance can be found on our website.[11]

Correspondence and enquiries

We welcome comments from users about the content and format of our publications. If you have any feedback or general enquiries about this publication or the commission, please contact info@fiscalcommission.scot. Press enquiries should be sent to press@fiscalcommission.scot.

All charts and tables in this publication have also been made available in spreadsheet form on our website. For technical enquiries about the analysis and data presented in this paper please contact the responsible analyst:

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For general enquiries about this publication or the commission and how we work please contact info@fiscalcommission.scot

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[10] OECD (2014) Recommendation on Principles for Independent Fiscal Institutions (link)
[11] Scottish Fiscal Commission (2018) Compliance with the Code of Practice for Official Statistics (link)