

השפעות COVID-19 על הפסדי האשראי בנקים אירופיים בנקים בארה"ב

יולי 2020

מרצה: ארז סופר, רו"ח

	<u>Q1 2020</u>	<u>YEAR 2019</u>	
			<u>ישראל - מיליוני ש"ח</u>
	809	1,276	פועלים
	860	609	לאומי
	656	690	דיסקונט
	345	364	מזרחי טפחות
	157	138	הבינלאומי
			<u>ארה"ב - מיליוני דולר</u>
	\$ 4,761	\$ 3,590	Bank of America
	\$ 7,027	\$ 8,218	Citigroup
Gas & Oil - לשיפה	\$ 8,285	\$ 5,585	JP Morgan Chase
Gas & Oil - לשיפה	\$ 4,005	\$ 2,687	Wells Fargo
			<u>אירופה</u>
	\$ 3,026	\$ 2,756	HSBC
	€ 506	€ 723	Deutsche
	€ 2,115	€ 1,912	Barclays
Gas & Oil - לשיפה	DKK 4,251	DKK 1,516	Danske

Covid-19

The three scenarios used for the purpose of calculating ECL at 31 March 2020 replaced the UK alternative Downside and Asia-Pacific alternative Downside scenarios used at 31 December 2019.

Mild: This scenario models brief recessions in most of our major markets followed by an extended period of low growth. Temporary restrictions in activity lead to a rise in unemployment, a short-lived contraction in equity markets and a slowdown in house price growth. Hong Kong GDP growth is expected to have reached a low point in 1Q20, with positive GDP growth expected by 3Q20, while UK and US GDP growth are expected to reach a low point in 2Q20, with positive GDP growth expected by 1Q21.

Moderate: This scenario models a deeper and longer recession across our major markets. There is a strong rise in unemployment across some of our major markets and significant contractions in equity markets and house prices in 2020. Hong Kong GDP growth is expected to have reached a low point in 1Q20, with positive GDP growth expected by 4Q20, while UK and US GDP growth are expected to reach a low point in 2Q20 and 3Q20, respectively, with positive GDP growth expected by 1Q21.

Severe: The severe scenario models a deep and more prolonged recession, with a slow recovery across our major markets. Restrictions in activity and a more prolonged recession lead to a sharp rise in unemployment across our major markets. House prices and equity markets undergo very significant contractions in 2020. Hong Kong GDP growth is expected to have reached a low point in 2Q20, with positive GDP growth expected by 2Q21, while UK and US GDP growth is expected to reach a low point in 2Q20 and 3Q20, respectively, with positive GDP growth expected by 2Q21.

Covid-19

The table below shows the range of worst points in annualised economic indicators across the three scenarios within individual quarters in 2020 to 2021:

Forecast range of quarterly worst point of economic measures for key markets in 2020 to 2021

	Hong Kong		UK		US	
	1Q20 ¹ %	Worst point %	1Q20 ¹ %	Worst point %	1Q20 ¹ %	Worst point %
GDP growth rate (%) – low point	(7.5)	(7.5)–(8.6)	0.6	(13.8)–(14.9)	1.2	(8.9)–(11.8)
Unemployment (%) – high point	3.5	3.5–5.7	4.0	6.0–8.5	3.6	11.3–14.2
House price growth annualised (%) – low point	(6.2)	(6.2)–(26.3)	1.9	(5.6)–(15.7)	4.3	(2.9)–(10.1)

¹ Based on 4Q19 estimates.

The ECL impact of economic scenarios, including for the UK and the US, were performed in part through management adjustments. Further, additional judgemental management adjustments have been applied in certain markets and portfolios at 31 March 2020 where management has considered that the impact of applying the Covid-19 scenarios in the calculation of ECL does not fully capture the extent of recent credit events. The ECL impact of the scenarios and judgemental management adjustments are highly sensitive to movements in economic forecasts, including the efficacy of government support measures. **If the ECL were estimated solely on the basis of the severe scenario at 31 March 2020, which assumes a slower economic recovery, the allowance for ECL would increase by approximately \$4bn.**

IFRS 9 – Application of Management Overlays and EBA guidelines in context of Covid-19 pandemic

Deutsche Bank incorporated consensus forecasts on macroeconomic variables as of March 31, 2020 into its first quarter of 2020 Expected Credit Loss “ECL” estimate. The bank’s standard approach to the incorporation of these variables into the calculation of the ECL estimate is to incorporate forecasts for the next two years, using eight discrete quarterly observations. This methodology was derived during the implementation of IFRS9 from observation of the historical relationship between movements in those macroeconomic variables and default rates.

