



# Augmenting planning and stress-testing with deeper insights

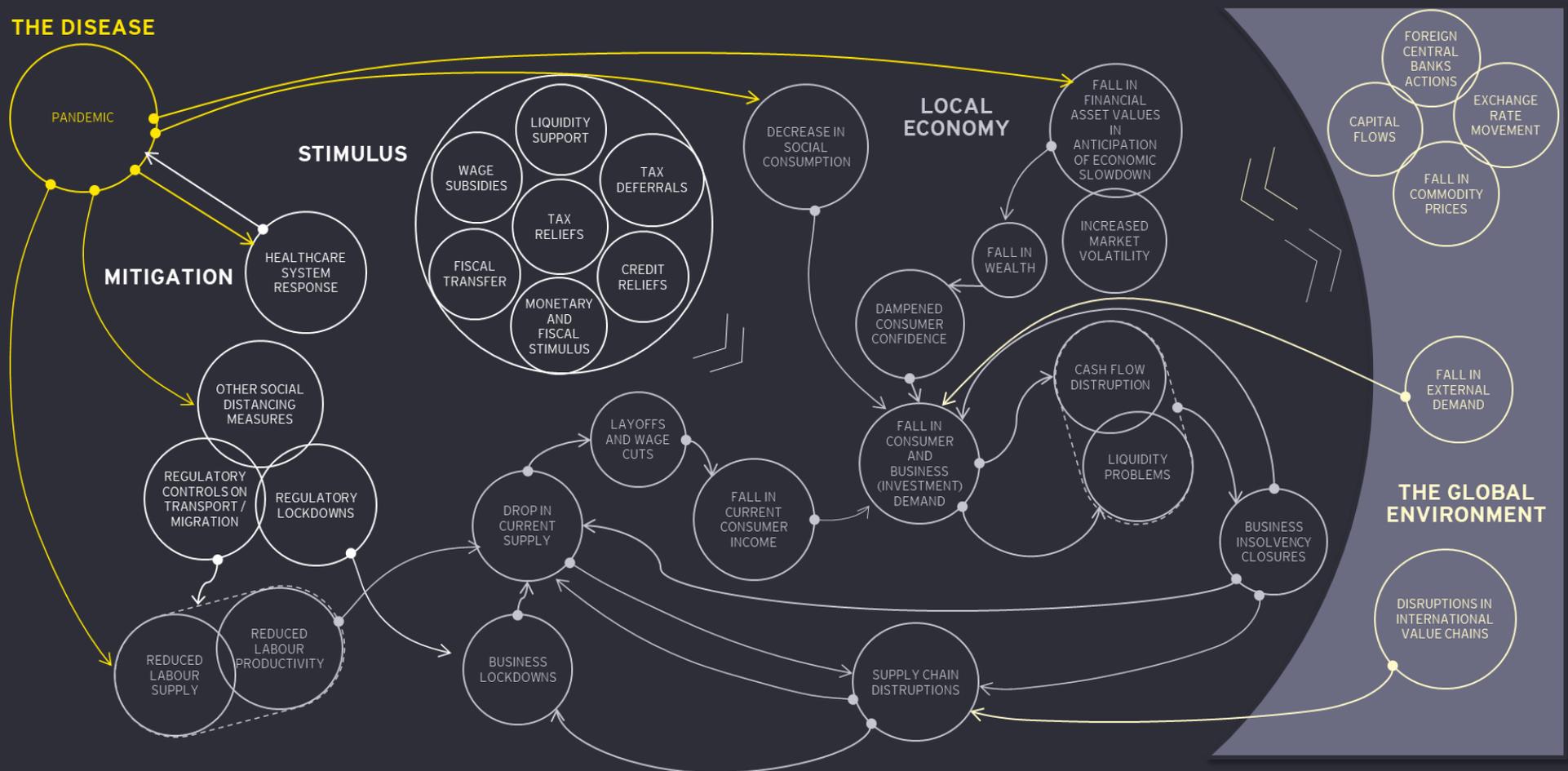
COVID-19 impact on banks

May 2020

# The COVID-19 crisis generated significant socio-economic impacts not captured by the traditional planning and stress-testing processes

