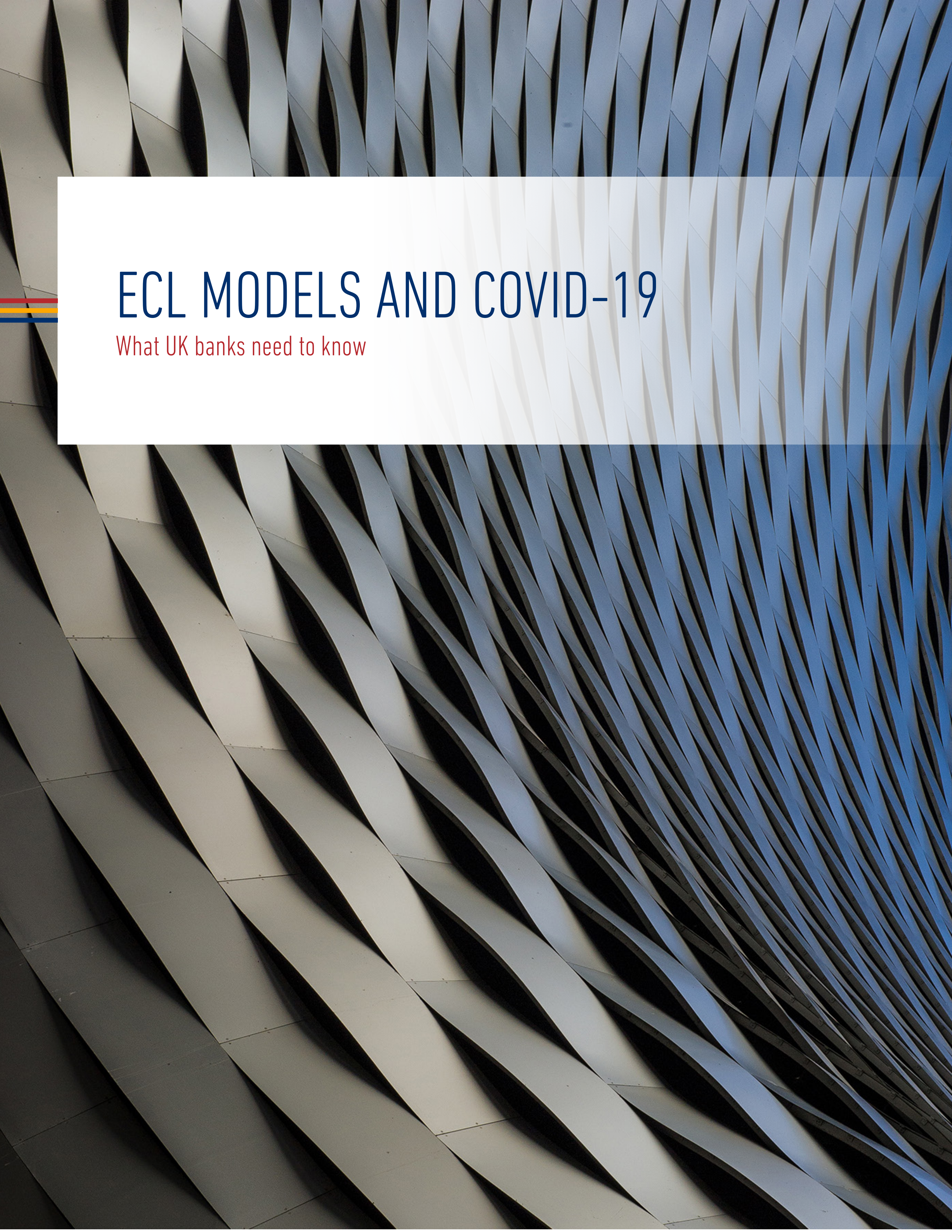


ECL MODELS AND COVID-19

What UK banks need to know

Executive Summary

A significant area of challenge for UK banks reporting in accordance with International Financial Reporting Standards (IFRS), is the need to incorporate the impact of Covid-19 into forward-looking models when calculating expected credit losses (ECLs). This needs to be in accordance with IFRS 9 Financial Instruments: Recognition and Measurement on their loan books. For UK banks, this challenge will certainly be relevant for any reporting period, annual or interim, ending on or after 31 March 2020. Even banks with earlier reporting dates aren't necessarily unaffected due to the need to disclose an estimate of the financial effect as a non-adjusting post balance sheet event.

SO, WHAT DO WE NEED TO CONSIDER?:

- Issues UK banks may have in calculating IFRS 9 compliant financial statements, including how previously developed ECL models may need to be adapted in the current environment
- What the consequences of any increases in estimates of ECL on the calculation of regulatory capital may be

THE KEY POINTS ARE:

- Every component of a bank's ECL model is affected
- Measures taken by the UK government and banks will need to be factored into the estimation with judgements required, in light of these measures, to determine whether loans should be moved to stage 2 or 3 of IFRS 9's impairment model
- Where models are unable to reflect the risks, banks should apply overlay add-ons at a more aggregated (i.e. sector) level
- Careful thought will need to be given to disclosures provided in interim and annual financial reports to ensure compliance with the relevant accounting standards
- From a regulatory capital perspective, transitional arrangements will provide some relief from any increase to the ECL recognised as a result of Covid-19

In the following sections we outline the IFRS 9 regulatory requirements and ECL dynamics before delving deeper into ways Covid-19 measures can be incorporated.

