Speakers

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Agenda

1) Opening Remarks and Insights for the Banking Industry by Kenya Bankers Association

2) Challenges for the Banking Sector in Kenya as a result of Disruption Caused by Covid-19

3) How are Credit Risk Indicators Expected Credit Losses Trending?

4) What can Financial Institutions Do to Navigate Credit Losses Post Pandemic?

5) Q&A

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Insights for the Banking
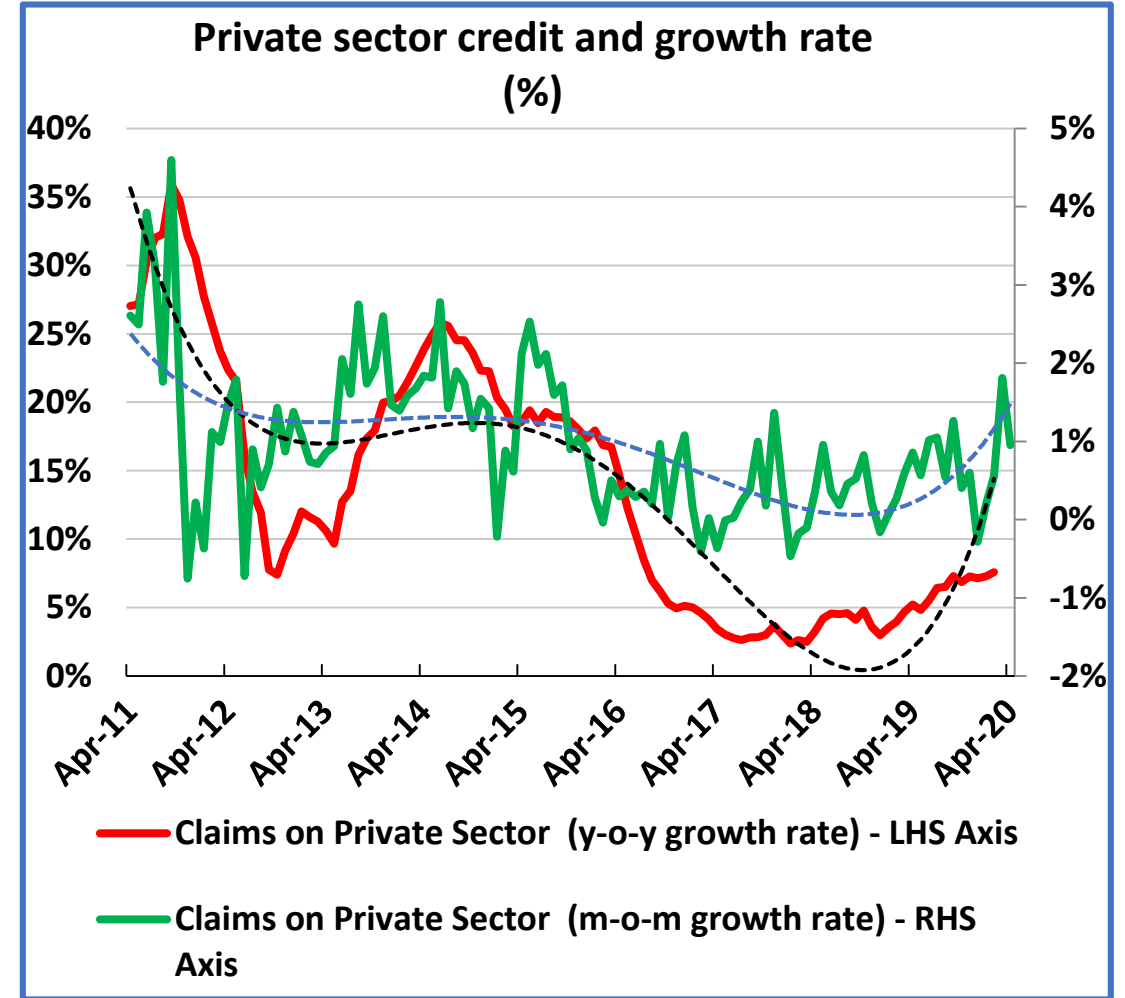Industry
Kenya Bankers Association

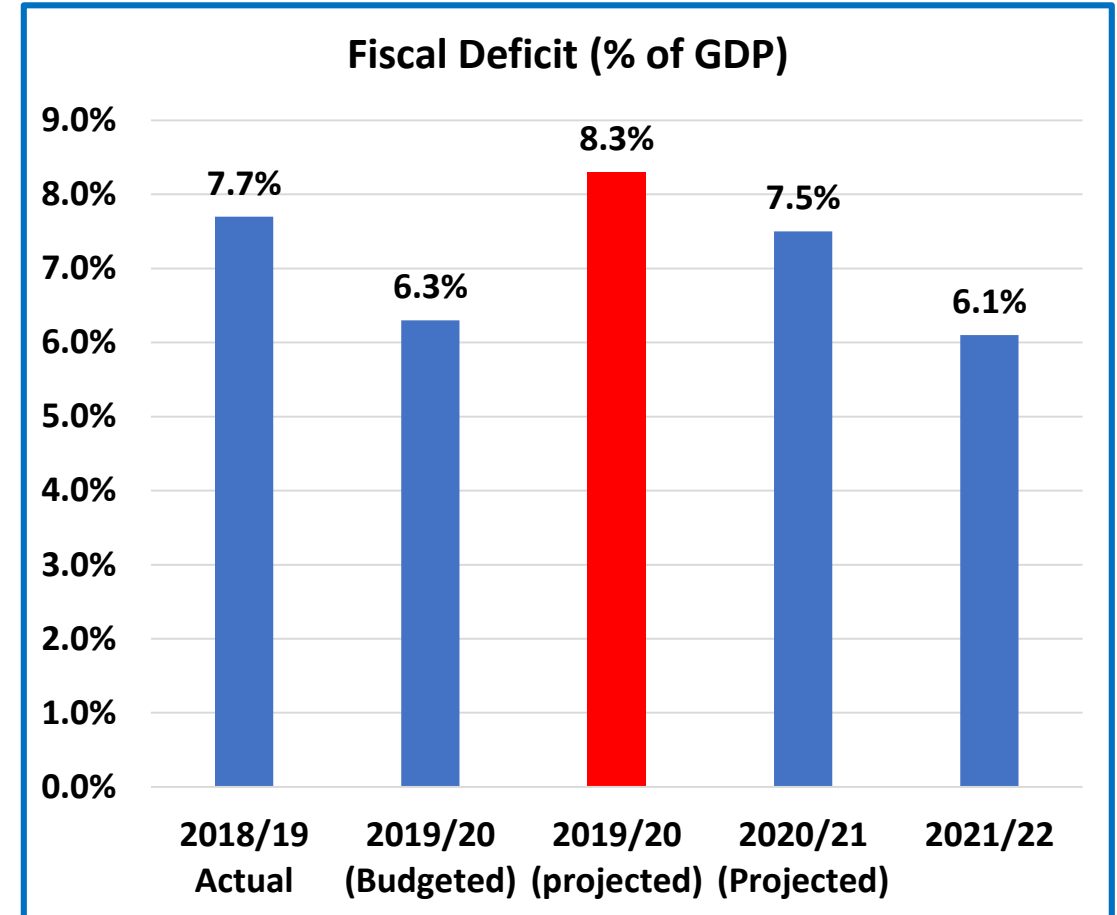# Private Sector Growth – The "Inflection" Point

