



# Balance Sheet Management - The Return of Classical Risks

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#SASInnovate



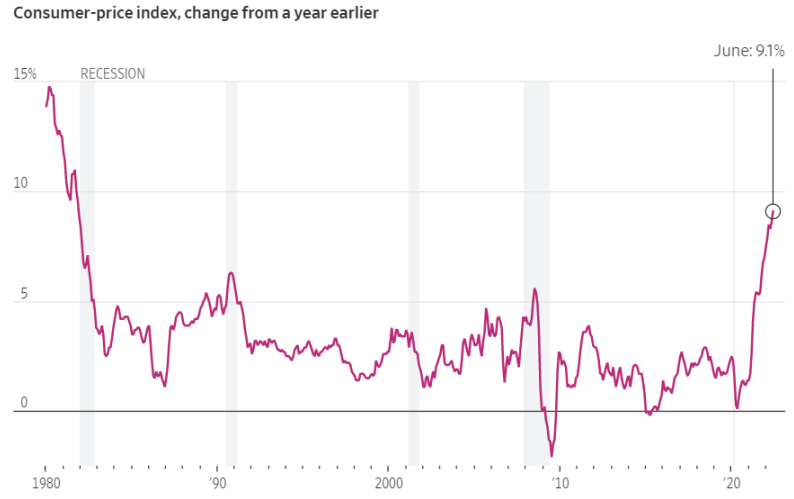
# Regime Shift: Interest Rates, Liquidity and Credit

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S&P 500 3,861.37 ▼ -1.45% Nasdaq 11,117.16 ▼ -1.95% Crude Oil 76.65 ▲ +1.23% US 10 Yr 3.69 ▲ +1.79% Euro 1.06 ▲ +0.64% Dow Jones 31,844 < >

## Inflation Hits 9.1% as Prices Rise Broadly Across Economy



### Gasoline costs lead highest rise in CPI November 1981

The June increase in the consumer-price index eclipsed May's 8.6% rate, which led the Federal Reserve to shift to a faster pace of rate increase.

- Live Updates: Euro Flirt: Dollar Parity
- Volatility in Bonds Deep



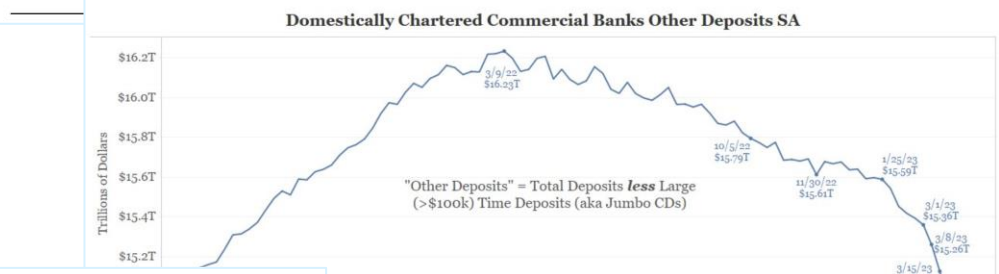
## Silicon Valley Bank Collapses in Biggest Failure Since 2008

updated 11 minutes ago

**Live:** SVB Is First FDIC-Insured Institution to Fail in 2023

How a Bank Run Closed SVB and Where That Could Lead (updated an hour ago)

The Everything Bubble Implosion Comes for Banks (updated 2 hours ago)



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S&P 500 4,146.22 ▲ +1.33% Nasdaq 12,166.27 ▲ +1.99% Crude Oil 82.27 ▲ +0.13% US 10 Yr 3.46 ▼ -0.09% Euro 1.11 ▲ +0.11% Dow Jones