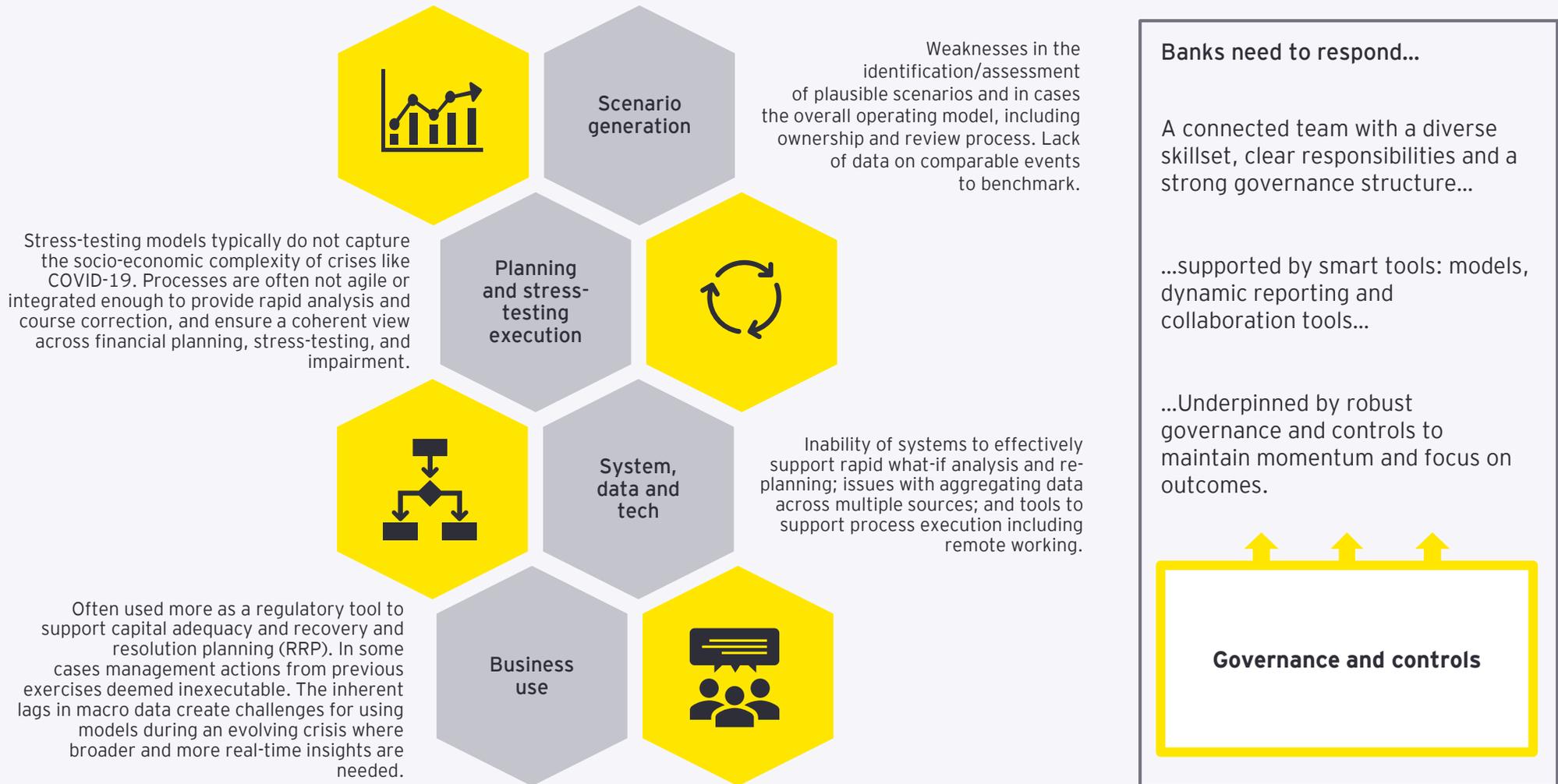
Forecasting approaches require enhancement so they can be used to help navigate through the current crisis and serve as more useful management tools going forward. These improvements are needed to address immediate priorities, such as half-year financials, third quarter (Q3) recovery plan submissions (Europe) and year-end financials. The broader set of enhancements identified have important benefits for longer-term strategic objectives such as sustainability