- The banking industry has been assessed as "well capitalized and liquid".

  - *Core capital and regulatory capital to risk risk-weighted assets as at end of 2019 was 16.8% and 18.8% respectively.*

  - *The private sector credit market is at an inflection point*

  - *The monetary policy is appropriately accommodative (CRR↓, CBR↓↓); how it plays out on credit demand will influence the nature of the inflection .*

Private sector credit and growth rate (%)

— Claims on Private Sector (y-o-y growth rate) - LHS Axis

— Claims on Private Sector (m-o-m growth rate) - RHS Axis

Source: CBK

Fiscal Policy – Market Interaction – A Potential Vicious Cycle

- Fiscal space is constrained.
  - *Fiscal consolidation taking a back-burner?*
  - *Shift of focus to debt and debt sustainability issues? Nominal level of public debt (% of GDP) estimated at 62%.*
  - *The financial sector – the banking industry – to carefully weigh the options of investing in government securities versus lending to enterprise and household.*

Fiscal Deficit (% of GDP)

Year	Deficit
2018/19 Actual	7.7%
2019/20 (Budgeted)	6.3%
2019/20 (projected)	8.3%
2020/21 (Projected)	7.5%
2021/22	6.1%

Source: NT; IMF Estimates

Banking Industry Expectation – The KBA Survey (March 2020)

- Nearly all banks (94%) indicate they will be adversely affected by COVID 19.
  - Business growth has been traded for pursuit of "stability".

- Nearly all banks (95%) indicate that their portfolio quality will definitely be affected.
  - NPLs as a share of gross loans expected to rise to 14%; as at end of May 2020, NPLs as a share of gross loans was 13%.

- Ranks are more risk averse (75% of the banks are categorical that they are not willing to take more risks) .

  "Banks adjust loan supply in times of higher uncertainty. The adjustment, in form of "reduced supply of loans may amplify the direct effect of higher uncertainty on household and firms, resulting in further decline in investments and consumption" –

  Rauning, et al. (2017), "*Do Banks Lend Less in Uncertain Times*?", *Economica*, Volume 84 (36) pp. 682 -711

The Adjustments

- Intermediation strategies reflect not just the risk taking behavior but the potential liquidity-profitability tradeoffs.

- Risk taking behavior is not homogenous among banks of different sizes:

  - *The deviation of expected assets "growth" from the trend is inversely related to bank size.*

- Frequent stress testing various aspects of the bank business is critical.

The Feedback Loop

- The economic challenges on the back of a strong financial system necessitates the latter to respond to the needs of the former.

  - *Banks are responding to the need of enterprise and households, and consequently the broader economy.*

  - *The response remains deliberate but careful - just like a financial crisis translated into an economic crisis (2008-09), an economic crisis can occasion a financial crisis.*

  - *A careful portfolio choice is critical: (a) the logical sequencing: existing portfolio management (optimization) then new business; (b) a careful evaluation of the "risk free" assets even on the bank of sovereign needs.*

Real Output Growth (%) - Kenya
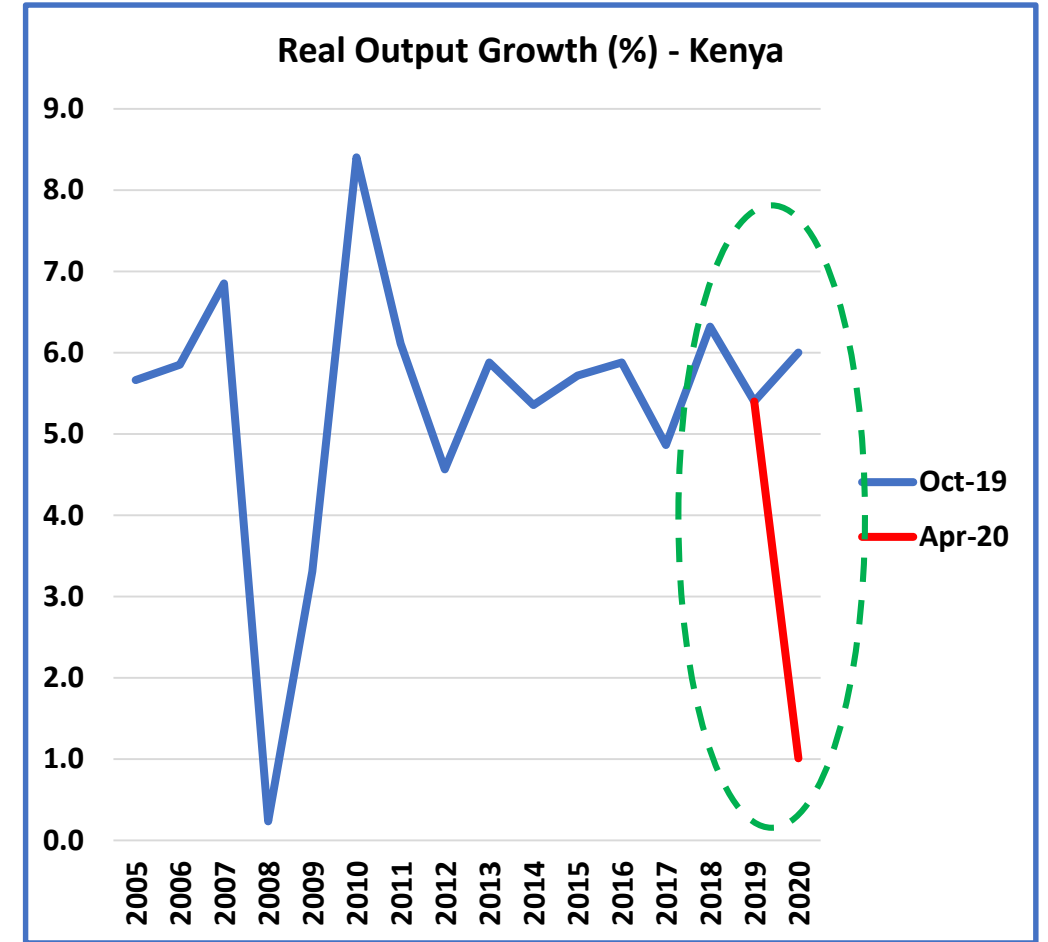
Source: IMF – WEO Database