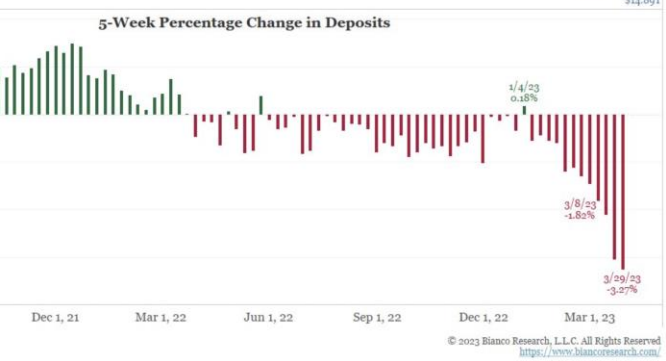
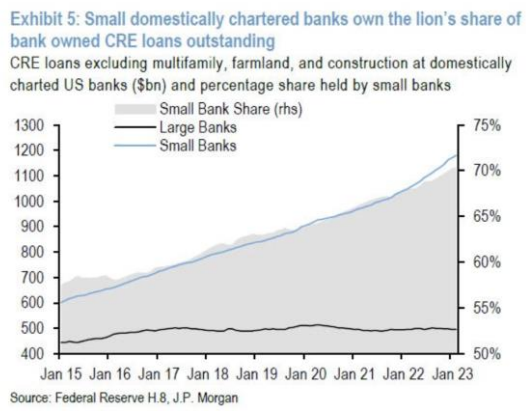
## JPMorgan Shares Jump in Early Trading as Deposits Rise Unexpectedly

updated 25 minutes ago

Nasdaq Futures Slip as Bank Earnings Deluge Begins: Markets Wrap (updated an hour ago)

BlackRock Assets Exceed \$9 Trillion in Wake of Bank Failures (updated an hour ago)

Wells Fargo Net Income Beats on Fed Hikes (updated 46 minutes ago)



# Global Risks 2023: Today's Crisis

“In 2023 the world is facing a **set of risks that feel both wholly new and eerily familiar.** We have seen a **return of “older” risks.**”