## THE DISEASE



# Challenges through a capabilities lens

The COVID-19 crisis has underlined some known weaknesses in planning and stress-testing frameworks and exposed some new ones.



# Embedding better insights in the planning and stress-testing framework

Existing frameworks can be leveraged with targeted enhancements. Judgmental inputs should be incorporated but in a structured and controlled way.

## Internal data

New ways of using internal data to underpin modeling such as:

- ▶ Baseline plans and base case scenario
- ▶ Direct inspection of obligor level risk drivers (e.g., fundamental analysis)
- ▶ Emerging policy insights (use of forbearance)

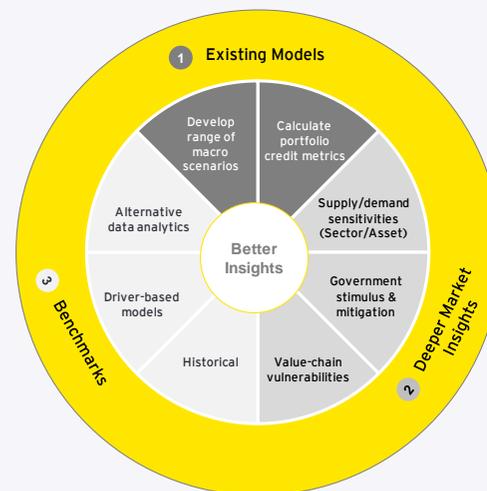
## External data

Leverage broader range of external information to augment and challenge existing analysis:

- ▶ Pandemic and economic forecasts - baseline, upside and downside
- ▶ Sectoral/regional
- ▶ Global value-chain disruptions
- ▶ Non-traditional indicators (e.g., air traffic volumes, high street foot-fall)

## Augment framework with deeper economic and market insights to improve decisions

Combinations of risk/econometrics modeling, qualitative analysis and benchmarking assessments determine a plausible range of outputs.



1. Existing models typically provide good insight into the sensitivity to macroeconomic drivers but miss key nuances (regional/sectoral/behavioural).
2. Deeper market insights through analysis of fundamental supply/demand behaviours, local and international value-chain features and the impact of government and supervisory action..
3. Benchmarks can be derived from alternative modeling approaches, driver based models or empirical analysis of similar events (historical or contemporary) to challenge existing model outputs.