Broad Observations

- The effect of the global developments has inevitably spilled over to the local environment; that will exacerbate the domestic imbalances.

- The line of influence: Global to *"small-and-open"* financial systems; the reverse influence is limited. The feedback loop at the local level will mainly be: economy to financial markets and back to the economy.

- Response function under different stress scenarios: (i) Assets (loans) growth curtailment (ii) liquidity and asset quality concerns (iii) invitation to look at banks' capital adequacy.

2 | Challenges for the Banking Sector

Road Ahead for Banks in Kenya

Negative Outlook for the Banking System

Reflects the outlook on Kenya's sovereign rating

Negative outlook on the sovereign reflects the rising financing risks posed by Kenya's large gross borrowing requirements at a time when the fiscal outlook is deteriorating.

Resilient financial profiles but increasingly challenging operating environment

Owing, in varying degrees, to banks' deposit-funded profiles, strong liquid assets and high profitability.

Risks to asset quality and profitability in the next 12-18 months

Slower economic activity amid the coronavirus-induced disruption, with growth slowing to 1% in 2020, from 5.4% in 2019 and well below the five-year average of 5.6%.

"A greater visibility over the depth and length of the current crisis will be necessary in order to fully quantify the impact on banks' financial metrics..."

Fiscal Outlook is Deteriorating

Kenya's fiscal metrics exposed to **exchange rate and interest rate** shocks. While Kenya does not face acute financing pressures, the severe tightening of financial conditions will challenge the government's ability to meet larger gross financing needs…

Banks have sizable holding of sovereign debt

Moody's rated banks' exposure to Sovereign debt between 1.3-2.0 times their shareholders' equity which links their creditworthiness to that of the government.

Source: Moody's Investors Service Rating Action: Moody's affirms the ratings of Kenyan banks; changes outlooks to negative (12 May 2020)

Macroeconomic Environment

Epidemiological Situation, Kenya

Legend:
- Daily cases (L)
- Cumulative cases (L)
- Cumulative deaths (R)

Real GDP, 2019Q4 = 100, Kenya

Legend:
- Downside
- Upside
- Baseline
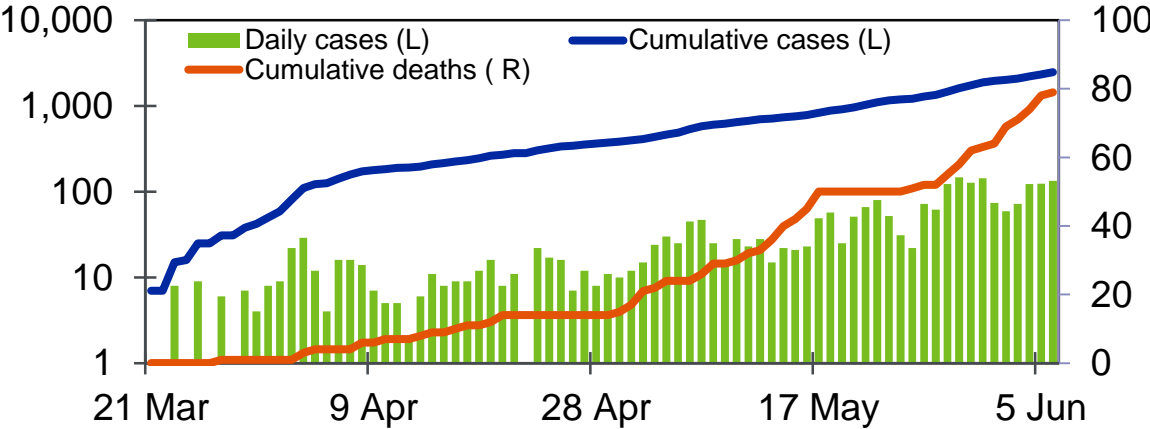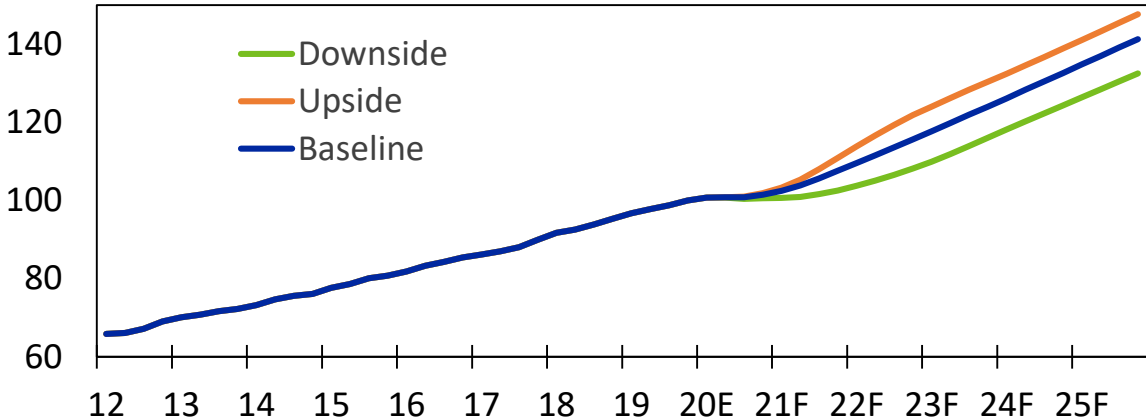
Real GDP, 2019Q4 = 100, Tanzania