**Energy Supply Crisis**



**Cost-of-living crisis**

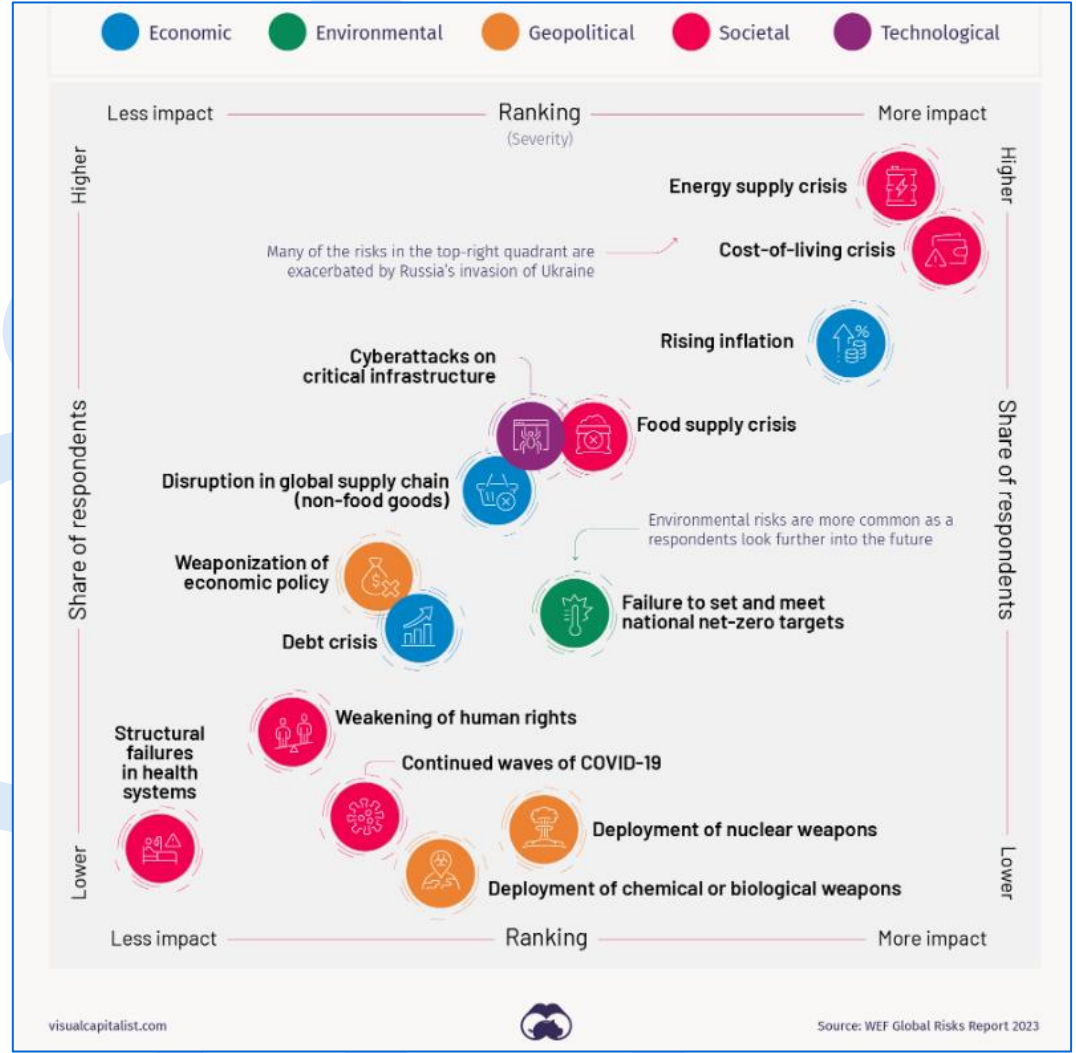


**Rising inflation**



**Food supply crisis**

Among the 2023 top risks with the greatest potential impact on a global scale the participants chose



World Economic Forum – Global Risk Report 2023

# How should Bank Management teams respond?

Bank management teams should take the lessons learned from recent events seriously.

- **Behavioral models:** Revisit deposit migration, outflow, and beta assumptions to see if they are sufficiently conservative given SVB's experience (including correlation)
- **Examine liquidity reserves,** including ability to monetize security positions (in both AFS and HTM books) under stress scenarios given the potential impact on capital adequacy
- **Review counterparty and credit exposures,** particularly with financial institutions and institutions likely to be impacted by recent events; there is still risk of further contagion and banks should be prepared from a risk management perspective for what is likely to be a rapidly evolving situation if regulators fail to calm markets and depositors
- Consider the importance of a **more diversified balance sheet** to endure stresses in the market, reposition as needed, and more effectively manage the impact of business cycles and monetary policy actions
- Review existing contingent **funding and capital plans** to ensure actions are fit for purpose for current market conditions

*Source: Oliver Wyman "PERSPECTIVES ON RECENT U.S. BANKING EVENTS", March 13th.*

# Implications for Risk Management

Entering new post-Covid era where expert judgement will be more important than even supported by the next generation technology

## Greater Interdependencies

As central bank balance sheets start to unwind, there will be greater connection between interest rate, credit and liquidity risks

The correlation structure across risk factors is going to change – past experience will not be representative of the future

Faster and more dynamic market events, correlation shocks

Increased market fragility

## Behavioral Changes

Borrower behavior is changing

Monetary and fiscal policy changes

New data and risk factors will be needed to adequately assess risk

Greater role of FinTech and non-banking sector

Changing nature of employment

## Credit Cycle

Unusually favorable credit environment will likely change

Cash flow, business sustainability and balance sheet strength will grow in importance for credit risk

New generation of structured credit will need careful attention and analysis

“Zombie companies” will be tested with rising rates and economic slowdown

# Implications for Risk Technology

There is a need for greater integration, agility, transparency and security in risk management solutions