In management’s opinion this methodology does not provide a reliable indicator for future credit losses in the context of the Covid-19 crisis, as it takes too short a view of the development of those variables and hence overstates the impact of short term movements in them on estimated future credit losses. In particular, the current methodology does not factor in the beneficial impact of government support and assistance in response to the crisis, in particular for corporate obligors.

On April 1, 2020, ECB submitted a letter to banks with regard to the use of Forward Looking Information in the context of IFRS 9 that stated, amongst other things, that banks should “use the long-term forecast (e.g. the long-term GDP growth rate) whenever the specific forecast has lost relevance”.

IFRS 9 – Application of Management Overlays and EBA guidelines in context of Covid-19 pandemic

Based on Deutsche Bank's assessment and the regulatory guidance provided, the most representative approach in the current quarter to estimating future credit losses is to reduce the weight of some of the short-term data and derive adjusted inputs based on longer term averages.

The Bank has therefore performed an overlay calculation based on averaging forecasts for GDP and unemployment rates over the next three years.

In the coming months, management will closely monitor the development of consensus forecast data and will reassess the need for continuing with the application of a management overlay

Impact on impairment charge from COVID-19

Prior to the COVID-19 pandemic and in line with Barclays established processes, the Group regenerated its Baseline economic scenario in January 2020 using an external consensus assembled from key sources. In addition, two adverse scenarios (Downside 1 and Downside 2) and two favourable scenarios (Upside 1 and Upside 2) were derived with associated probability weights. This regeneration was subsequent to the scenarios and weightings used for December 2019 reporting.

In subsequent months, it became clear that the external consensus taken in January would not be an accurate reflection of the economic circumstances as at 31 March 2020. Furthermore, given the speed at which global forecasts deteriorated during March, it was also clear that an effective consensus process as at 31 March 2020 would not be achievable given the lagging nature of consensus submissions. As a result, Barclays has generated a new Baseline scenario (COVID-19 scenario) that reflects the most recent economic forecasts available in the market (combined with internal assumptions) and the significant support measures taken by Barclays, central banks and governments across the Group's key markets. **The scenario assumes a strong contraction in GDP and a sharp rise in unemployment in 2020 across both the UK and US. The change in the Baseline scenario required a recalibration of probability weights. The economic environment remains uncertain and future impairment charges may be subject to further volatility (including from changes to macroeconomic variable forecasts)** depending on the longevity of the COVID-19 pandemic and related containment measures, as well as the longer term effectiveness of central bank, government and other support measures.

Impact on impairment charge from COVID-19

The tables below show the key macroeconomic variables used in the COVID-19 Baseline scenario and the probability weights applied to each respective scenario.

Baseline average macroeconomic variables used in the calculation of ECL

	2020	2021	Expected Worst Point
As at 31.03.20	%	%	%
UK GDP ¹	(8.0)	6.3	(51.5)
UK unemployment ²	6.7	4.5	8.0
UK HPI ³	(3.5)	2.6	(6.5)
UK bank rate	0.10	0.30	0.10
US GDP ¹	(6.4)	4.4	(45.0)
US unemployment ⁴	12.9	7.5	17.0
US HPI ⁵	-	0.7	(0.3)
US federal funds rate	0.25	0.25	0.25

Scenario probability weighting

	Upside 2	Upside 1	Baseline	Downside 1	Downside 2
As at 31.03.20	%	%	%	%	%
Scenario probability weighting	5.0	20.8	46.7	21.0	6.5

As at 31.12.19

Scenario probability weighting	10.1	23.1	40.8	22.7	3.3
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Identification of appropriate forecasts, scenarios and scenario weights

In the first quarter of 2020, the four scenarios and related macroeconomic factors that were applied at the end of 2019 were reviewed in light of the economic and political conditions prevailing at quarter-end through a series of extraordinary governance meetings, with input from UBS risk and finance experts across the regions and business divisions. The key aspects of the narratives for the scenarios are summarized below.