Legend:
- Downside
- Upside
- Baseline
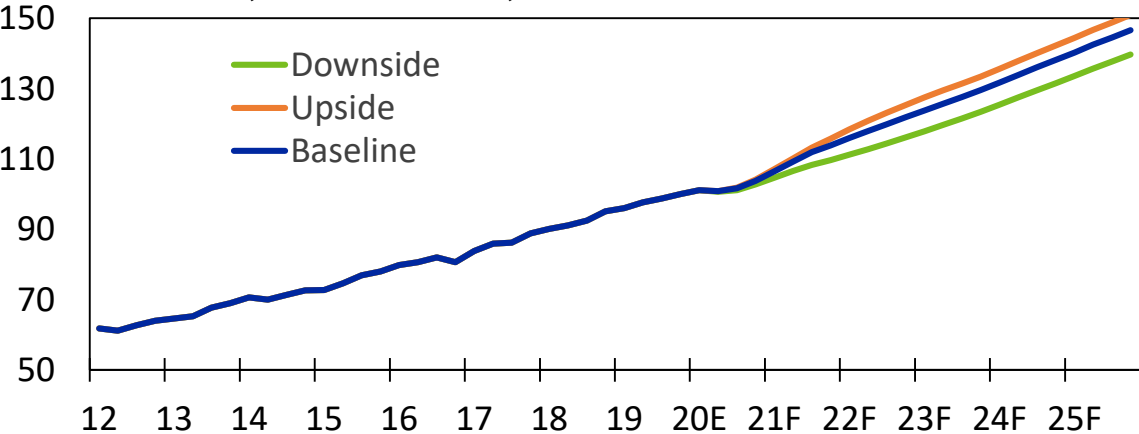
Real GDP, 2019Q4 = 100, Uganda

Legend:
- Downside
- Upside
- Baseline
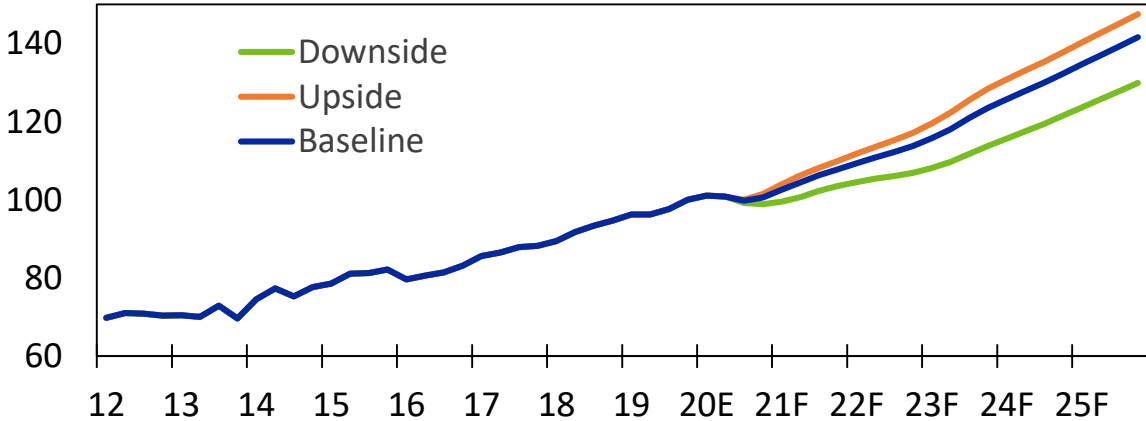
3 | Credit Risk Trends

COVID-19 Impact on Credit Risk for Kenya

Average Probability of Default for Corporate (All Industries)
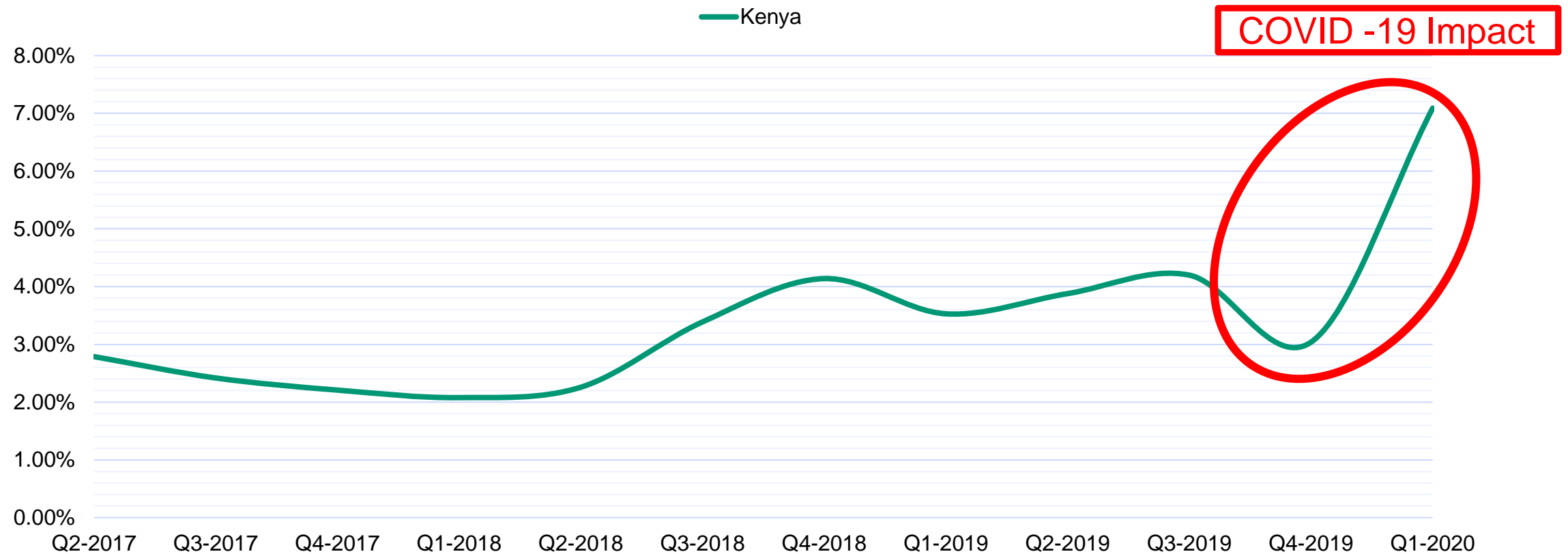
Source: Based on Moody's Analytics EDF™ Credit Measure and Point in Time Converter Model

