Notes to the consolidated financial statements

Loans and liquid assets (continued)

Accounting policies effective for the year ended December 2020 (continued)

(c) Impairment of financial assets (continued)

Purchased or originated credit impaired (POCI)
Financial assets that are credit impaired at the date of their purchase or origination will be reported in a separate POCI category. For such assets, lifetime ECL are incorporated into the calculation of the effective interest rate on initial recognition. Consequently, POCI assets do not carry an impairment allowance on initial recognition. The amount recognised as a loss subsequent to initial recognition is equal to the change in lifetime ECL since initial recognition of the asset. Subsequent to origination, POCI financial assets that no longer meet the stage 3 criteria will no longer be considered to be credit impaired but will continue to be reported as POCI.

Write offs
A loan or advance is normally written off, either partially or in full, against the related allowance when the proceeds from realising any available security have been received or there is no realistic prospect of recovery (as a result of the customer's insolvency, ceasing to trade or other reason) and the amount of the loss has been determined. Subsequent recoveries of amounts previously written off decrease the amount of impairment losses recorded in the statement of comprehensive income. Financial assets that are written off could still be subject to enforcement activities in order to comply with TSB's procedures for recovery of amounts due. In the event of significant improvements in expected recoveries on stage 3 assets, impairment reversals are recognised as a credit to impairment losses in the income statement.

Modified financial assets and derecognition
A financial asset that is renegotiated is derecognised if the existing agreement is cancelled and a new agreement made on substantially different terms. Where the contractual cash flows of a financial asset have been modified and the financial asset was not derecognised, its gross carrying amount is recalculated as the present value of the modified contractual cash flows, discounted at the original effective interest rate with a gain or loss recognised in the income statement. The contractual terms of a loan may be modified for a number of reasons, primarily due to customers being granted a concession due to their financial difficulty and the loan being considered in forbearance.

Methodology for measuring expected credit losses
The allowance for ECLs is calculated using three main components: a probability of default (PD), a loss given default (LGD); and the exposure at default (EAD). For accounting purposes, the 12 month and lifetime PDs represent the probability of a default occurring over the next 12 months or the lifetime of the financial instruments, respectively, based on conditions existing at the balance sheet date and expected future economic conditions that affect credit risk.

The LGD represents losses expected on default, taking into account the mitigating effect of collateral, its expected value when realised and the time value of money and is discounted using the effective interest rate. The EAD represents the expected balance at default, taking into account the repayment of principal and interest from the balance sheet date to the default event together with any expected drawdown of a committed facility.

ECL is calculated by multiplying the PD (12 month or lifetime depending on the staging of the loan), LGD and EAD. In respect of TSB's mortgages and unsecured personal loans, ECL is calculated from the initial recognition of the loan for the maximum period that TSB is exposed to credit risk which takes into account expected customer repayment behaviour. In respect of revolving loans, such as overdrafts and credit cards, TSB's exposure to credit risk is not limited to the contractual period and the expected life is calculated based on the estimated behavioural life of the loan and associated undrawn facility which is currently ten years. The measurement of ECL also takes into account all reasonable and supportable information, including forward looking economic scenarios to calculate a probability weighted forward looking estimate.

(d) Derecognition of financial assets
Financial assets are derecognised when the contractual right to receive cash flows from those assets has expired or when TSB has transferred its contractual right to receive the cash flows from the assets and either (i) substantially all of the risks and rewards of ownership have been transferred; or (ii) TSB has neither retained nor transferred substantially all of the risks and rewards but has transferred control.

Where TSB enters into securitisation transactions to finance certain loans and advances to customers using a structured entity funded by the issue of debt, these loans and advances continue to be recognised, as TSB has not transferred substantially all the risks and rewards. A corresponding liability for the funding is also recognised.

Financial instruments sold under a repurchase agreement, under which substantially all the risks and rewards of ownership are retained by TSB, continue to be recognised on the balance sheet and the sale proceeds are recognised as a financial liability. The difference between the sale and repurchase price is recognised over the life of the agreement as interest expense using the effective interest method.

Notes to the consolidated financial statements

Loans and liquid assets (continued)

5. Debt securities

Fair value through other comprehensive income (FVOCI)	2020 £ million	2019 £ million
UK Gilts	**1,405.4**	1,171.4
Supranational and development bank bonds	**91.5**	416.0
Total debt securities at FVOCI	**1,496.9**	1,587.4

Amortised cost	2020 £ million	2019 £ million
UK Gilts	**555.3**	102.9
Supranational and development bank bonds	**356.9**	279.4
Covered bonds	**211.5**	166.3
Total debt securities at amortised cost	**1,123.7**	548.6

Debt securities of £1,496.9 million (2019: £1,587.4 million) are held as part of the liquid asset portfolio, where the business model is to hold the assets to collect the contractual cash flows and to generate cash flows from selling the assets. These assets are carried at FVOCI.

Debt securities of £1,123.7 million (2019: £548.6 million) are held as part of a second, separate liquid asset portfolio, where the business model is solely to hold the assets to collect the contractual cash flows. These assets are carried at amortised cost.