Impact of Covid-19 on the measurement of ECLs under IFRS 9

ECLs are computed by taking into account all facts and circumstances, including cash flows that could arise from the realisation of collateral, as well as any available forward-looking information. Most UK banks calculate ECL as the product of Probability of Default (PD), Loss Given Default (LGD) and Exposure at Default (EAD), which is then discounted at the asset's original effective interest rate to the ECL reporting date.

ECL = PD x EAD x LGD

Covid-19 has a widespread impact on each ECL model component which we discuss further below. The Bank of England, in their recent supervisory statement, set the expectation that relief measures need to factored into the forecasting and default identification process for banks in the UK[1], aligning to the EBA guidance[2]. This article highlights such measures and describes potential strategies by UK banks to reflect these.

Probability of Default (PD)

UK banks may not be expected to re-calibrate their PD models as they should be statistically robust and given lags in default identification, there would not be sufficient information to update the models to reflect Covid-19. An exception is whether assumptions such as the sign of regression co-efficients no longer hold valid for the current environment (e.g. PD impact in relation to interest rate movements). Furthermore, UK banks should explore portfolio risk clusters (e.g. High or Low risk industries and/ or regions) to anticipate higher credit losses in future arising from Covid-19 when such data is not yet observable.

Economic projections provide a forward-looking view of a range of outcomes reflecting alternative PD pathways (term structure). IFRS 9 requires the forecasting over a reasonable & supportable period typically based on internal default experience and/or availability of economic forecasts. Thereafter, PD estimates would revert to long run averages reflecting the transition back to a 'normal' part of the credit cycle. UK banks need to consider their forecasting method when forecasts are not publicly available which could prove challenging when large shifts in the baseline are expected as shown in Figure 1.

Additional considerations are reversion lengths to the through-the-cycle (or TTC) long run average (i.e. how long to return to normal) and whether Covid-19 affects the reversion level (i.e. new normal). The simplified example in Figure 2 show a range of PD multi-year pathways where we consider up to 4-times higher PD compared to 1 year long-run average.

[1]https://www.bankofengland.co.uk/news/2020/march/boe-announces-supervisory-and-prudential-policy-measures-to-address-the-challenges-of-covid-19?sf119474940=1&mod=article_inline

[2]https://eba.europa.eu/eba-provides-clarity-banks-consumers-application-prudential-framework-light-covid-19-measures

Probability of Default (PD) (continued)