Sectoral Differences in Credit Risk Exists

COVID -19 Impact on Significant Industries

» Corporate sectors to which Banks are exposed (based on Moody's rated bank portfolios' sector analysis)

» All Industries across the board has seen an increase in risk

» Relative riskiness of the industry sectors has changed

» Hotels & Restaurants, Construction, Oil & Gas, Air Transportation has experienced the largest movements

» Finance, Insurance, Real Estate and Agriculture have seen relatively less impact

» Implications for IFRS 9 Provisions of Banks

Legend:
- HOTELS & RESTAURANTS
- CONSTRUCTION
- TRANSPORTATION
- MINING
- BANKS
- REAL ESTATE
- AGRICULTURE

Y-axis: 2.00%, 3.00%, 4.00%, 5.00%, 6.00%, 7.00%, 8.00%, 9.00%
X-axis: Q4-2019, Q1-2020
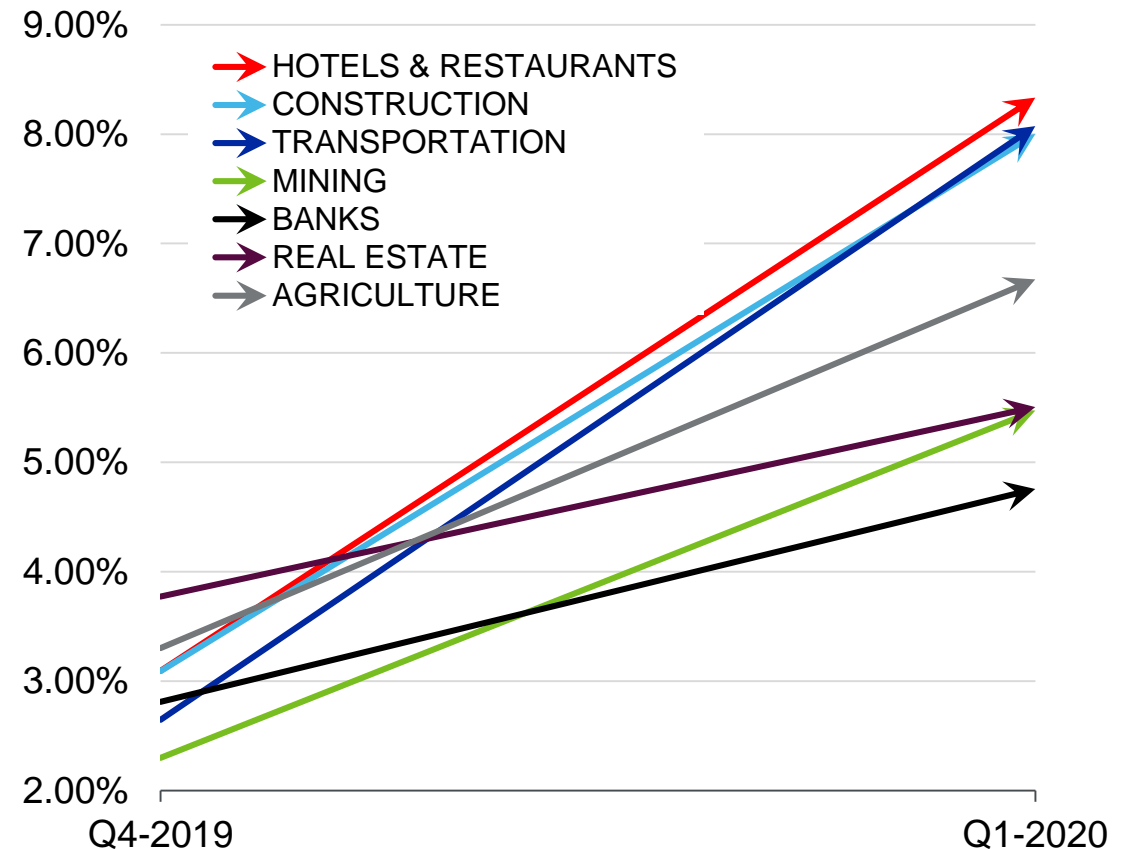
Source: Based on Moody's Analytics EDF™ Credit Measure and Point in Time Converter Model