At 31 December 2020, UK gilts at FVOCI with a carrying value of £225.8 million (2019: £nil) were subject to repurchase agreements. A further £190.1 million had been pledged as collateral (2019: £131.7 million).

6. Loans to credit institutions

	2020 £ million	2019 £ million
Cash deposits held	**43.3**	373.2
Total loans to credit institutions	**43.3**	373.2

At 31 December 2020, restricted cash deposits were held in respect of TSB's covered bond programme. At 31 December 2019, cash deposits were held for both TSB securitisation programmes (£342.5 million) and covered bond programmes (£30.7 million). As described in note 2, during 2020, TSB's securitisation programmes matured and the associated deposit balances were no longer required.

Notes to the consolidated financial statements

Loans and liquid assets (continued)

7. Loans and advances to customers

	2020 £ million	2019 £ million
Secured (retail)	**30,790.4**	29,189.2
Unsecured portfolios	**1,992.7**	1,855.1
Business banking	**715.3**	131.1
	33,498.4	31,175.4
Valuation adjustments[(1)]	**58.5**	63.4
Gross loans and advances to customers	**33,556.9**	31,238.8
Allowance for credit impairment losses[(2)] (note 9)	**(239.0)**	(163.0)
Loans and advances to customers	**33,317.9**	31,075.8

(1) Comprises accrued interest of £19.1 million (2019: £14.2 million) and effective interest rate adjustments of £39.4 million (2019: £49.2 million).
(2) Comprises allowance for credit impairment losses on secured lending of £43.4 million (2019: £34.7 million), unsecured lending of £187.6 million (2019: £125.1 million) and business banking lending of £8.0million (2019: £3.2 million).

In the normal course of business, TSB provides commitments to lend to its customers as presented below.

	2020 £ million	2019 £ million
Credit cards	**2,956.9**	2,697.5
Mortgage offers made	**2,164.1**	1,164.5
Current accounts and other lending	**1,130.5**	1,091.6
Total commitments	**6,251.5**	4,953.6

The credit impairment provision in respect of total loan commitments is shown in note 30.

8. Other advances

	2020 £ million	2019 £ million
Items in the course of collection from credit institutions	**21.7**	16.6
Items in the course of collection from non-credit institutions	**2.8**	0.4
Collateral placed at central clearing houses	**190.8**	257.3
Collateral placed with credit institutions	**4.9**	5.3
Total other advances	**220.2**	279.6

Notes to the consolidated financial statements

Loans and liquid assets (continued)

9. Allowance for credit impairment losses on financial assets at amortised cost

The following tables detail changes in the gross carrying value of loans and advances to customers and the allowance for credit impairment losses. In addition, the movement in expected credit loss provisions in respect of off balance sheet exposures is shown in note 30. For all other classes of financial assets to which TSB is exposed to credit risk (as listed in note 19(i) on page 87), expected credit losses have been assessed as immaterial.

	Stage 1		Stage 2		Stage 3		POCI [(1)]		Total	
TSB	Gross Loans £ million	Allow. for credit impairment losses £ million	Gross Loans £ million	Allow. for credit impairment losses £ million	Gross Loans £ million	Allow. for credit impairment losses £ million	Gross Loans £ million	Allow. for credit impairment losses £ million	Gross Loans £ million	Allow. for credit impairment losses £ million
At 1 January 2019	26,678.8	(50.8)	2,877.9	(69.7)	398.3	(71.0)	190.0	(7.2)	30,145.0	(198.7)
Changes reflected in impairment losses:										
Increases due to originations	6,206.7	(23.3)	34.8	–	11.2	–	5.7	–	6,258.4	(23.3)
Decreases due to repayments	(4,400.8)	10.5	(612.7)	3.4	(72.4)	2.2	(34.4)	0.1	(5,120.3)	16.2
Changes in credit risk [(2)]	–	75.1	–	(82.5)	–	(23.7)	–	4.9	–	(26.2)
Amounts written off	(0.1)	–	(0.8)	0.7	(106.8)	68.3	–	–	(107.7)	69.0
Transfers between stages	(302.9)	(63.8)	150.7	87.3	152.2	(23.5)	–	–	–	–
To stage 1	3,433.0	(80.6)	(3,413.5)	77.4	(19.5)	3.2	–	–	–	–
To stage 2	(3,710.8)	16.2	3,784.3	(22.2)	(73.5)	6.0	–	–	–	–
To stage 3	(25.1)	0.6	(220.1)	32.1	245.2	(32.7)	–	–	–	–
At 31 December 2019	28,181.7	(52.3)	2,449.9	(60.8)	382.5	(47.7)	161.3	(2.2)	31,175.4	(163.0)
Transfers to credit impairment provisions (note 30)	**–**	**8.6**	**–**	**6.5**	**–**	**0.2**	**–**	**–**	**–**	**15.3**
Changes reflected in impairment losses:										
Increases due to originations	**7,594.3**	**(48.1)**	**80.0**	**(0.3)**	**15.5**	**–**	**6.3**	**–**	**7,696.1**	**(48.4)**
Decreases due to repayments	**(4,725.5)**	**16.9**	**(480.2)**	**4.0**	**(76.8)**	**2.5**	**(23.6)**	**–**	**(5,306.1)**	**23.4**
Changes in credit risk [(2)]	**–**	**30.1**	**–**	**(116.6)**	**–**	**(22.6)**	**–**	**(0.6)**	**-**	**(109.7)**
Amounts written off	**–**	**–**	**–**	**–**	**(67.0)**	**43.4**	**–**	**–**	**(67.0)**	**43.4**
Transfers between stages:	**(1,297.0)**	**(22.1)**	**1,151.7**	**48.0**	**145.3**	**(25.9)**	**–**	**–**	**–**	**–**
To stage 1	**3,469.8**	**(107.9)**	**(3,454.0)**	**104.9**	**(15.8)**	**3.0**	**–**	**–**	**–**	**–**
To stage 2	**(4,746.3)**	**85.2**	**4,824.3**	**(90.7)**	**(78.0)**	**5.5**	**–**	**–**	**–**	**–**
To stage 3	**(20.5)**	**0.6**	**(218.6)**	**33.8**	**239.1**	**(34.4)**	**–**	**–**	**–**	**–**
At 31 December 2020	**29,753.5**	**(66.9)**	**3,201.4**	**(119.2)**	**399.5**	**(50.1)**	**144.0**	**(2.8)**	**33,498.4**	**(239.0)**