UK Real GDP YoY growth % – ONS Historical and IMF Forecast

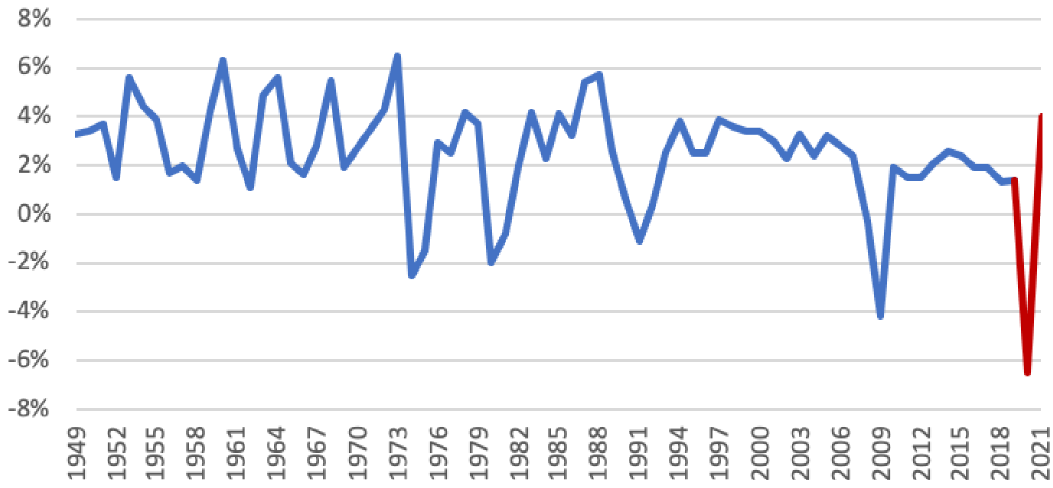


Figure 1. UK Real GDP Year on Year growth % with IMF COVID-19 Forecast

Cumulative PD Projections – Moody's Speculative Grade

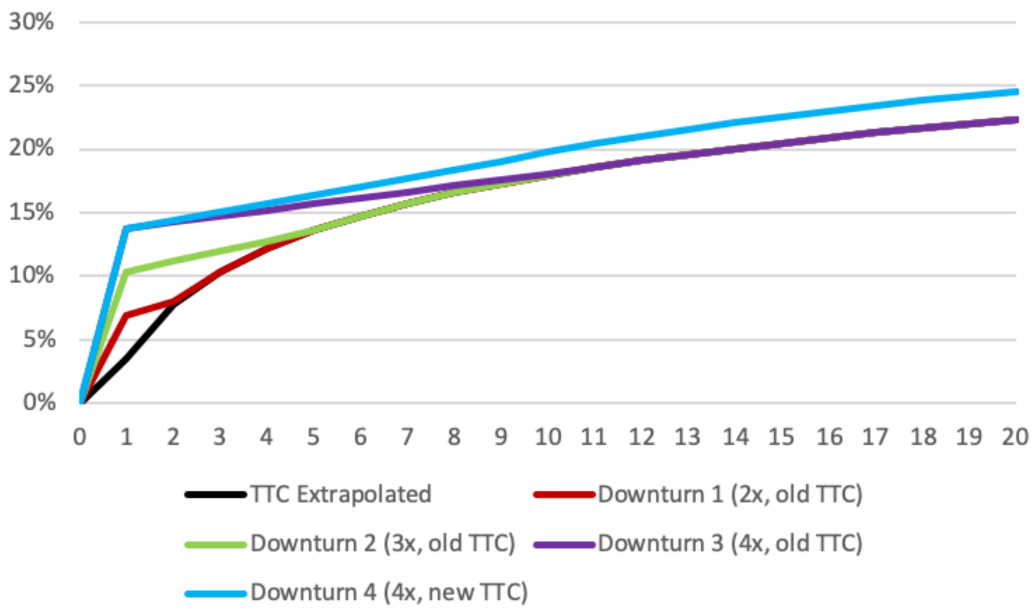


Figure 2. Illustration of PD term structure for downturns with different durations

Exposure at Default (EAD)

The amount owing at each potential default date is represented by the EAD amortisation schedule for each asset. Higher outstanding balances means higher potential for loss and therefore a higher ECL. UK banks offer a range of repayment types including:

- interest only (IO), where the principal is fully-repaid on contractual maturity;
- principal and interest (P&I), where the principal deduction from the loan repayments are higher as the loan approaches maturity (due to lower compounding); and
- part-and-part or balloon type repayments representing a mix of IO and P&I, where a portion of the principal is repaid on the contractual maturity date.

Additionally, in the lead-up to a potential default, it is expected that customers enter arrears due to missed payments and this figure is added to the projected loan balance had the customer been up-to-date on all their contractual payments.

EAD might be impacted as a result of covid-19 for a number of specific reasons. Firstly, where customers are eligible for, and are expected to make use of moratoria (e.g. the UK Government's policy on the extension of mortgage payment holidays), or are otherwise granted forbearance to delay payments, this could increase the exposure on a future default as the capital owed will be more than what contractually might otherwise have been owed over the remaining term of the debt.

For illustrative purposes, we show in Figure 3 the potential impact of the payment moratoria on the EAD amortisation schedule. The convexity (or curvature) of the original amortisation schedule (orange line) steepens when allowing for moratoria (grey line) as effectively the missed repayments during the moratoria is compounded with interest and requires higher repayments later on to achieve a zero balance at contractual maturity. The arrears missed payments (black line) is added to the aforementioned schedule to obtain the final schedule. Banks using oversimplified amortisation schedules (blue line) where a constant proportion of the balance is deducted each period will show the largest discrepancies with actual data.

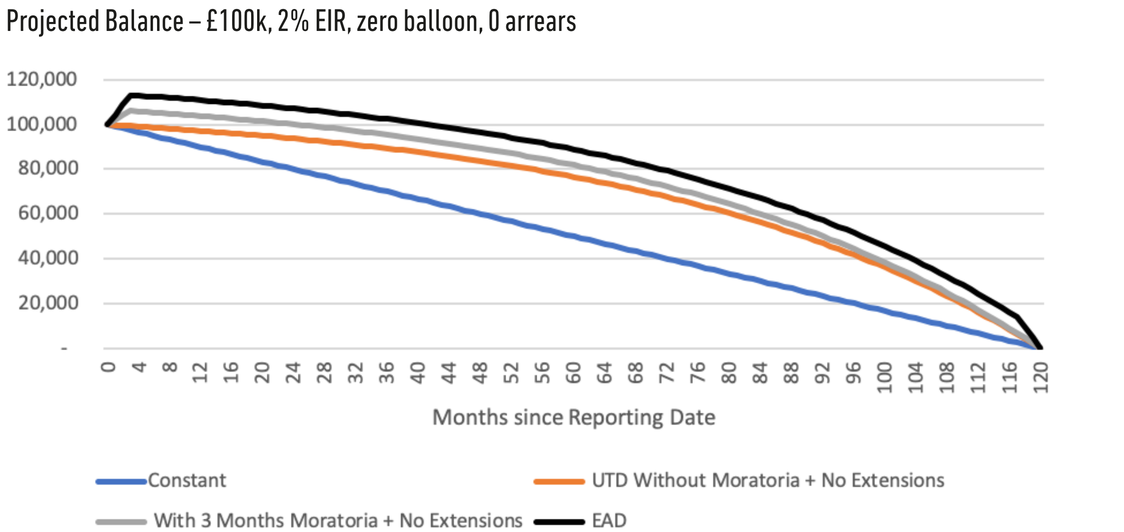
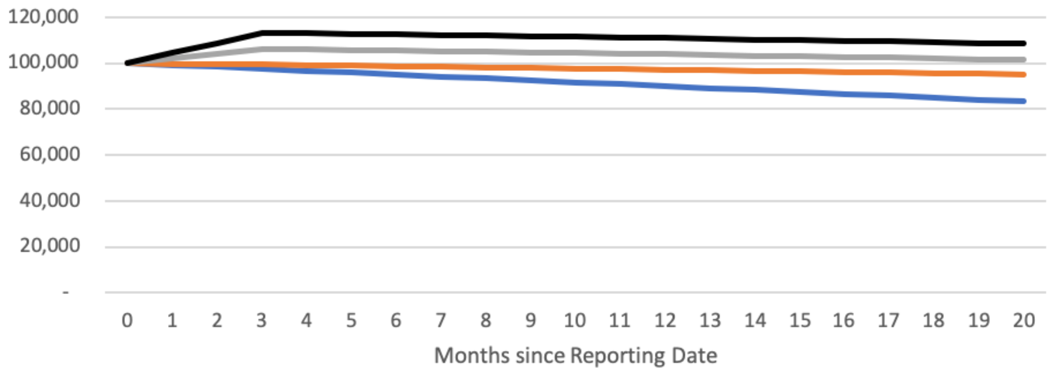