## Explore, challenge, respond

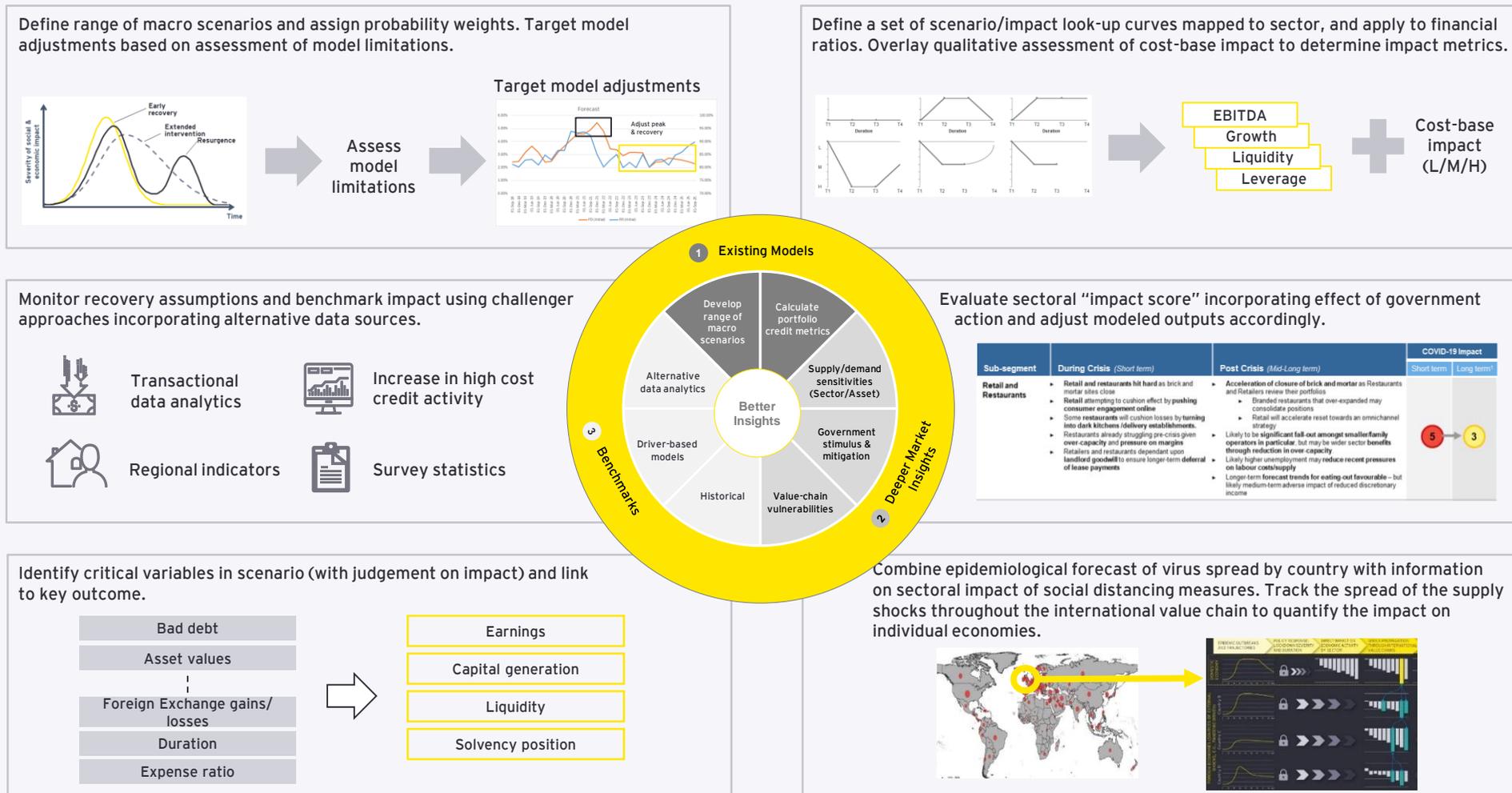
- ▶ Establish early warning triggers to identify actions
- ▶ Track external environment and iterate scenario analysis
- ▶ Engage to drive common view across planning, stress-testing, and impairment
- ▶ Monitor recovery progress and iterate assumptions

**Process and governance:** Align capabilities across forecasting functions and strengthen governance.

**Data, models and technology:** incorporate additional data sources tailored to the portfolio to support model adjustments.

# Augment framework with deeper economic insights

No single component will give the complete picture. A range of modeled, qualitative and benchmark information should be explored to establish well-reasoned and defensible forecasts. Some illustrative example are provided.



# Priorities: Now, next and beyond

## Now

- 1 Evolve scenarios** based on new information and using Q1 reporting as a benchmark.
- 2 Augment modeled outputs** to capture impact of sectoral sensitivities, government actions and benchmarks.
- 3 Enhance analytics** in targeted areas to leverage broader data sources (e.g., non-traditional data, value chain analytics).
- 4 Drive consistency** through forums with representation from provisioning, strategy, planning and stress-testing.

Addressing the “Next” challenges below will help prepare for the upcoming wave of regulatory scrutiny, and support closing regulatory findings. Further investments in enhancing capabilities beyond this can be leveraged to support meeting sustainability requirements (including climate risk) and embedded into planning and decision making.