(1) Purchased or originated as credit impaired.
(2) Includes changes to the allowance for credit impairment losses arising from stage transfers and other changes to risk parameters.

Impairment losses recognised in the income statement of £162.7 million comprise of changes in the impairment allowance reflected in the lines under the heading 'changes reflected in impairment losses' together with the net amounts written off as reflected in the table above. In addition, impairment losses includes the subsequent recovery of amounts previously written off and other amounts charged directly to the income statement.

Gross loans balances increased by £2,323.0 million to £33,498.4 million. This was driven by secured (retail) lending which increased by £1,601.2 million reflecting strong trading performance, particularly in the second half of 2020 following lower levels of activity in the first half due to the initial COVID-19 lockdown restrictions. In addition, business banking increased by £584.1 million, primarily due to lending through the Bounce Back Loan Scheme. Growth in unsecured balances was more muted, increasing £137.7 million, reflecting lower demand as consumers reduced spending during 2020.

Stage 1 gross loans increased by £1,571.8 million reflecting the increase described above partially offset by a net transfer of £1,297.0 million to stages 2 and 3. This reflected the deterioration in the economic outlook from COVID-19. Gross transfers from stage 1 to stage 2 of £4,746.3 million reflect the initial impact of COVID-19. This was partially offset by balances transferring back from stage 2 to stage 1 in the second half of the year as customer behaviour and economic forecasts settled and the effect of the change to the thresholds for assessing significant increase in credit risk, as described on page 77. Determining the threshold between stage 1 and 2 requires judgment in assessing significant increase in credit risk as also described on page 77.

Stage 2 balances increased by £751.5 million reflecting the net transfers in from stage 1, partially offset by ongoing customer repayments of balances. Stage 3 balances increased by £17.0 million reflecting the deteriorating economic environment in 2020 but this was largely offset by loan balances written off and customer repayments.

Gross loans written off during 2020 of £67.0 million (2019: £107.7 million) continue to be subject to the right to undertake enforcement activities, despite there being no realistic prospect of recovery.

Notes to the consolidated financial statements

Loans and liquid assets (continued)

9. Allowance for credit impairment losses on financial assets at amortised cost (continued)

The tables below set out movements analysed between TSB's mortgage portfolios and other lending classes.