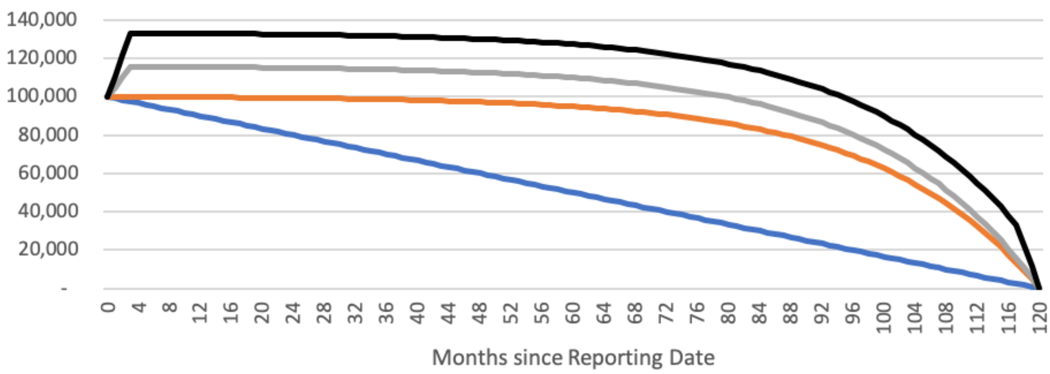
Figure 3. Illustration of EAD amortisation schedule for an Up To Date (UTD) loan - please see next page for continuation

Exposure at Default (EAD) (continued)

Projected Balance – £100k, 2% EIR, zero balloon, 0 arrears



Projected Balance – £100k, 5% EIR, zero balloon, 0 arrears



Projected Balance – £100k, 5% EIR, zero balloon, 0 arrears

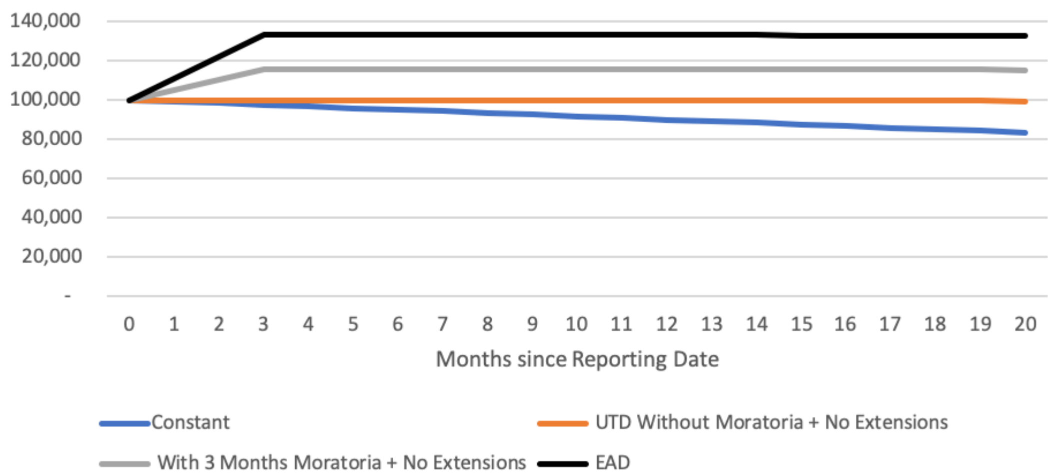


Figure 3. Illustration of EAD amortisation schedule for an Up To Date (UTD) loan (continued)

Exposure at Default (EAD) (continued)

Banks may be tempted to simplify the EAD modelling by assuming unchanged annual balance movements (EAD) if using annual ECL calculation dates (i.e. no change to EAD amortisation schedule). However, this implies that customers will fully 'catchup' on any missed payments (with interest) when the moratoria ends which may not be realistic given the current economic climate and is further exacerbated if the moratoria is extended.

Secondly, it might be expected that customers will draw down more on facilities such as loan commitments and revolving credit facilities previously negotiated as customers are faced with reduced liquidity during the crisis, represented as the credit conversion factor (CCF).

Thirdly, there might be an increase in bank lending arising from the government backed Coronavirus Business Interruption Loan Scheme (CBILS) and Bounce Back Loan Scheme (BBLS). It is still unclear to what extent the CCF will be impacted given the measures to provide short-term liquidity to the market from these schemes, or whether amounts borrowed under such schemes will be used to repay existing debt (reducing the PD on those pre-existing loans).