## Integration

Cross-department collaboration is more important than ever

Need for reduction in redundant or overlapping systems

Alignment of assumptions

Modularity and API-first design

Open-source integration/  
Open banking

Cloud-platform independence

## Agility

Faster evolving conditions require timely risk analysis

Consumers expect faster time to decision

Regulatory demands and expectations are increasing

## Transparency

How to get to the result is key to understand and demonstrate the result

Model risk management is becoming critically important

Must understand all modeling assumptions as well as the inputs

“Black box” approach is increasingly shunned upon

## Security

Cyber security is quickly becoming the top concern

Relevant security certifications are table stakes

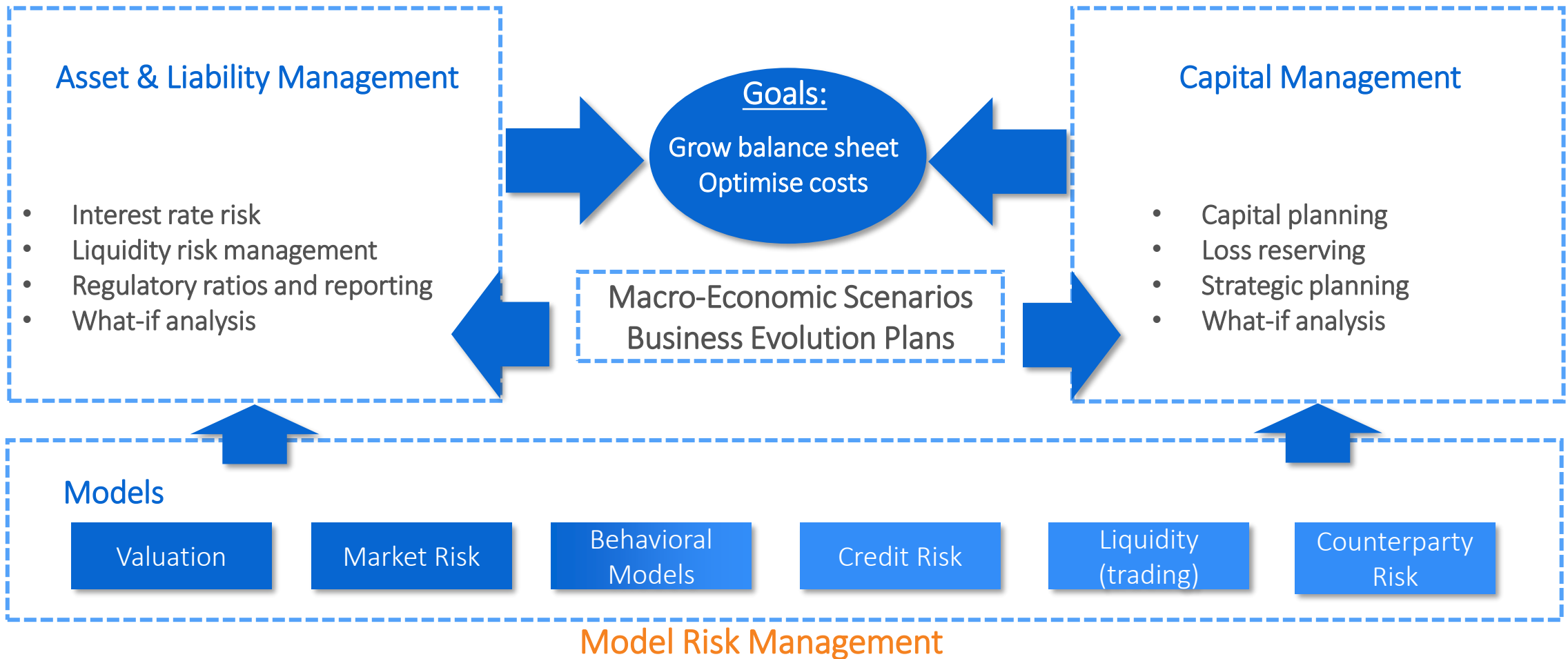
Costs of security are rising

# Integrated Balance Sheet Management

## Target Vision

### Cashflow Dynamics

### Balance Sheet Dynamics



# Integrated Balance Sheet Management

## Main Benefits

- **Bring more discipline and control**
  - Single platform to support integrated risk management,
  - Simulations can be configured across multiple Risks