	Stage 1		Stage 2		Stage 3		POCI		Total	
Secured (retail)	Gross Loans £ million	Allow. for credit impair-ment losses £ million	Gross Loans £ million	Allow. for credit impair-ment losses £ million	Gross Loans £ million	Allow. for credit impair-ment losses £ million	Gross Loans £ million	Allow. for credit impair-ment losses £ million	Gross Loans £ million	Allow. for credit impair-ment losses £ million
At 1 January 2019	25,202.3	(17.6)	2,250.9	(4.4)	287.3	(7.5)	189.8	(7.0)	27,930.3	(36.5)
Changes reflected in impairment losses:										
Increases due to originations	5,823.1	(18.3)	6.3	–	3.0	–	3.4	–	5,835.8	(18.3)
Decreases due to repayments	(4,054.6)	9.7	(425.6)	0.8	(62.8)	1.0	(32.0)	–	(4,575.0)	11.5
Changes in credit risk	–	12.8	–	(7.7)	–	(1.4)	–	4.9	–	8.6
Amounts written off	–	–	–	–	(1.9)	–	–	–	(1.9)	–
Transfers between stages	(223.4)	(2.9)	145.3	3.8	78.1	(0.9)	–	–	–	–
To stage 1	2,776.5	(5.6)	(2,762.9)	5.5	(13.6)	0.1	–	–	–	–
To stage 2	(2,990.1)	2.7	3,055.7	(3.9)	(65.6)	1.2	–	–	–	–
To stage 3	(9.8)		(147.5)	2.2	157.3	(2.2)	–	–	–	–
At 31 December 2019	26,747.4	(16.3)	1,976.9	(7.5)	303.7	(8.8)	161.2	(2.1)	29,189.2	(34.7)
Transfers to credit impairment provisions (note 30)	**–**	**–**	**–**	**–**	**–**	**0.1**	**–**	**–**	**–**	**0.1**
Changes reflected in impairment losses:										
Increases due to originations	**6,164.0**	**(32.4)**	**13.1**	**(0.3)**	**6.0**	**–**	**4.5**	**–**	**6,187.6**	**(32.7)**
Decreases due to repayments	**(4,193.9)**	**15.9**	**(317.1)**	**1.3**	**(53.0)**	**2.3**	**(21.9)**	**–**	**(4,585.9)**	**19.5**
Changes in credit risk	**–**	**10.3**	**–**	**(5.3)**	**–**	**0.1**	**–**	**(0.7)**	**–**	**4.4**
Amounts written off	**–**	**–**	**–**	**–**	**(0.5)**	**–**	**–**	**–**	**(0.5)**	**–**
Transfers between stages:	**(943.7)**	**11.9**	**867.3**	**(8.0)**	**76.4**	**(3.9)**	**–**	**–**	**–**	**–**
To stage 1	**2,667.8**	**(7.8)**	**(2,656.9)**	**7.5**	**(10.9)**	**0.3**	**–**	**–**	**–**	**–**
To stage 2	**(3,607.4)**	**19.6**	**3,679.7**	**(21.3)**	**(72.3)**	**1.7**	**–**	**–**	**–**	**–**
To stage 3	**(4.1)**	**0.1**	**(155.5)**	**5.8**	**159.6**	**(5.9)**	**–**	**–**	**–**	**–**
At 31 December 2020	**27,773.8**	**(10.6)**	**2,540.2**	**(19.8)**	**332.6**	**(10.2)**	**143.8**	**(2.8)**	**30,790.4**	**(43.4)**

Unsecured and business banking	£ million	£ million	£ million	£ million	£ million	£ million	£ million	£ million	£ million	£ million
At 1 January 2019	1476.5	(33.2)	627.0	(65.3)	111.0	(63.5)	0.2	(0.2)	2,214.7	(162.2)
Changes reflected in impairment losses:										
Increases due to originations	383.6	(5.0)	28.5	–	8.2	–	2.3	–	422.6	(5.0)
Decreases due to repayments	(346.2)	0.8	(187.1)	2.6	(9.6)	1.2	(2.4)	0.1	(545.3)	4.7
Changes in credit risk	–	62.3	–	(74.8)	–	(22.3)	–	–	–	(34.8)
Amounts written off	(0.1)	–	(0.8)	0.7	(104.9)	68.3	–	–	(105.8)	69.0
Transfers between stages:	(79.5)	(60.9)	5.4	83.5	74.1	(22.6)	–	–	–	–
To stage 1	656.5	(75.0)	(650.6)	71.9	(5.9)	3.1	–	–	–	–
To stage 2	(720.7)	13.5	728.6	(18.3)	(7.9)	4.8	–	–	–	–
To stage 3	(15.3)	0.6	(72.6)	29.9	87.9	(30.5)	–	–	–	–
At 31 December 2019	1,434.3	(36.0)	473.0	(53.3)	78.8	(38.9)	0.1	(0.1)	1,986.2	(128.3)
Business banking portfolio[(1)]	**(118.1)**	**1.7**	**(9.6)**	**0.7**	**(3.5)**	**0.8**	**-**	**-**	**(131.2)**	**3.2**
Unsecured - at 1 January 2020	**1,316.2**	**(34.3)**	**463.4**	**(52.6)**	**75.3**	**(38.1)**	**0.1**	**(0.1)**	**1,855.0**	**(125.1)**
Transfers to credit impairment provisions	**–**	**8.3**	**–**	**6.4**	**–**	**0.1**	**–**	**–**	**–**	**14.8**
Changes reflected in impairment losses:										
Increases due to originations	**708.0**	**(13.1)**	**10.8**	**–**	**7.0**	**–**	**1.8**	**–**	**727.6**	**(13.1)**
Decreases due to repayments	**(357.3)**	**1.0**	**(143.8)**	**2.6**	**(20.9)**	**0.1**	**(1.7)**	**–**	**(523.7)**	**3.7**
Changes in credit risk	**–**	**8.2**	**–**	**(96.9)**	**-**	**(22.7)**	**–**	**0.1**	**–**	**(111.3)**
Amounts written off	**–**	**–**	**–**	**–**	**(66.2)**	**43.4**	**–**	**–**	**(66.2)**	**43.4**
Transfers between stages:	**(271.2)**	**(21.2)**	**204.4**	**42.7**	**66.8**	**(21.5)**	**–**	**–**	**–**	**–**
To stage 1	**676.5**	**(81.8)**	**(672.1)**	**79.5**	**(4.4)**	**2.3**	**–**	**–**	**–**	**–**
To stage 2	**(931.5)**	**60.1**	**936.6**	**(63.7)**	**(5.1)**	**3.6**	**–**	**–**	**–**	**–**
To stage 3	**(16.2)**	**0.5**	**(60.1)**	**26.9**	**76.3**	**(27.4)**	**–**	**–**	**–**	**–**
Unsecured - At 31 December 2020	**1,395.7**	**(51.1)**	**534.8**	**(97.8)**	**62.0**	**(38.7)**	**0.2**	**–**	**1,992.7**	**(187.6)**