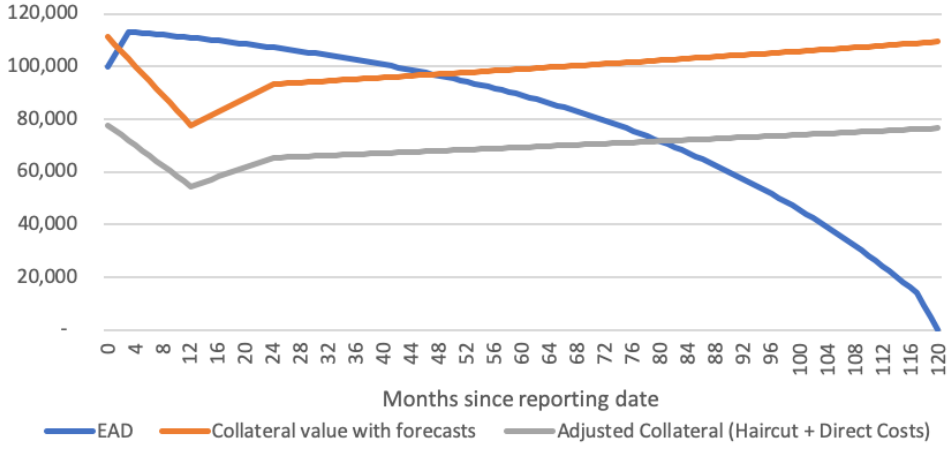
Loss Given Default (LGD)

From the total amount owing at each potential default date (i.e. EAD as per Section 2.2), the unrecoverable amount (or loss) is represented as the LGD. This would be reduced by any state guarantees that are provided to support and stimulate banks' willingness to provide loans under BBLS and CBILS. Changes in the way a bank manages their non-performing loan book, i.e. whether it will impact expected sale of such assets, also impact the LGD.

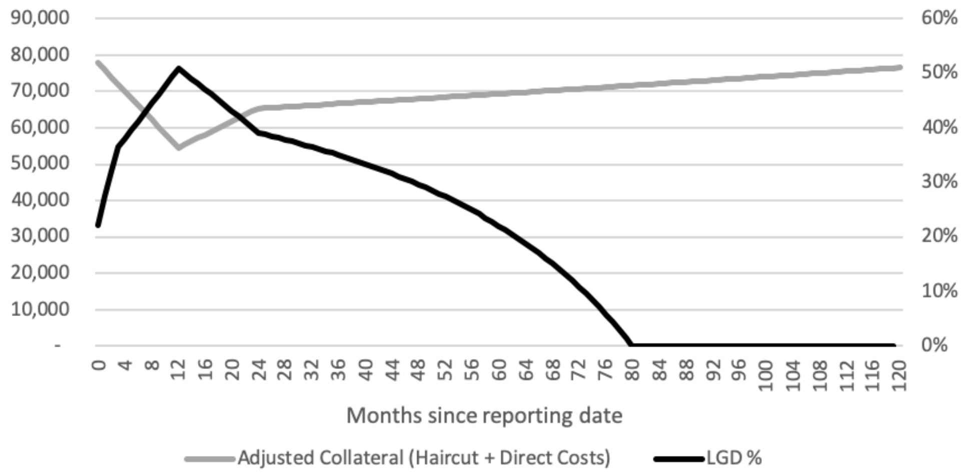
The EAD is a crucial input to the estimation of LGD of loans as the shortfall between the recoverable amount (i.e. collateral value) and balance owing (i.e. EAD) represents the potential loss. The simplified example in Figure 4 shows that the collateral, assuming 90% Loan-to-Value, appreciates in line with long term trends whereas EAD declines due to repayments therefore resulting in zero LGD (and hence ECL) after year 6 unless LGD floors are assumed. The LGD by scenario incorporates changes in the collateral forecasts, forced sale discounts (e.g. haircut from urgent sales) and direct costs (e.g. selling commissions). UK banks should consider the severity and duration of collateral devaluations due to Covid-19 as well as long-term collateral projections which may differ from the transitional period for PD due to lags between default and loss realisation (i.e. outcome resolution).

Loss Given Default (LGD) (continued)

Collateral Value compared to EAD



Adjusted Collateral compared to LGD



LGD by scenario by adjusting Y1, Y2 and long-term forecasts

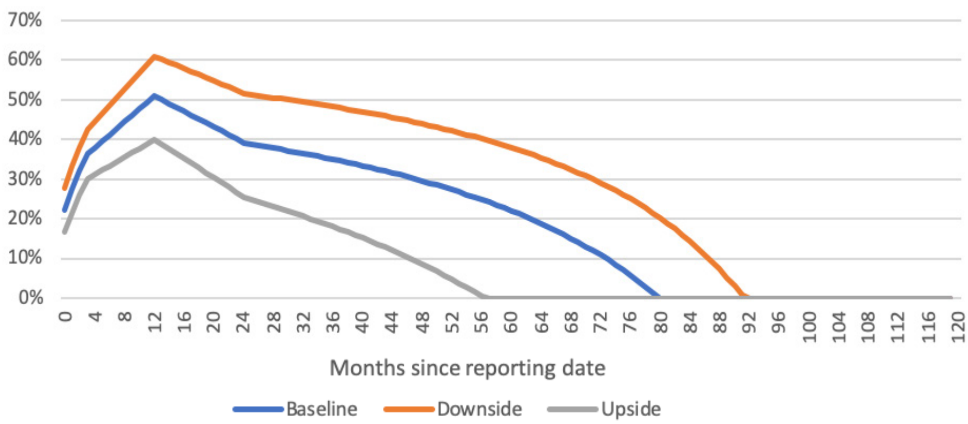


Figure 4. Illustration of LGD and EAD interactions with scenario forecasts

Loss Given Default (LGD) (continued)