Expected Credit Losses Set to Increase

Forward-looking views on economy and market reaction contribute to spike
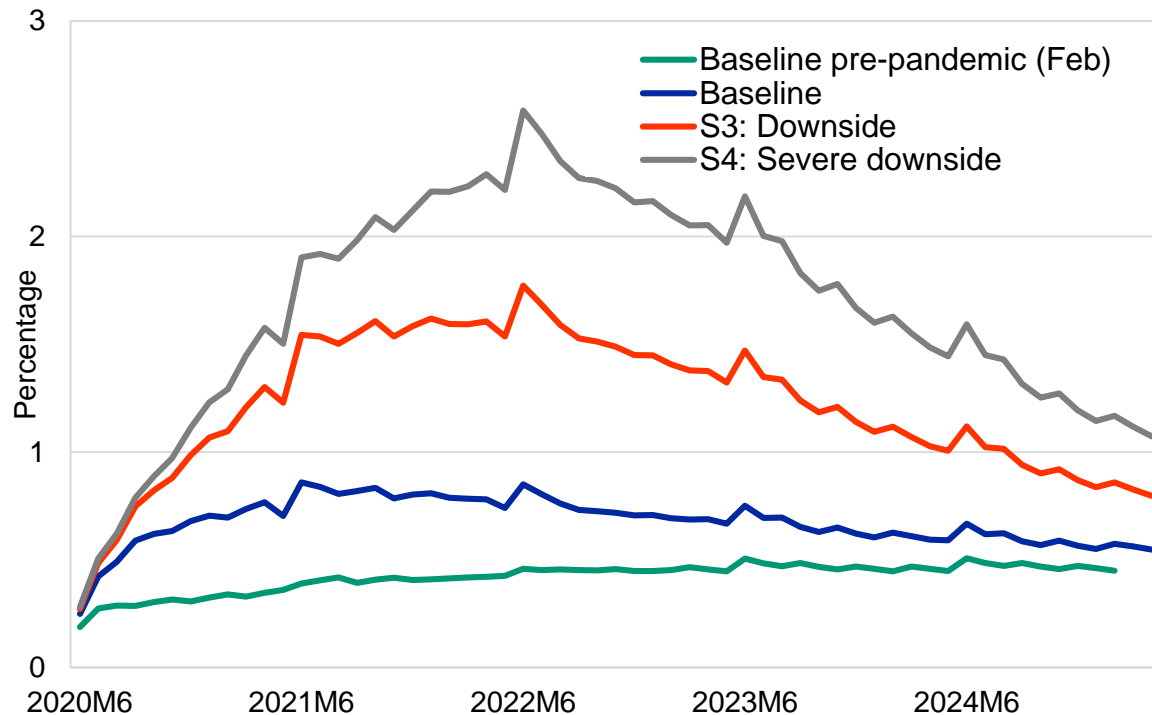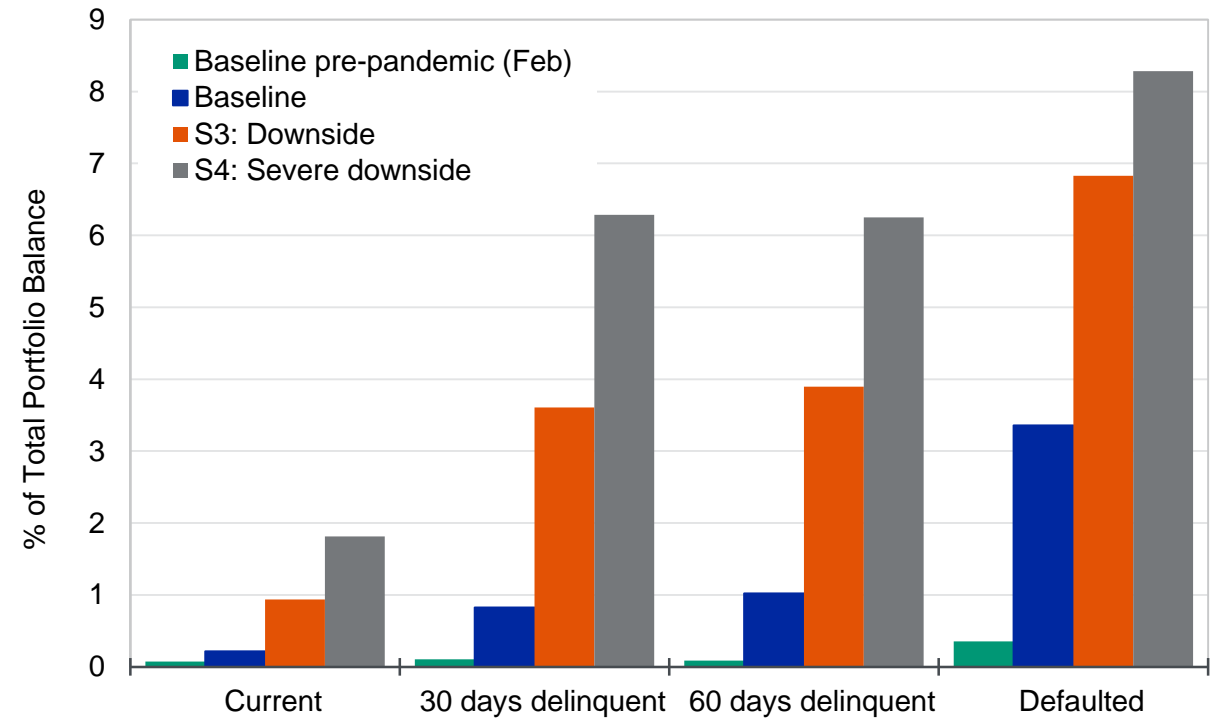
Sources: Mortgage Portfolio Analyzer, Moody's Analytics

4 | How to Navigate Credit Losses Post Pandemic?

Three-Step Approach to Managing ECL / NPLs

Holistic view on credit risk measurement and management

1.Risk Profiling

Relevant data collection and scorecards determine most profitable customers with lowest risk

Data fields for assessing risk and establish long-term data collection

Portfolio segmentation & scorecards set-up

2.Strategy Formation

Balancing risk and profitability

Building decisioning tools for loan granting and pricing

Dynamic scorecards to reveal portfolio default tendencies and customer behaviour
- Behavioural scorecards
- Early warning indicator models

3.Model & Strategy Update

Enhancement of risk models and strategies with incoming data

Update risk profiling with quantitative models

Recalibrate weights and strategies based on observed customer performance

Key to Success: Models to Inform Decisions

Manage risk, identify opportunities and comply with regulation

Scenario Generation
Stress Testing
Reverse Stress Testing
IFRS 9 Impairment Modeling
ICAAP with IRRBB
Credit Risk Concentration
Economic and Regulatory Capital

Application Scorecards
Credit Policies
Risk Based Limit Management and Pricing
Risk and Profitability Based Decisioning
Credit Line Assignment
Risk Appetite Framework

Behavioral Scorecard
Credit Transition Matrix
Credit Line Management
Fraud Detection
Loss Forecasting
Scenario Generation
Stress Testing
Early Warning Indicators
Propensity and Churn Modeling

Collection Scorecard
Optimal Workout
Credit Policies
Roll Rate Analysis
Tracking Collectors Efficiency

Regulatory Reporting

Origination

Collection & Recovery

Portfolio Management

Model Monitoring

Model monitoring assesses model performance from three aspects to reveal vulnerabilities early on