(1) Business banking is presented as a separate class of financial instrument in 2020.

Notes to the consolidated financial statements

Loans and liquid assets (continued)

9. Allowance for credit impairment losses on financial assets at amortised cost (continued)

During 2020, the business banking portfolio increased significantly as a result of lending under the Bounce Back Loan Scheme. Given the different risk characteristics in this portfolio relative to the unsecured portfolios, business banking is considered to be a separate asset class of financial instrument and movements during 2020 in gross loans and allowances have been presented separately.

	Stage 1		Stage 2		Stage 3		POCI		Total	
Business banking	**Gross Loans £ million**	**Allow. for credit impair-ment losses £ million**	**Gross Loans £ million**	**Allow. for credit impair-ment losses £ million**	**Gross Loans £ million**	**Allow. for credit impair-ment losses £ million**	**Gross Loans £ million**	**Allow. for credit impair-ment losses £ million**	**Gross Loans £ million**	**Allow. for credit impair-ment losses £ million**
At 31 December 2019	118.1	(1.7)	9.6	(0.7)	3.5	(0.8)	–	–	131.2	(3.2)
Transfers to credit impairment provisions	**–**	**0.3**	**–**	**0.1**	**–**		**–**	**–**	**–**	**0.4**
Changes reflected in impairment losses:										
Increases due to originations	**722.3**	**(2.6)**	**56.1**	**–**	**2.5**	**-**	**–**	**–**	**780.9**	**(2.6)**
Decreases due to repayments	**(174.3)**	**–**	**(19.3)**	**0.1**	**(2.9)**	**0.1**	**–**	**–**	**(196.5)**	**0.2**
Changes in credit risk	**–**	**11.6**	**-**	**(14.4)**	**–**	**–**	**–**	**–**	**–**	**(2.8)**
Amounts written off	**–**	**–**	**–**	**–**	**(0.3)**	**–**	**–**	**–**	**(0.3)**	**–**
Transfers between stages:	**(82.1)**	**(12.8)**	**80.0**	**13.3**	**2.1**	**(0.5)**	**–**	**–**	**–**	**–**
To stage 1	**125.5**	**(18.3)**	**(125.0)**	**17.9**	**(0.5)**	**0.4**	**–**	**–**	**–**	**–**
To stage 2	**(207.4)**	**5.5**	**208.0**	**(5.7)**	**(0.6)**	**0.2**	**–**	**–**	**–**	**–**
To stage 3	**(0.2)**	**–**	**(3.0)**	**1.1**	**3.2**	**(1.1)**	**–**	**–**	**–**	**–**
At 31 December 2020	**584.0**	**(5.2)**	**126.4**	**(1.6)**	**4.9**	**(1.2)**	**–**	**–**	**715.3**	**(8.0)**

As described on page 77, a post model adjustment (PMA) of £2.3 million was recognised in the impairment allowance in relation to Bounce Back Loan Scheme loans underwritten in the year where it has been assessed that there is a possibility TSB will not be able to call on the government guarantee. This reflects a risk that there may be additional Bounce Back Loan exposures where TSB might not be able to call on the government guarantee. TSB has sought to mitigate this risk through a number of internal actions which include scheme eligibility assessments for individual loans and proactive discussions with the British Business Bank.

Significant estimates - measurement uncertainty and sensitivity analysis of expected credit losses
The measurement of the allowance for credit impairment losses is complex and involves the use of significant judgement and estimation uncertainty as follows:

- Estimation uncertainty from the use of multiple forward-looking economic scenarios and associated weightings;
- Judgements required to adjust modelled outcomes to reflect where they are not considered to fully capture expected credit losses (referred to as PMAs); and
- Judgements required to assess when a financial asset has experienced a significant increase in credit risk.

Forecast economic scenarios
TSB currently uses four economic scenarios, representative of management's view of forecast economic conditions. Key scenario assumptions are set internally for GDP, house prices, unemployment and interest rates. The forecast for GDP is compared with data published by the Bank of England and other external sources to ensure the scenarios are free from bias and reflect independent external information.