Additionally, to the extent the FCA prohibits a bank from taking measures to repossess collaterals in the current environment, the LGD could be negatively impacted during a period of declining property values, further credit deterioration and higher CCFs (drawn-downs) if customers experiencing financial difficulties are contributing factors to higher ECL.

The severity of such losses may be partially offset by government guarantees and support. Also, if Covid-19 affects the timing and amount of expected sales of non-performing assets LGD is likely to be impacted. Both of these factors require assumptions to be revisited to ensure they more accurately reflect the bank's recovery processes. Given the lags in default identification and resolution, which could take several years, UK banks would rely more on judgement until such impacts can be observed.

Staging

One of the main challenges will be on how COVID-19 relief measures and published guidance will affect the ability of banks to identify:

- defaults for Stage 3 assignment, requiring interest to be calculated on the net rather than gross carrying amount of the asset); and
- whether a significant increase in credit risk (SICR) has occurred for Stage 2 assignment, requiring ECL to be computed based on lifetime rather than 12-month ECLs.

IFRS 9 does not define default but it does require entities to use the same definition of default for financial reporting purposes as it does for internal credit risk management purposes. Many banks use the regulatory definition of default for internal credit risk management purposes and, therefore, a change to the regulatory definition would have a knock-on impact to what such banks consider a default event. That will in turn impact a bank's estimate of PD and whether the asset has experienced a SICR. The PRA has noted that:

- Although a breach of covenant may be an indicator of default, banks have scope to assess covenant breaches on a case-by-case basis and determine whether they indicate unlikeliness to pay. Further, that a covenant breach or waiver of a covenant with a direct link to Covid-19 should not automatically be considered a default.
- Banks should factor in the support that will be, and have already been, provided to borrowers, with an expectation that eligibility for, and use of, the UK Government's policy on the extension of payment holidays should not automatically constitute default. The IASB also suggests that the extension of payment holidays to all borrowers in particular financial asset classes should not automatically result in all those instruments being considered to have suffered SICR.

It should also be noted that forbearance and moratoria require an assessment of whether the resulting changes in terms and conditions constitute a substantial modification to the financial asset, which in turn drives whether the pre-modified loan is derecognised and a new loan recognised in its place. If the original loan is derecognised, the recognition of a new asset will typically be placed in Stage 1 and on which 12 month expected credit losses will be recognised. The newly recognised loan will be initially measured at fair value (being the revised cash flows discounted at market interest rates), and

Staging (continued)

any credit risk rating applied in that measurement will already factor in the credit risk brought about by Covid-19 won't move to stage 2 unless the credit risk significantly increases thereafter. If, by contrast, the changes in terms and conditions do not give rise to a substantial modification, then it will be necessary to consider whether the asset has experienced a SICR.

IFRS 9 contains rebuttable presumptions that an asset has experienced a SICR and is in default if a payment is more than 30 days and 90 days past due respectively. However, the PRA notes that it may be appropriate to rebut these presumptions when the delayed payment is as a result of government-endorsed payment holidays because the eligibility criteria to make use of these payment holidays is broad and borrowers need not have experienced a SICR in order to access them. Further, whilst use of such payment holidays may indicate short-term liquidity or cash flow problems, it will unlikely provide information to enable banks to differentiate borrowers' lifetime credit risk. In effect, banks may need to distinguish between two types of counterparty;

- those who may be experiencing short-term liquidity problems as a result of Covid-19, but whose risk of default may not have increased significantly in the long-term; and
- those whose credit worthiness are unlikely to be restored due to the negative impacts Covid-19 has had.

The PRA, in their 22 May 2020 supervisory statement, provided guidance on the treatment of mortgage customers coming to an end of payment moratoria where borrowers are not able to resume full payments. Consistent with prior guidance, banks should not apply automatic triggering of SICR or Stage 3 if customers are unable to resume full payments. Instead, banks should take a proportionate approach to the assessment of unlikeliness to pay to reflect their longer term ability to repay (as opposed to short term liquidity constraints) and apply more judgement on other indicators beyond the days past due criteria.

Where information is not available at the level of the individual financial asset to assess the existence of a SICR, however IFRS 9 permits the assessment to be performed on a collective basis by considering information about a group or sub-group of financial assets. IFRS 9 provides the following examples of groups with shared credit risk characteristics:

- instrument type
- credit risk ratings
- collateral type
- date of initial recognition
- remaining term to maturity
- industry
- geographic location of borrower
- loan-to-value ratios

Given that COVID-19 affects some sectors more than others, banks will need ensure the measures to adjust ECL and/or collective approaches factors these different risk profiles. In Figure 5 we show the anticipated UK sector level impacts arising from Covid-19. Notice that education, accommodation and food services can expect over 80% reduction in production which has a direct impact on the financial standing of counterparties in these sectors.