Discrimination	Accuracy	Stability
Model ability/power to discriminate between events and non-events, e.g., defaults and performers, and the power to rank-order risk. Applicable to choice models with binary outcome (e.g., PD or scorecard models).	Model ability to deliver accurate best estimate/prediction of output. Applicable to virtually all models with quantifiable output and an observable real-world counterpart.	Comparison of distributional aspects of development sample, on the one hand, with those of any other sample, usually production.
» Gini/ROC – K-S Statistic » Brier Score*	» Deviation of Actual from Predicted » HL/Chi-square test	» Population Stability » Characteristic Stability

Many Banks' Credit Risk Models Are Vulnerable

Many credit measures don't work in the current environment

Internal Ratings

» Rely on historical data and name level analysis

» Cannot be updated as frequently as the virus evolution

» Hard to incorporate past events into forward looking views

Loss Forecasting and Accounting Models

» Use broad brush economic indicators and portfolio level forecasts

» Can't differentiate across Impacted industries

Fiscal and Monetary Impact

» Doesn't factor virus trajectory

» Doesn't factor fiscal stimulus
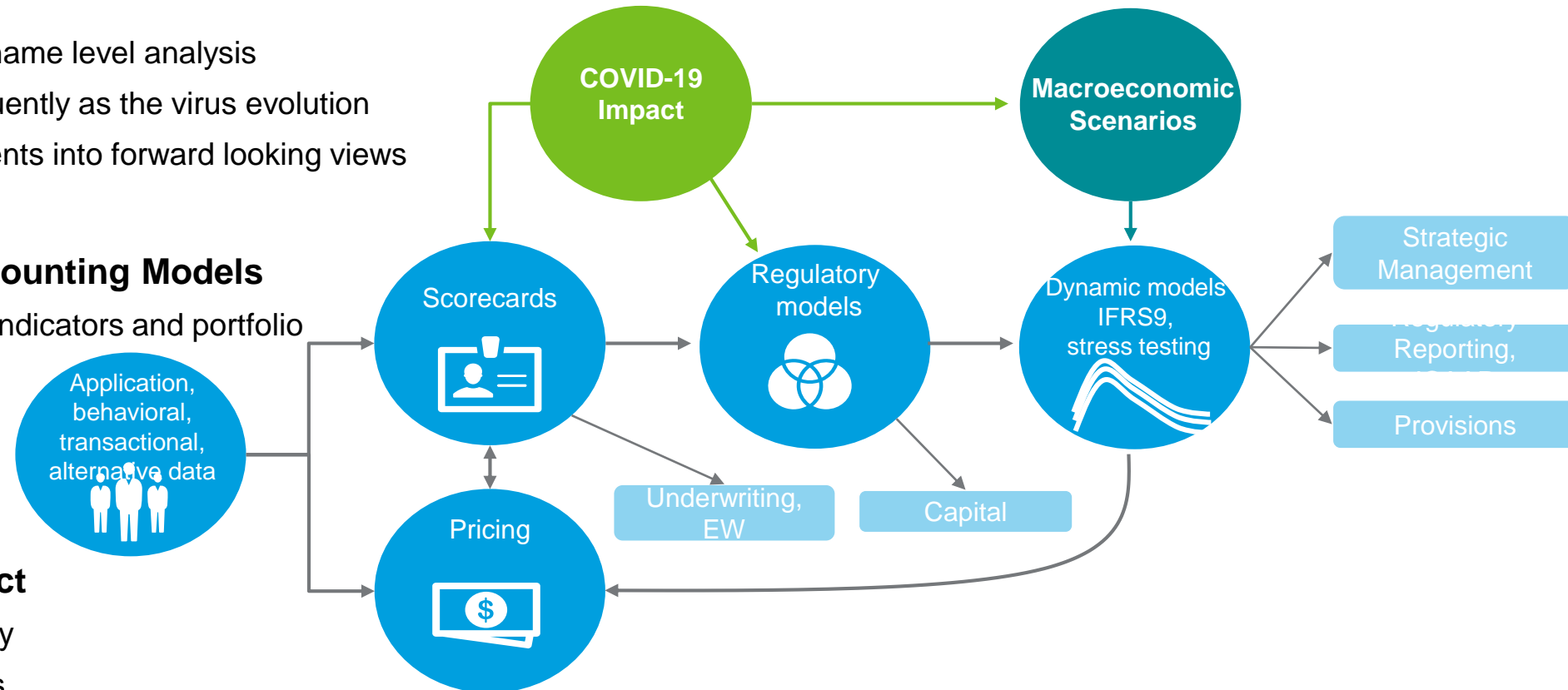
What Should Financial Institutions Do?

Focus on forward-looking capital and liquidity planning

Understand → **Identify** → **Measure** → **Act**

Scenario analysis

- ❖ Quantify what COVID-19 means for the economy
- ❖ Assessment of fiscal stimulus impact
- ❖ Generate multiple future paths for the evolution of COVID-19
- ❖ Simulate losses around COVID-19 scenarios

Credit monitoring

- ❖ Which part of the book I should be most worried about?
- ❖ Early warning system and triggers
- ❖ Identify vulnerable (country and industry) segments and customers

ECL & NPL

- ❖ Scenario-based forecast of ECL and NPLs
- ❖ Cross Industry COVID-19 Overlay Models
- ❖ Test the impact of different strategies

Management & Optimization

- ❖ Planning for vulnerable exposures and portfolios under stress
- ❖ Improve risk & return profile and optimize capital allocation on the back of COVID-19
- ❖ Strategic response on balance sheet risk, ALM and Liquidity Risk

COVID-19 Analytics and Data
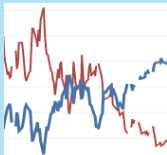
Current Internal Rating Assessment

Average ratings anchored off of Dec 31, 2019 using Cross-Sectional COVID-19 Overlay

Industry	Investment Grade Portfolio		High-Yield	
	Internal Rating Dec. 31, 2019	Estimated Internal Rating Assessment Mar. 31, 2020	Internal Rating Dec. 31, 2019	Estimated Internal Rating Assessment Mar. 31, 2020
Oil Refining	Baa2	Ba2	B2	Caa1
Air Transportation	Baa2	Ba2	B1	B3
Consumer Durables	Baa2	Ba1	B2	Caa1
Restaurants	A3	Baa1	B2	Caa1
Pharmaceuticals	Baa2	Baa2	B3	Caa1
Food & Beverage	Baa2	Baa2	B2	B2
Utilities, Electric	Baa2	Baa3	Ba2	Ba2

Rating assessments on March 31, 2020 for hypothetical investment grade and high-yield portfolios based on a December 31, 2019 rating anchoring date; a date representing a reasonable, well-understood state of the portfolio. For exposition, we highlight industries with varying impact to COVID-19.