The baseline scenario was updated for 31 March 2020 and **assumes a deterioration of GDP** in relevant markets, especially in the US and in Switzerland, **increasing unemployment**, including a sharp increase in the US in the first half of 2020 to previously unseen levels, **lower equity prices** and higher market volatility. **House prices are assumed to be largely flat in Switzerland over 2020 but to decrease in the US. Overall**, modest economic improvements are expected to take place from the second half of 2020. There is, however, substantial uncertainty regarding the extent to which the baseline scenario narrative reliably captures the effects of government measures to mitigate the health and economic effects of the pandemic crisis. Consequently, there is substantial uncertainty regarding the extent to which the baseline scenario, as applied in UBS's models, can reliably predict the effects of the pandemic crisis on UBS's credit portfolio across divisions and regions.

Identification of appropriate forecasts, scenarios and scenario weights

The hypothetical scenarios, in particular the upside and mild downside scenarios, are now less plausible. Given the considerable uncertainties associated with the economic conditions, an exceptional interim redesign of these scenarios was not deemed appropriate. In addition, having multiple scenarios would be speculative and compete with the probability weight estimation for the baseline and severe downside scenario. Therefore, management agreed that the upside and the mild downside narratives should not be changed at this point in time, but their probability weights should be set to zero (see further information below).

The narrative for the severe downside scenario covers a severe recessionary phase affecting all major economies, with a wide-ranging slowdown, mainly caused by global trade tensions and debt sustainability concerns in Europe. Trade and business confidence are also affected, in particular in the key export markets for Swiss industry. The severe downside scenario is still considered appropriate in light of COVID-19, given the recessionary impacts it covers, even though the narrative is based on a different trigger for a global recession.

As a consequence of the exceptional circumstances and prevailing uncertainties at the end of the first quarter of 2020, the weight allocation between the four scenarios has shifted significantly. **The upside and mild downside scenarios have been temporarily weighted with a 0% probability, with the baseline scenario weighted at 70% and the severe downside scenario at 30% to best reflect management's current sentiment regarding the boundaries of economic outcomes. The weight allocated to the severe downside scenario is substantially higher than the 15% weight applied in the fourth quarter of 2019**, as there is significant uncertainty as to whether the pandemic can be contained sufficiently early and effectively. If not, a longer-term economic shock is expected, which could not be sufficiently counteracted by government measures, or, alternatively, could lead to potentially unstable fiscal positions with far-reaching consequences. With interest rates at their current level – and further lowered in some countries – there is extremely limited room for central banks to stimulate the economy. In such a severe downside scenario, the risk significantly increases that firms, while temporarily kept afloat with liquidity lines, will encounter a deteriorating credit standing or solvency problems.

31 March 2020

Group average

	Base case		Severe recession	
	2020	2021	2020	2021
GDP	-0.13	1.55	-4.20	-1.48
Industrial Production	-0.30	2.88	-6.30	-2.21
Unemployment	6.23	6.08	7.33	8.35
Inflation	0.95	1.38	-0.20	-0.68
Consumption Expenditure	0.15	0.75	-2.48	-0.68
Property prices - Residential	-2.13	-0.35	-13.13	-8.25
Interest rate - 3 month	-0.38	-0.02	-0.39	-0.49
Interest rate - 10 year	-0.45	-0.13	-0.90	-0.95

After the first two years of the forecast horizon, the macroeconomic scenarios revert slowly towards a long-term average. The upside scenario represents a better outlook than the base case scenario across the macroeconomic parameters and assumes a recovery already in 2020, mainly to capture uncertainty to the upside.

The base-case scenario enters with a probability of 65% (31 December 2019: 60%), the upside scenario with a probability of 10% (31 December 2019: 10%) and the downside scenario with a probability of 25% (31 December 2019: 30%).

On the basis of these assessments, the allowance account as at 31 March 2020 amounted to DKK 24.1 billion (31 December 2019: 20.5 billion). If the base case scenario was assigned a probability of 100%, the allowance account would decrease DKK 1.6 billion (31 December 2019: 0.7 billion). Compared to the base case scenario, the allowance account would increase DKK 7.3 billion (31 December 2019: 2.4 billion), if the downside scenario was assigned a probability of 100%. The increase reflects primarily the transfer of exposures from stage 1 to stage 2 and increased expected credit losses within stage 2.