Severe downside scenarios, when considered appropriate, are typically aligned with those used for ICAAP purposes and are considered to be tail risk scenarios, used to capture non-linearity in expected credit losses. This is where the relationship of credit losses to the relevant economic variables which influence credit losses (e.g. house prices or unemployment) is such that each unit of change in an economic variable does not lead to a uniform change in expected credit losses. For example, credit losses in secured portfolios may remain subdued in an environment where house prices exhibit only a small decrease. However, after a certain level of house price fall credit losses would be forecast to increase more meaningfully where collateral values fall below the level of the customer loan.

Scenarios and associated weightings are reviewed monthly by an internal forum and updated, as necessary, to enable significant developments to be taken into account in measuring credit impairment provisions. The scenarios and weightings are presented quarterly for review and approval for use by the Audit Committee.

Notes to the consolidated financial statements

Loans and liquid assets (continued)

9. Allowance for credit impairment losses on financial assets at amortised cost (continued)

Forecast economic scenarios (continued)
The four scenarios, together with the weightings applied at December 2020, are described below. By necessity, these scenarios have been updated significantly from the scenarios used in 2019 to reflect the impact in 2020 of COVID-19. At the date of this report, GDP was expected to have decreased by 11.5% in 2020 while house prices remained buoyant and unemployment stable, reflecting support from the government through measures such as the various job protection schemes and relaxations to stamp duty on house purchases. Throughout 2020, the potential outcomes from the UK:EU trade agreement negotiations were monitored and reflected in the suite of economic scenarios used throughout the year. Subsequent to the agreement reached in December, scenarios that considered the specific risks of 'no deal' Brexit were removed.

Base case scenario: Cautious recovery following the COVID-19 economic 'shock' in 2020
- Following a significant fall in 2020, a recovery in GDP commences from early 2021 with a return to pre-pandemic levels in the first half of 2022. Employment levels continue to be maintained by government support schemes, with unemployment forecast to peak in the second quarter of 2021 at 7.3%. Forecast house prices are expected to suffer a peak to trough fall of 12% by the second half of 2021 reflecting the anticipated increase in unemployment and the end of the current temporary concession in stamp duty.

Downside scenario: Recovery stalls in the first half of 2021
- GDP begins to recover in H1 2021, but at a slower rate than the base case scenario, as restrictions remain in place. Certain sectors, such as hospitality and leisure, are particularly damaged. Unemployment rises sharply, peaking at 8.7% in the second quarter of 2021 due to weak recovery and the ending of the Government's support schemes. Unemployment eventually begins to fall but remains higher than the base case due to long-term scarring effects. In response, the BoE cuts Bank Rate to zero. House prices suffer a peak to trough fall of 15% in this scenario.

Severe downside (low interest rate) scenario: Uncontrolled pandemic
- Designed to capture the risks of a high impact, low probability scenario where the COVID-19 pandemic cannot be controlled. Confidence collapses and there is a significant flight from higher risk assets. GDP stagnates in 2021 after another decrease in Q1 2021. Unemployment rises to a peak of 10.8% in Q2 2021 and drives a house price fall of 23%, despite Bank Rate being cut to zero.

Upside: Rapid Recovery
- Developments in health/technology eradicate the COVID-19 virus more quickly than in the base case scenario and the economy is boosted by supportive fiscal and monetary policies. Unemployment rises less sharply in H1 2021 than in the base case and reverses more quickly due to the stronger recovery. The BoE leaves Bank Rate on hold until Q4 2022. By this time, GDP has comfortably surpassed its Q4 2019 level, and unemployment is below 4%. House prices fall in 2021 but recover more rapidly than the base case in 2022 and beyond.

The table below shows the weightings applied to each of the economic scenarios applied in measuring the allowance for credit impairment losses, together with ranges of the most sensitive inputs of unemployment, house prices, and interest rates:

						At 31 December 2020
		Base case	**Upside**		**Downside**	**Severe Downside**
Scenario weighting		**50 %**	**10 %**		**35 %**	**5 %**
Unemployment	Peak rate	**7.3 %**	**6.1 %**		**8.7 %**	**10.8 %**
House prices	Peak-to-trough fall	**(11.8)%**	**(6.9)%**		**(15.2)%**	**(22.5)%**
Interest rates	Most extreme rate(1)	**0.25 %**	**1.25 %**		**0.0 %**	**0.0 %**
						At 31 December 2019
		Base case	Upside	Mild Down	Downside	Severe Down %
Scenario weighting		40%	10%	20%	25%	5%
Unemployment	Peak rate	3.8%	3.8%	5.1%	6.3%	9.2%
House prices	Peak-to-trough fall	+ve	+ve	(14.0)%	(20.5)%	(34.5)%
Interest rates	Most extreme rate(1)	0.75%	2.0%	0.25%	0.0%	4.0%

(1) The most extreme rate is the interest rate furthest from the current rate, either positive or negative.

Notes to the consolidated financial statements

Loans and liquid assets (continued)

9. Allowance for credit impairment losses on financial assets at amortised cost (continued)

The table below sets out the key economic variables used in the scenarios, together with their weighted averages.