Impact of Covid-19 on the measurement of ECLs under IFRS 9 (continued)

Staging (continued)

Percentage Change in Output

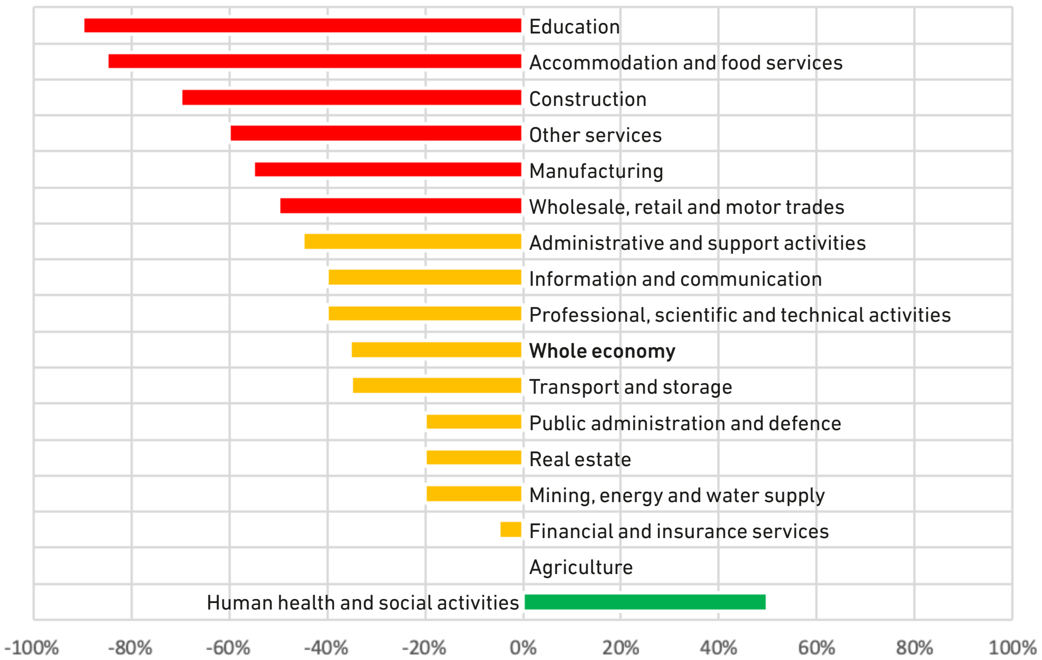


Figure 5. UK Office for Budget Responsibility (OBR), Apr20 COVID-19 Production Output Impact Forecasts for 2020 Q2

Of course, the amount of information at the bank's disposal may be expected to increase over time, resulting in the granularity of assessments on a collective basis increasing based on the financial reporting date in question, i.e. the groupings used for the purposes of preparing the 31 December 2020 interim financial statements might be expected to be more granular than those used for annual financial statements prepared at 30 June 2020.

As noted above, an asset is considered to have experienced SICR based on the relative increase in the probability of default occurring over the expected contractual life of that asset. In practice, banks have often used the change in the risk of default occurring over the next 12 months as a proxy due to the correlation between risk of default in that shorter time frame and risk of default during the contractual life. However, this approach may not be suitable in the current environment as short term liquidity tension may not be indicative of the long-term credit quality standing of borrowers. Therefore, UK banks will need to consider the appropriateness of PD changes in their staging criteria during these uncertain times.

Estimating ECL

Banks are required to estimate ECL using information about past events, current conditions and forecasts of economic conditions as at the reporting date. Importantly, this must be unbiased and probability-weighted over a range of possible outcomes. However, despite these difficulties the IASB notes that IFRS 9 requires changes in economic conditions to be reflected in the macroeconomic scenarios and their weightings.

In the PRA's, open letter to regulated firms written on 26 March 2020, Sam Woods stated that "[i]t is important to recognise that, while the reduction in activity associated with Covid-19 could be sharp and large, it is likely to rebound sharply when social distancing measures are lifted. In addition, in the intervening period, while activity is disrupted, substantial and substantive government and central bank measures have been put in place in the UK and internationally to support businesses and households." This reflected sentiment at the time that the financial crisis would be followed by a "V"-shaped recovery. However, arguably the mood has shifted since then, and is constantly shifting. The economic environment is moving very fast, with the outlook changing frequently. Whether the forecast macro-economic scenario should reflect a "U" or even "L" shaped recovery rather than a "V"-shaped one will depend very much on the forecasts available on a bank's reporting date and thus contributing further to additional variability in the forecasting assumptions among UK banks.

A key concern of the Prudential Regulatory Authority (PRA) is that an overstatement of ECL could lead to excessive tightening of credit thus further exacerbating the economic crisis. The aim of IFRS 9, though, is to reflect future expected credit losses without bias at the reporting date, using reasonable & supportable information without undue cost and effort. However, given IFRS 9 requires the application of judgement, both requiring and allowing entities to adjust their approach to determining ECLs in different circumstances, the PRA's concerns is likely to influence estimates made by Banks in their provisioning calculations.