	Next	Beyond
<b>Scenarios</b>	<ul style="list-style-type: none"> <li>▶ Establish monitoring of sector-specific leading indicators, (e.g., air traffic volumes, high street foot-fall) and leveraging a broader range of economic data</li> <li>▶ Targeted enhancement of key analytical capabilities incl. supply chain analytics</li> <li>▶ Establish a more agile scenario refresh operating model and associated governance process</li> </ul>	<ul style="list-style-type: none"> <li>▶ Strengthen the scenario design framework to include professionals beyond traditional economist to consider more wide ranging scenarios including climate epidemic and cyber related scenarios</li> <li>▶ Establish a robust process develop a range of scenarios severity and maintain wider ranging scenario library</li> </ul>
<b>Estimating impacts</b>	<ul style="list-style-type: none"> <li>▶ Improve Management Information (MI) to explain results, including reconciliation between accounting and stress testing and financial planning sensitivities where forecasts are not aligned</li> <li>▶ Establish challenger methodologies and additional benchmarking processes</li> </ul>	<ul style="list-style-type: none"> <li>▶ Rationalize and integrate forecasting model landscape and centralize execution platform/capability</li> <li>▶ Develop advanced on demand analytics capability for agile exploration of vulnerable groups and bottom up rules based impact/sensitivity analysis</li> </ul>
<b>Enhancing process &amp; controls</b>	<ul style="list-style-type: none"> <li>▶ Strengthen level of engagement from portfolio management teams and front office to ensure robust challenge</li> <li>▶ Enhance workflow management and communication channels to ensure rapid ongoing response and timely engagement from front office and businesses</li> <li>▶ Establish clear channel off approval to avoid cycles of iteration of results</li> </ul>	<ul style="list-style-type: none"> <li>▶ Redefine and simplify roles and responsibilities to strengthen overall engagement and accountability</li> <li>▶ Embed audit controls, lineage, time-stamping, version management, etc., as part of the forecasting platform</li> <li>▶ Design playbooks for different scenarios (e.g., epidemic, cyber), defining key working group and processes to rapidly estimate impacts</li> </ul>
<b>Agility through technology</b>	<ul style="list-style-type: none"> <li>▶ Stocktake of limitations and direct/indirect costs of existing systems -support/licencing, but also manual workarounds</li> <li>▶ Peer analysis around areas of technology investments and associated design choices</li> <li>▶ Consider investment option and associated costs/benefits</li> </ul>	<ul style="list-style-type: none"> <li>▶ Maximize the use of technology to create flexible execution capacity and reduce production cycles</li> <li>▶ Enhance data visualisation to enhance analytics and insights capabilities</li> <li>▶ Transition to workflow integrated in the execution process</li> </ul>
<b>Alignment and embedding</b>	<ul style="list-style-type: none"> <li>▶ Integrate and leverage COVID-19 stress testing outputs into re-planning and budgeting exercise to understand key risk to “new plans”, monitor planning assumptions and support corrective actions</li> <li>▶ Establish virtual forecasting centres of excellence drawing upon diverse expertise from stress testing, planning, strategy and provisioning</li> </ul>	<ul style="list-style-type: none"> <li>▶ Fundamentally align and consolidate stress testing, financial/strategic planning and provisions capabilities to create consistency, transparency and efficiency</li> <li>▶ Embed outputs of stress testing in business KPIs, including multiple scenario based metrics</li> </ul>

## Asking better questions

How can the learnings from this crisis be used to create a more dynamic and responsive analytics framework and operating model, which aligns stress testing and planning to steer the business?