  - Reduce cost Optimize of reconciliation and probability of failures and people mistakes
- **Know more in less time**
  - Users can spend more time on executing simulations and interpret results rather on data collection tasks and hand over to others users
  - Based on a collaborative central solution users can easily understand the impact of their model overlays and scalars by using the most update sign off versions of dependent models
  - Reduce the time to get results (based on automation and best of breed technology each master run can be executed in minutes rather than hours or days) – Actual process runs end to end in less than 60 minutes
- **More agility to adapt to a changing environment**
  - Ability to quickly swap calculations and configure new scenarios – react quickly to change requests
  - Ability to easily adjust report templates, to satisfy business view and support the submission to regulator (when needed)
- **Better Documentation**
  - Documentation generated as part of the work that people is really doing and not a post activity

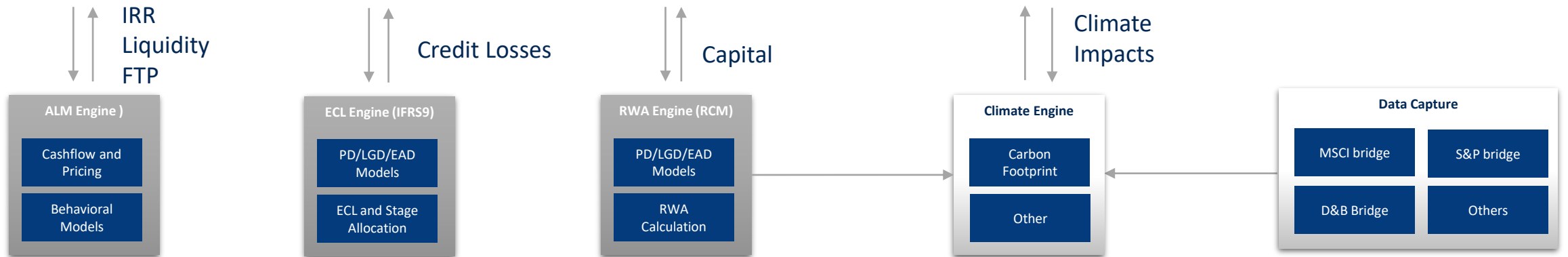
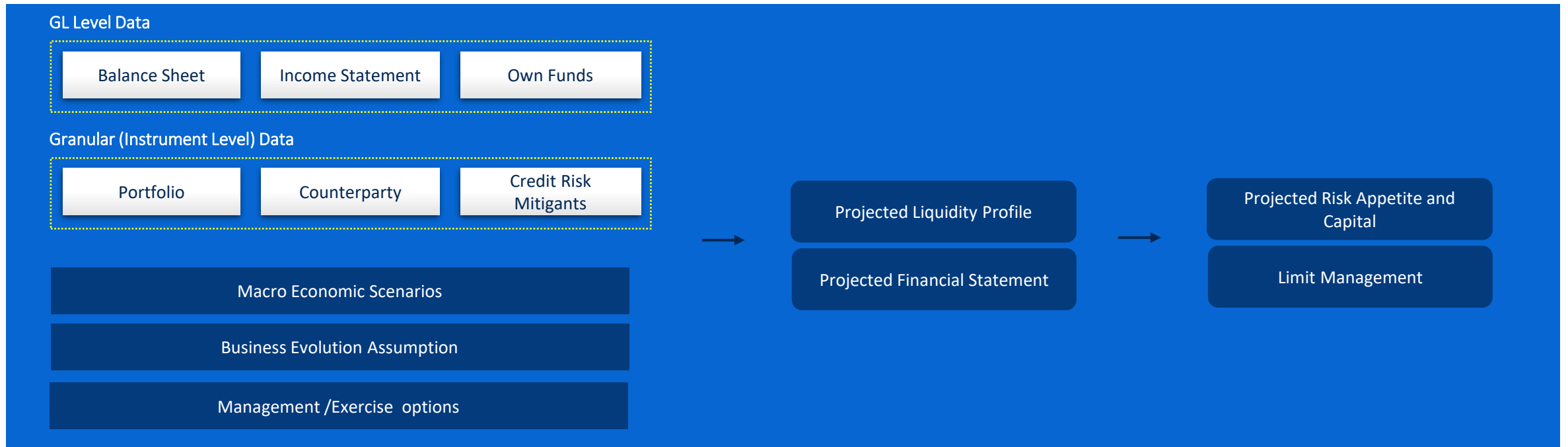