If ECL models currently used cannot be adapted to reflect the effects of Covid-19, then it will be necessary to consider the use of post-model overlays or adjustments rather than applying existing models mechanistically. The PRA notes that any such overlays are the subject of high-quality governance, given the unprecedented nature of the current situation and the significant uncertainties that exist where they should;

- factor in the significant government support measures being undertaken to support borrowers in estimating ECLs,
- reflect the expected temporary nature, albeit uncertain duration, of the economic shock,
- give appropriate weight to the long-term economic trends in the preparation of forecasts, and
- avoid double counting the negative effects of Covid-19 and Brexit.

Disclosure

The requirements of IFRS 7 Financial Instruments: Disclosure also remain unchanged and banks should endeavour to improve the transparency of assumptions and judgements that reflect the economic consequences of Covid-19, and the effect those judgements have had on the estimate of ECLs.

Although IFRS 7 does not apply to interim financial statements, IAS 34 Interim Financial Reporting nonetheless requires disclosure of events and transactions that are significant to understanding of the changes in financial position and performance of the bank since the end of the last annual reporting period, with information disclosed updating the information presented in those annual financial statements. Judgement will be needed to determine the appropriate level of disclosure in interim financial statements to convey the impact Covid-19 has had on the measurement of ECLs, and it is expected that more disclosure might be provided than may have been in the past.

Regulatory Consequences of changes to ECL Provisioning

Original transitional arrangements

On 31 May 2017, the European Union adopted a proposal to amend Regulation (EU) No 575/2013, commonly called Capital Requirements Regulation (CRR), introducing a transitional period to mitigate the impact on own funds of the introduction of IFRS 9. The proposal suggests the insertion of a new Article 473a in the CRR, which includes provisions for transitional arrangements in order to phase-in the impact of the impairment requirements resulting from IFRS 9 on capital and leverage ratios.

The transitional arrangements allow institutions to add back to their Common Equity Tier 1 (CET1) capital a portion of any increase in provisions due to the introduction of ECL accounting under IFRS 9. The transitional arrangements consist of two components;

1. a static one allowing institutions to partially neutralise the Day 1 impact on CET1 capital of the increase in accounting provisions due to the introduction of IFRS 9; and
2. a dynamic one allowing banks to partially neutralise the impact of the additional (i.e. post-day-one) increase in provisions for financial assets that are not credit-impaired.

Banks in the UK were encouraged by the PRA to implement the IFRS 9 transitional arrangements that reduce the impact of IFRS 9 ECL provisioning on their regulatory capital. These existing transitional arrangements cover the period 2018-2022.

Reset of the transitional period in the light of Covid-19

On 28 April 2020, the European Commission published its legislative proposal for a regulation amending the Article 473a of CRR and proposes to reset the 5-year transition period for the IFRS 9 application that started in 2018, so that it runs between 2020 and 2024.The new transition period will allow institutions to recalibrate the arrangements for adding back provisions to CET1 capital until 2024.

An extension of the transitional arrangements provided in Article 473a of the CRR could mitigate the impact of a sudden increase in ECL provisions due to Covid-19 and lessen the consequence on institutions' capacity to lend at a time when it is most needed. While maintaining the transitional arrangements established before the pandemic, such an extension measure could bring relief to institutions by mitigating the possible rise in the ECL provision recognised under IFRS 9 through updating models for the impact of Covid-19 pandemic and supporting lending activities.

The Article contains a revised formula for the calculation of the ECL amounts that can be added back to CET1 capital. It applies different factors to the static and the dynamic components. While the calculation of the static component remains unchanged, the dynamic component is subject to a revised transitional adjustment factor. Therefore, the transitional arrangements are extended only for the dynamic component.

Reset of the transitional period in the light of Covid-19 (continued)

Year	Factor for static component (first time application impact)	Factor for dynamic component (Covid-19 impact)
2020	0.7	1
2021	0.5	1
2022	0.25	0.75
2023	0	0.5
2024	0	0.25

This means that the additional relief is targeted at ECLs arising from the exceptional circumstances of the pandemic. The reference date for any increase in provisions that would be subject to the extended transitional arrangements is moved from 1 January 2018 to 1 January 2020, as it is considered that additional losses incurred by institutions from this date would likely be related to the pandemic.

A new paragraph 6a specifies the transition for the dynamic component, allowing institutions to fully add-back to their CET1 capital any increase in new provisions recognised in 2020 and 2021 for their financial assets that are not credit-impaired. The amount that can be added back from 2022 to 2024 would decrease in a linear manner.

Possibility of opt in for transitional arrangements

Changes to paragraph 9 of the Article 473a of the CRR allow institutions that opted previously not to use the transitional arrangements to reverse that decision anytime during the transitional period subject to prior approval from their competent authority. Furthermore, they provide institutions with the option to apply only the dynamic component.

Competent authorities, such as the Bank of England and PRA, should duly consider the current exceptional circumstances and should process applications by banks to opt for the application of the transitional arrangements in a timely fashion.

To conclude, UK banks have much uncertainty ahead and will need to be mindful of the regulatory guidance and expectations around Covid-19 as well as the extent to which it impacts each model component. It is important that banks balance short term adjustments with their long term goals where extensions have been granted by the regulatory agencies.

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