Impact of COVID-19 Across Industries

One-year default probabilities along scenarios

Industry	PD (Q4/2019)	PD (Q1/2020)	Projected Annualized PD (Q4/2020 Downside 90TH Percentile)	Projected Annualized PD (Q4/2020 Deep Downside 96th Percentile)
HOTELS & RESTAURANTS	3.09%	8.33%	11.66%	12.38%
CONSTRUCTION	3.09%	8.00%	11.79%	12.64%
TRANSPORTATION	2.65%	8.07%	12.01%	12.91%
MINING	2.30%	5.47%	7.80%	8.33%
BANKS	2.81%	4.76%	6.55%	6.95%
REAL ESTATE	3.77%	5.51%	8.08%	8.68%
AGRICULTURE	3.30%	6.67%	9.68%	10.37%

Moody's Analytics Scenario Narratives for Kenya forecasts: Expected impact of a unique combination of domestic and external factors.

Downside 90th The coronavirus crisis persists longer than expected and deepens with more cases and deaths than anticipated. Restrictions on travel and business closures wind down more slowly during the second quarter of 2020 than in the baseline and do not end until **July**. The slowdown in global business sentiment and reduction in stock prices reduce global demand for **Kenyan exports** and investment inflows to Kenya. Meanwhile, the European economy struggles to recover from the pandemic, further reducing the tourist flow from the North...

Downside 96th The deep downside begins with the crisis lasting longer with more cases and deaths than anticipated. Restrictions on travel and business closures wind down more slowly than in the baseline throughout the second quarter and into the third quarter, and do not end until **August**. This implies a more severe recession in Kenya…In this protracted pandemic scenario, Kenya's economic growth substantially decelerates, recovers slowly as the weight of the global recession depresses international trade.

PD Projection Across Pandemic Pathways
Highlights Different Sectoral Sensitivies to Kenya Macro Forecasts

Annualized PD Forecast (Quarterly)

Legend:
- HOTELS & RESTAURANTS - 90TH DOWNSIDE (red solid)
- BANKS - 90TH DOWNSIDE (black solid)
- HOTELS & RESTAURANTS - 96TH DEEP DOWNSIDE (red dashed)
- BANKS -96TH DEEP DOWNSIDE (black dashed)

Y-axis: Probability of Default (2.00%, 4.00%, 6.00%, 8.00%, 10.00%, 12.00%)

X-axis: Q4-2019, Q1-2020, Q2-2020, Q3-2020, Q4-2020, Q1-2021, Q2-2021, Q3-2021, Q4-2021, Q1-2022, Q2-2022, Q3-2022, Q4-2022, Q1-2023, Q2-2023
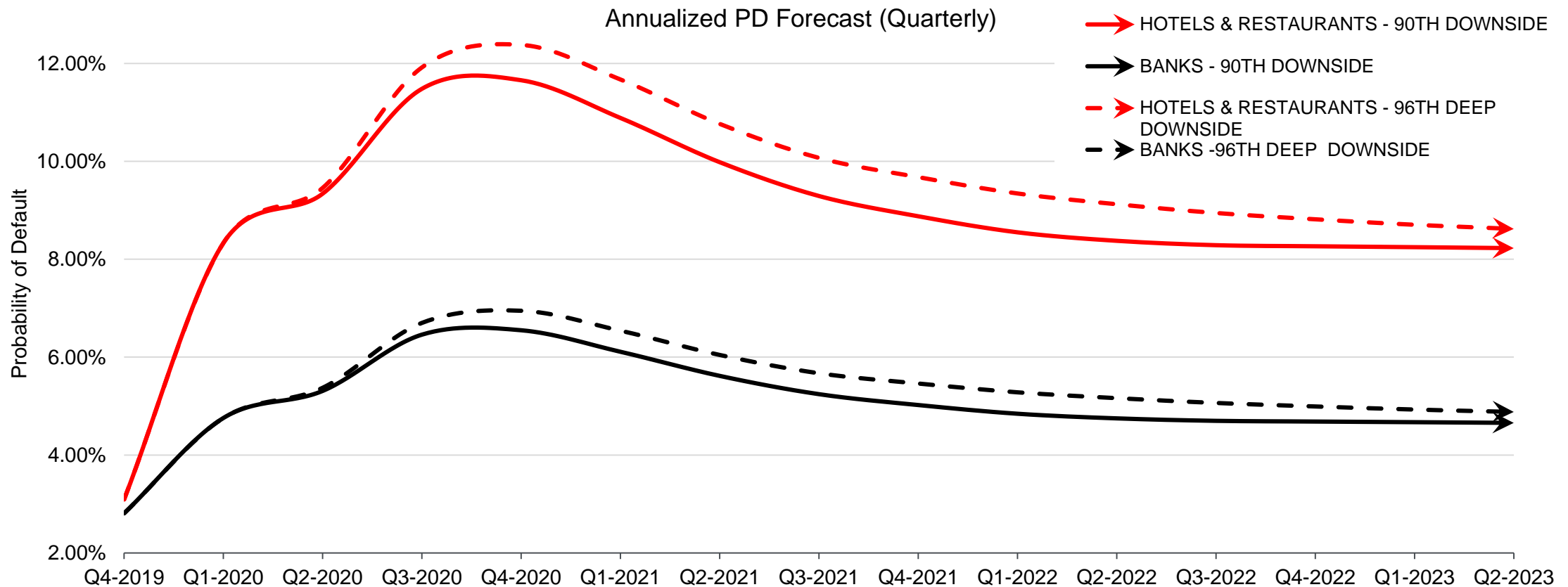
Source: Based on Moody's Analytics EDF^{TM} Credit Measure, Point in Time Converter and Gcorr Macro Models, Based on Kenya GDP and Equity Prices Forecast

Managing credit portfolios in the current environment is a challenge we've never experienced.

Requires a unique data set and analytics updated frequently

Across a range of economic paths, inclusive of fiscal stimulus actions

With multiple applications to help manage risk

4 | Q&A