# Why now - the technology opportunity

- **Faster processing times**
  - CPUs and parallel processing has evolved to execute in minutes what 10 years ago meant hours
- **Scalable technology**
  - Cloud technology can deploy the right capacity at the right time, risk calculations by nature imply higher volumes to be processed in peaks
- **Classic Analytics working at higher detail**
  - Today's processing capacity, allows to perform complex calculations at higher detail allowing detailed bottom-up calculations
- **“New Analytics” driving new insights**
  - AI/ML models can detect new patterns and provide new insights improving predictability of risk management models and increasing scenarios being analyzed

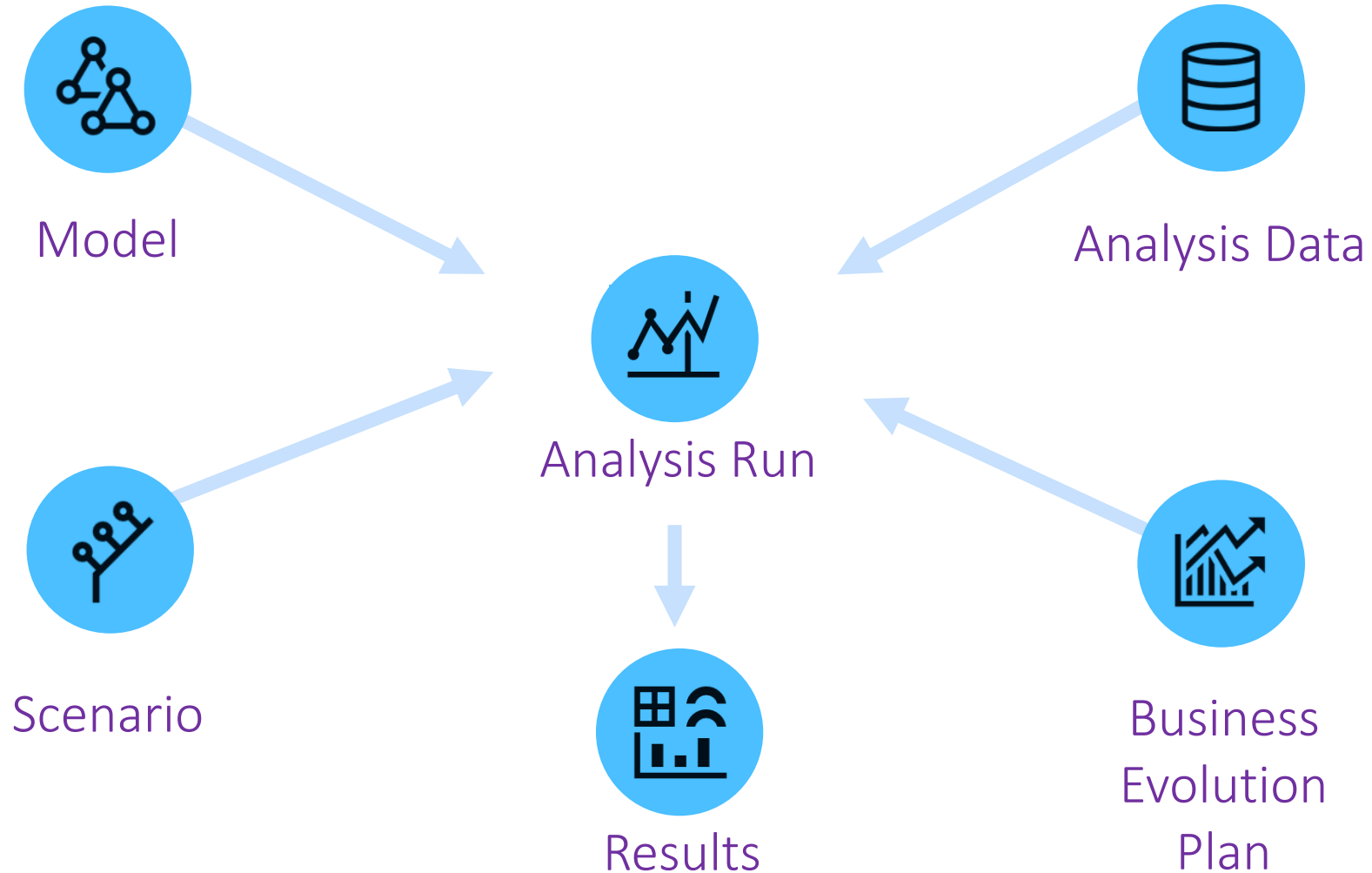
# Risk & Finance Integrated Platform

The SAS value proposition



# Integrated Risk Management Platform

Based on Common Paradigm



# SAS Risk Solutions Coverage

SAS Risk has proven solutions covering key aspects of regulatory and non-regulatory risk management business problems across Banking, Insurance, Government, and other industries



## Integrated Balance Sheet Management

- Asset and Liability Management
- Expected Credit Loss
- Liquidity Risk Management
- Funds Transfer Pricing
- Scenario (Simulation) Based Risk Management



## Risk Modeling and Decisioning Lifecycle

- Risk & Actuarial Modeling
- Credit Lifecycle Management
- Model Risk Management



## Regulatory Compliance

- IFRS 9 / CECL
- IFRS 17 / LDTI