If instead the upside scenario was assigned a probability of 100%, the allowance account would decrease by DKK 2.3 billion (31 December 2019: 0.5 billion) compared to the base-case scenario. However, note that the applied scenarios differ from the scenarios used at 31 December 2019, and the changes in sensitivities from end of 2019 to end of the first quarter 2020 are therefore not directly comparable. Further, it should be noted that the expected credit losses in the individual scenarios (i.e. without the weighting) do not represent forecasts of expected credit losses (ECL). According to the Group's definition of a significant increase in credit risk, i.e. when a loan is transferred from stage 1 to stage 2, facilities with an initial PD below 1% are transferred to stage 2 if the facility's 12-month PD has increased by at least 0.5 of a percentage point and the facility's lifetime PD has doubled since origination. If instead an increase in the facility's 12-month PD by at least 0.25 of a percentage point combined with a doubling of the lifetime PD was considered a significant increase in credit risk, the allowance account would increase by DKK 0.03 billion (31 December 2019: DKK 0.0 billion).

Allowance for Credit Losses

to consider the impact of a hypothetical alternate macroeconomic forecast, the Firm compared the modeled credit losses determined using two of the five different macroeconomic scenarios considered in the quantitative calculations used in estimating the allowances for loan losses and lending-related commitments. Each scenario included a full suite of macroeconomic variables, but differed in the levels, paths and peaks of those variables over the eight-quarter forecast period.

To demonstrate the sensitivity of credit loss estimates to macroeconomic forecasts, the difference between these two scenarios would have generated the following effects on the Firm's modeled credit loss estimates as of March 31, 2020, without considering any offsetting or correlated effects in other components of the Firm's allowance for credit losses for these lending exposures:

- **An increase of approximately \$0.9 billion for residential real estate loans and lending-related commitments**
- **An increase of approximately \$1.5 billion for credit card loans**
- **An increase of approximately \$0.8 billion for wholesale loans and lending-related commitments**

This analysis relates only to the modeled credit loss estimates and is not intended to estimate changes in the overall allowance for credit losses as they do not reflect any potential changes in the adjustment to the quantitative calculation, which would also be influenced by the judgment management applies to the modeled lifetime loss estimates to reflect the uncertainty and imprecision of these modeled lifetime loss estimates based on then-current circumstances and conditions. Recognizing that forecasts of macroeconomic conditions are inherently uncertain, particularly in light of the recent economic conditions, the Firm believes that its process to consider the available information and associated risks and uncertainties is appropriately governed and that its estimates of expected credit losses were reasonable and appropriate for the period ended March 31, 2020.

Sensitivity

One hypothetical scenario represents an adverse scenario based on changes in economic variables experienced during the last credit crisis. Compared with the economic forecast used to develop our current ACL for loans, this adverse scenario reflects a more substantial and sustained increase in unemployment, a deeper and more sustained decline in GDP along with significant declines in consumer and commercial real estate prices. This adverse scenario resulted in an increase in the ACL for loans of \$6.8 billion. A second more severe scenario is similar to our annual Company-run stress test. Compared with the adverse scenario, the more severe scenario reflects a sustained but sharper increase in unemployment and a more significant and sustained decline in GDP. Declines in real estate prices are consistent with the adverse scenario, with additional stress to consumer and commercial real estate prices based on our regional and industry concentrations, as well as an idiosyncratic stress as a result of declines in oil and gas prices. The more severe scenario resulted in an increase in the ACL for loans of \$11.3 billion.

The changes in economic variables in these scenarios were not contemplated in the economic forecast used to develop our current ACL for loans. In addition, these hypothetical increases in our ACL for loans represent changes to our quantitative estimate and do not incorporate the impact of management judgment for qualitative factors applied in the current ACL for loans, which may have an offsetting impact to the scenario results. Finally, if these hypothetical scenarios were to materialize, the increase in our ACL for loans may be recognized over time if actual loss expectations exceed our historical loss experience.