- ▶ How can you adequately quantify the impact of Government action?
- ▶ How do you re-design credit and lending policies for the post-COVID-19 world?
- ▶ How can you ensure you can track the real-time economic recovery status?
- ▶ How can you harness the vast amount of data generated through planning and stress-testing to make better decisions?
- ▶ What additional data/drivers are needed to capture the granularity of the COVID-19 crisis impact and embed in day-to day management?
- ▶ What investment program can be leveraged to evolve planning and stress testing?
- ▶ How can the infrastructural changes required for the fundamental review of the trading book (FRTB) be leveraged for better forecasting?
- ▶ How will your stress-testing framework capture the shocks to credit value adjustment and funding fair value adjustment?
- ▶ Do your existing capabilities allow for continuous emerging risk impact assessment?
- ▶ Do liquidity stress-testing and management frameworks and early warning indicators need to be redesigned and/or recalibrated to reflect to incorporate current market stress?
- ▶ Are there any missing early warning indicators or market signals that should be monitored?
- ▶ How can the incremental infrastructure needed for the COVID-19 crisis be leveraged for sustainable finance?
- ▶ How can the similarities in the mechanism for credit model adjustments under COVID-19 be best leverage for sustainable finance?

# Tools and accelerators



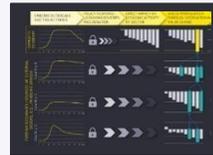
## EY Spotlight

EY Spotlight is a powerful analytical tool for calculating impacts on expected credit losses. The tool provides real-time updates on the status of the COVID-19 crisis globally, macro-economic impacts and forecasts of market participants and simulates the impact of the COVID-19 crisis on loan losses, and factors in deterioration of credit quality and temporary relief measures. In addition, COVID-19 related expected credit loss (ECL) results and assumptions can be benchmarked with market participants.



## Data Harvester

Data Harvester is an automated data collection tool to capture public financial and other vital company specific information and creates a structured data repository at customer/company level. It provides complete audit trail of data creation process to ensure better data governance and management.



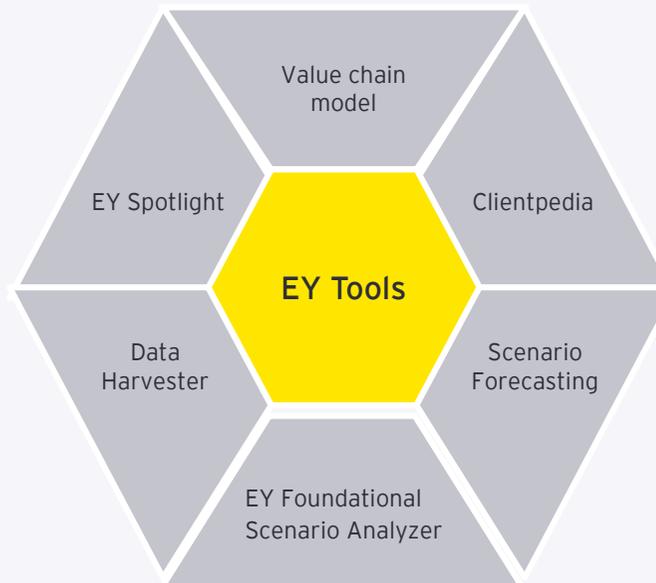
## EY Value Chain and Multi-Sector Forecasting Tool

EY Value Chain and Multi-Sector Forecasting Tool combines epidemic forecasting with global value chain and dynamic computable general equilibrium (CGE) models to account for lockdown risk, policy responses and international risk transmission.



## Clientpedia

Clientpedia uses directed weighted graph theory and dedicated algorithms to identify the keystone clients and suppliers with bank exposure, as captured by the transaction data. Transaction data can further be monitored to identify the clients that have been placed into financial difficulty as a result of the COVID-19 crisis and the downstream suppliers which have exposures to the bank. Credit decisions can then be made such as modifying lending limits to help protect the bank from exposure to impacted clients earlier in the process.



## EY Foundational Scenario Analyzer

The Foundational Scenario Analyzer tool is a multi-scenario modeling tool with key features including projections, what-if analysis, automated profit & loss, cashflow and balance sheet reporting, and dashboards



## Scenario Forecasting Tool

The tool provides a range of scenario expansion capabilities including modeled variable projections, testing and bespoke overlay capability, workflow and visualisation tools. It supports variables across risk types (market, credit, liquidity).

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