Scenario	Weighting	Economic measure[1]	2021	2022	2023	2024	2025
Upside	10%	GDP	**9.3%**	**6.7%**	**1.7%**	**1.6%**	**1.6%**
		Unemployment	**4.3%**	**3.4%**	**3.3%**	**3.3%**	**3.3%**
		House prices	**(5.8)%**	**4.4%**	**4.8%**	**5.0%**	**3.6%**
		Interest rates	**0.1%**	**0.25%**	**0.75%**	**1.25%**	**1.25%**
Base	50%	GDP	**6.1%**	**5.8%**	**1.5%**	**1.4%**	**1.4%**
		Unemployment	**6.8%**	**5.0%**	**4.5%**	**4.2%**	**4.0%**
		House prices	**(11.8)%**	**7.3%**	**5.6%**	**5.0%**	**3.6%**
		Interest rates	**0.1%**	**0.1%**	**0.1%**	**0.1%**	**0.25%**
Downside	35%	GDP	**3.5%**	**4.9%**	**1.3%**	**1.4%**	**1.4%**
		Unemployment	**8.0%**	**6.4%**	**5.6%**	**5.0%**	**5.0%**
		House prices	**(13.5)%**	**3.1%**	**5.6%**	**5.0%**	**3.6%**
		Interest rates	**0%**	**0%**	**0%**	**0%**	**0%**
Severe Down	5%	GDP	**0.8%**	**3.6%**	**1.2%**	**1.4%**	**1.4%**
		Unemployment	**9.3%**	**7.1%**	**6.5%**	**6.1%**	**5.6%**
		House prices	**(13.5)%**	**(10.3)%**	**0%**	**0%**	**3.4%**
		Interest rates	**0%**	**0%**	**0%**	**0%**	**0%**
Weighted average	n/a	GDP	**5.2%**	**5.5%**	**1.4%**	**1.4%**	**1.4%**
		Unemployment	**7.0%**	**5.4%**	**4.9%**	**4.5%**	**4.4%**
		House prices	**(11.9)%**	**4.7%**	**5.2%**	**4.8%**	**3.6%**
		Interest rates	**0.1%**	**0.1%**	**0.1%**	**0.2%**	**0.25%**

(1) GDP is presented as the annual change in forecast quarterly average GDP for each year. Unemployment and interest rates are presented as the Q4 forecast for each year. House price changes are presented as the year-on-year change in Q4 forecast house prices in each year.

Key variables in each of the scenarios, as set out above, are assumed to revert to a long term constant rate over a period of up to two years after the end of the initial forecast period. The long term reversionary rates used are forecast as follows: GDP 1.5% (2019: 1.5%), unemployment 4.0% (2019: 3.6%); interest rates 1.0% (2019: 1.25%); and house price growth of 3.75% (2019: 3.75%) per annum.

Sensitivity to alternative weightings

The calculation of the allowance for credit impairment losses is sensitive to changes in the chosen weightings. The table below summarises the impact on the allowance for credit impairment losses from the use of alternative scenario weightings. The probability-weighted allowance for credit impairment losses was 10% higher (2019: 21% higher) than if it had been measured using only the base case scenario assumptions.

	2020 £ million	2019 £ million
Allowance for credit losses	**239.0**	163.0
Provision for off balance sheet exposures (note 30)	**19.2**	2.6
Combined on and off balance sheet - using weighted forecast	**258.2**	165.6
Increase/(decrease) if a 100% weighting was applied to each scenario:		
Upside	**(50.0)**	(34.0)
Base case	**(23.0)**	(29.0)
Downside	**33.0**	20.0
Severe down – low rate	**177.0**	208.0

Notes to the consolidated financial statements

Loans and liquid assets (continued)

9. Allowance for credit impairment losses on financial assets at amortised cost (continued)

Judgements required in assessing post model adjustments
At 31 December 2020, the allowance of £239.0 million (2019: £163.0 million) included PMAs of £41.2 million (2019: £57.6 million) as shown in the table below:

	2020 £ million	2019 £ million
COVID-19 related (consumer behaviour)	**38.0**	–
Impairment default triggers	**14.7**	17.4
Model performance	**19.9**	16.8
Operational matters	**13.0**	23.4
Economic scenarios	**(11.2)**	–
Bounce Back Loan Scheme	**(33.2)**	–
Total	**41.2**	57.6

The suite of methodologies used to calculate PMAs are grounded in similar principles to those adopted for the core impairment models, with the inputs and PMA methodologies subject to regular oversight and PMA outputs reviewed in a consistent manner to the output from the core impairment models. The key categories of PMAs are as follows:

- COVID-19 related PMAs capture the increased risk of credit losses in all portfolios arising from changes in consumer behaviour which have not been considered in conditioning the impairment models. For example, circumstances, such as customer repayment holidays, static bureau data reporting, and associated exclusion from forbearance classifications, together with changes in customer spending patterns are changing the indicators of underlying credit risk but are not being captured by the impairment models.