- EBA FINREP/COREP
- Regulatory Stress Testing
- Regulatory Capital / Solvency II
- Regulatory IRR (IRRBB)
- Regulatory Liquidity
- Regulatory Market Risk



## Risk Data and Analytics

- Corporate Default Probabilities
- Forecasted Credit Ratings
- Interest Rate Modeling & Analytics

# Integrated Planning & Balance Sheet Forecasting

## Main areas of contribution from SAS

- **Risk and Finance Repository,**
  - Industry specific Data Model, designed to manage multi-entity group, based on best practices and highly configurable
  - Data Management capabilities to accelerate the system integration of the planning process
- **Forecasting Engine,**
  - High Performance Engine with advanced IP to support bottom-up and top-down simulations including
    - Net Interest Income: scenario definition, NII simulation, portfolio rebalance / optimization, maturity matching
    - LLP, RWA, Capital at granular and aggregated level
  - Behavioral models based on best practices and many years of experience
- **Financial Reporting,**
  - High Performance Financial Engine for financial calculation (including Fees & Commission, Operating Costs & TCO, Capital and other P&L), Aggregation and Financial Reporting allowing business users to consult and generate ad hoc reports and analysis
- **Planning process Governance,**
  - Workflow to support end to end Balance Sheet and Capital forecasting, allowing the orchestration of SAS and third-party engines and custom codes

Thank You