These sensitivity analyses are hypothetical scenarios and the results do not represent management's view of expected credit losses at the balance sheet date. The sensitivity analyses exclude the ACL for debt securities given its size relative to the overall ACL. Management believes that the current estimate for the ACL for loans was appropriate at the balance sheet date. Because significant judgment is used, it is possible that others performing similar analyses could reach different conclusions

Allowance for Credit Losses

Judgment is specifically applied in:

- Economic assumptions and the length of the initial loss forecast period. Forecasted economic variables, such as gross domestic product (GDP), unemployment rate or collateral asset prices, are used to estimate expected credit losses. While many of these economic variables are evaluated at the macro-economy level, some economic variables may be forecasted at more granular levels, for example, using the metro statistical area (MSA) level for unemployment rates, home prices and commercial real estate prices. **Quarterly, we assess the length of the initial loss forecast period and have currently set the period to one year**
- Reversion of losses beyond the initial forecast period. We use a reversion approach to connect the losses estimated for our initial loss forecast period to the period of our historical loss expectations. We give consideration to the type of portfolio, point in the credit cycle, expected length of recessions and recoveries, as well as other relevant factors. During forecasted periods of expansionary economic conditions, **we revert immediately to our historical loss expectations**. However, when recessionary conditions are forecasted over the initial loss forecast period, we will utilize a linear reversion to the long-term average losses. The length of reversion period varies by asset type – one year for shorter contractual term loans such as commercial loans and two years for longer contractual term loans such as 1-4 family mortgage loans. We assess the reversion approach on a quarterly basis and the length of the reversion period by asset type annually.
- Historical loss expectations. At the end of the reversion period, we incorporate the changes in economic variables observed during representative historical time periods that include both recessions and expansions. This analysis is used to compute average losses for any given portfolio and its associated credit characteristics. Annually, we assess the historical time periods and ensure the average loss estimates are representative of our historical loss experience.

Allowance for Credit Losses

- Credit risk ratings applied to individual commercial loans, unfunded credit commitments, and debt securities. Individually assessed credit risk ratings are considered key credit variables in our modeled approaches to help assess probability of default and loss given default. Borrower quality ratings are aligned to the borrower's financial strength and contribute to forecasted probability of default curves. Collateral quality ratings combined with forecasted collateral prices (as applicable) contribute to the forecasted severity of loss in the event of default. These credit risk ratings are reviewed by experienced senior credit officers and subjected to reviews by an internal team of credit risk specialists.
- Usage of credit loss estimation models. We use internally developed models that incorporate credit attributes and economic variables to generate estimates of credit losses. Management uses a combination of judgement and quantitative analytics in the determination of segmentation, modeling approach, and variables that are leveraged in the models. These models are validated in accordance with the Company's policies by an internal model validation group. We routinely assess our model performance and apply adjustments when necessary to improve the accuracy of loss estimation. We also assess our models for limitations against the company-wide risk inventory to help ensure that we appropriately capture known and emerging risks in our estimate of expected credit losses and apply overlays as needed.
- Valuation of collateral. The current fair value of collateral is utilized to assess the expected credit losses when a financial asset is considered to be collateral dependent. We apply judgment when valuing the collateral either through appraisals, evaluation of the cash flows of the property, or other quantitative techniques. Decreases in collateral valuations support incremental charge-downs and increases in collateral valuation are included in the allowance for credit losses as a negative allowance when the financial asset has been previously written-down below current recovery value.

Allowance for Credit Losses

- Contractual term considerations. The remaining contractual term of a loan is adjusted for expected prepayments and certain expected extensions, renewals, or modifications. We extend the contractual term when we are not able to unconditionally cancel contractual renewals or extension options. We also incorporate into our allowance for credit losses any scenarios where we reasonably expect to provide an extension through a TDR.
- Usage of credit loss estimation models. We use internally developed models that incorporate credit attributes and economic variables to generate estimates of credit losses. Management uses a combination of judgement and quantitative analytics in the determination of segmentation, modeling approach, and variables that are leveraged in the models. These models are validated in accordance with the Company's policies by an internal model validation group. We routinely assess our model performance and apply adjustments when necessary to improve the accuracy of loss estimation. We also assess our models for limitations against the company-wide risk inventory to help ensure that we appropriately capture known and emerging risks in our estimate of expected credit losses and apply overlays as needed.
- Qualitative factors which may not be adequately captured in the loss models. These amounts represent management's judgment of risks inherent in the processes and assumptions used in establishing the ACL. We also consider economic environmental factors, modeling assumptions and performance, process risk, and other subjective factors, including industry trends and emerging risk assessments.

תודעה על ההקשבה