- Impairment default trigger PMAs primarily reflect management's judgement that impairment models do not fully capture the risks of credit losses arising from interest only mortgage redemptions and certain mortgage customer's current affordability benefitting from low interest rates.

- Model performance PMAs capture adjustments for known weaknesses in the impairment models for secured (retail) and unsecured portfolios. These have been temporarily remediated through PMAs until a rebuild of the model or model component can be completed and implemented within the core ECL model framework.

- PMAs to address operational matters have reduced significantly in 2020 reflecting the clearance of historical, migration related delays to unsecured loan charge offs and the adoption, during 2020, of updated house price indexation data.

- The economic scenarios PMA was required to reflect late changes in economic scenarios that took account of Brexit negotiations and COVID-19 developments in the finalisation of the approved economic scenarios and associated weightings, as described starting on page 74.

- A PMA to reduce the modelled allowance for credit impairment losses by £35.5 million in respect of Bounce Back loans was required as the government guarantee is not a feature of the associated business banking loss given default model. This was partially offset by a £2.3 million PMA that increased the impairment allowance to reflect the risk of reduced recovery under the government guarantee arising from potential deficiencies in operational processes.

Judgements required in assessing significant increase in credit risk
TSB's policy for determining when a financial asset has experienced a significant increase in credit risk is explained on page 68. In applying this policy, the key judgement is the level of increase in the residual lifetime probability of default (PD) as compared to the equivalent position at the origination of the financial asset. At 31 December 2020, secured (retail) loans were considered to have experienced a significant increase in credit risk (and be in stage 2) when the residual lifetime PD had increased by a factor of 2 times the origination PD and the increase was between 10bps and 410bps (2019: 10bps). In addition, the threshold was 2 times the origination PD and the increase was between 250bps and 770bps (2019: 30bps-100bps) for unsecured and more than 50bps for business banking. In assessing the appropriateness of this judgement, management applied a framework that considers a number of quantitative factors, including the accuracy of the thresholds and their predictive ability. In the light of analysis undertaken during 2020, changes in thresholds resulted in £578.6 million of gross loans being transferred from stage 2 to stage 1, together with the associated impairment allowance of £0.1 million.

Consistent with the COVID-19 related PMA described above, a PMA was applied to the modelled stage allocation of gross loans to capture the increased risk of credit losses arising from changes in consumer behaviour which have not been considered in conditioning the impairment models. This resulted in the transfer of £1,193.1 million of gross balances from stage 1 to stage 2 and £24.3 million from stage 2 to stage 3.

Notes to the consolidated financial statements

Loans and liquid assets (continued)

10. Fair value of financial assets

The following table summarises the carrying values, fair values, and valuation hierarchy of financial assets presented on TSB's consolidated balance sheet. The fair values presented are at a specific date and may be significantly different from the amount which will actually be received on the maturity or settlement date.

	Level 1 £ million	Level 2 £ million	Level 3 £ million	Total fair value £ million	Total carrying value £ million
At 31 December 2020					
Debt securities at amortised cost	**1,127.9**	**–**	**–**	**1,127.9**	**1,123.7**
Loans and advances to customers	**–**	**–**	**33,315.0**	**33,315.0**	**33,317.9**
Financial assets at fair value through other comprehensive income	**1,496.9**	**–**	**–**	**1,496.9**	**1,496.9**
Derivative assets at fair value through profit or loss	**–**	**198.3**	**–**	**198.3**	**198.3**
Hedging derivative assets	**–**	**139.9**	**–**	**139.9**	**139.9**
At 31 December 2019					
Debt securities at amortised cost	549.9	–	–	549.9	548.6
Loans and advances to customers	–	–	31,040.7	31,040.7	31,075.8
Financial assets at fair value through other comprehensive income	1,587.4	–	–	1,587.4	1,587.4
Derivative assets at fair value through profit or loss	–	112.0	–	112.0	112.0
Hedging derivative assets	–	93.4	–	93.4	93.4

A description of the fair value levels is included in note 4. Financial assets at fair value through other comprehensive income are valued using quoted market prices and are therefore classified as Level 1 assets. Derivative financial assets are primarily collateralised interest rate swaps and are valued using a discounted cash flow model where the most significant input is interest yield curves which are developed from publicly quoted LIBOR and SONIA rates. As such, derivative financial instruments are classified as Level 2 assets.

TSB provides loans at both fixed and variable rates. Fair value is principally estimated by discounting anticipated cash flows (including interest at contractual rates) at market rates for similar loans offered by TSB and other financial institutions. Certain loans secured on residential properties are made at a fixed rate for a limited period, typically two to five years, after which the loans revert to the relevant variable rate. The fair value of such loans is estimated by reference to the market rates for similar loans of maturity equal to the remaining fixed interest rate period.

Cash, cash balances at central banks and other demand deposits; loans and advances to central banks; loans and advances to credit institutions and other advances are generally short term in nature and to counterparties with a high credit quality and the carrying amount is a reasonable approximation of fair value.