Management of Liquidity

PRMIA Beijing Chapter

Presented by

Frank Morisano, Ma Lee Advisory Limited

May 2014

马李顾问

WHY SPEND TIME AND EFFORT LEARNING ABOUT LIQUIDITY

Simply, if your company is not liquid, it is **bankrupt !**

In the short-term, you can probably avoid liquidity problems simply by holding most of your assets in cash.

In the long run, however, holding too much cash will also bankrupt you.

Cash does not earn enough return to cover funding and administrative costs
A cash asset is a money loser

LIQUIDITY IS EVEN MORE CRUCIAL FOR FINANCIAL INSTITUTIONS

- Because financial institutions are particularly vulnerable to unexpected and immediate payment demands
- A financial institution cannot afford to send away a customer who wants to withdraw cash from his account with a "maybe tomorrow"
- Moreover in a vast majority of transactions the financial institution acts as a payment agents for transfers between a business and an individual

WHAT CAUSES A LIQUIDITY CRISIS

- Cheap money and leverage
- Financial innovation

This presentation is about finding a middle ground –
between having too much or too little cash

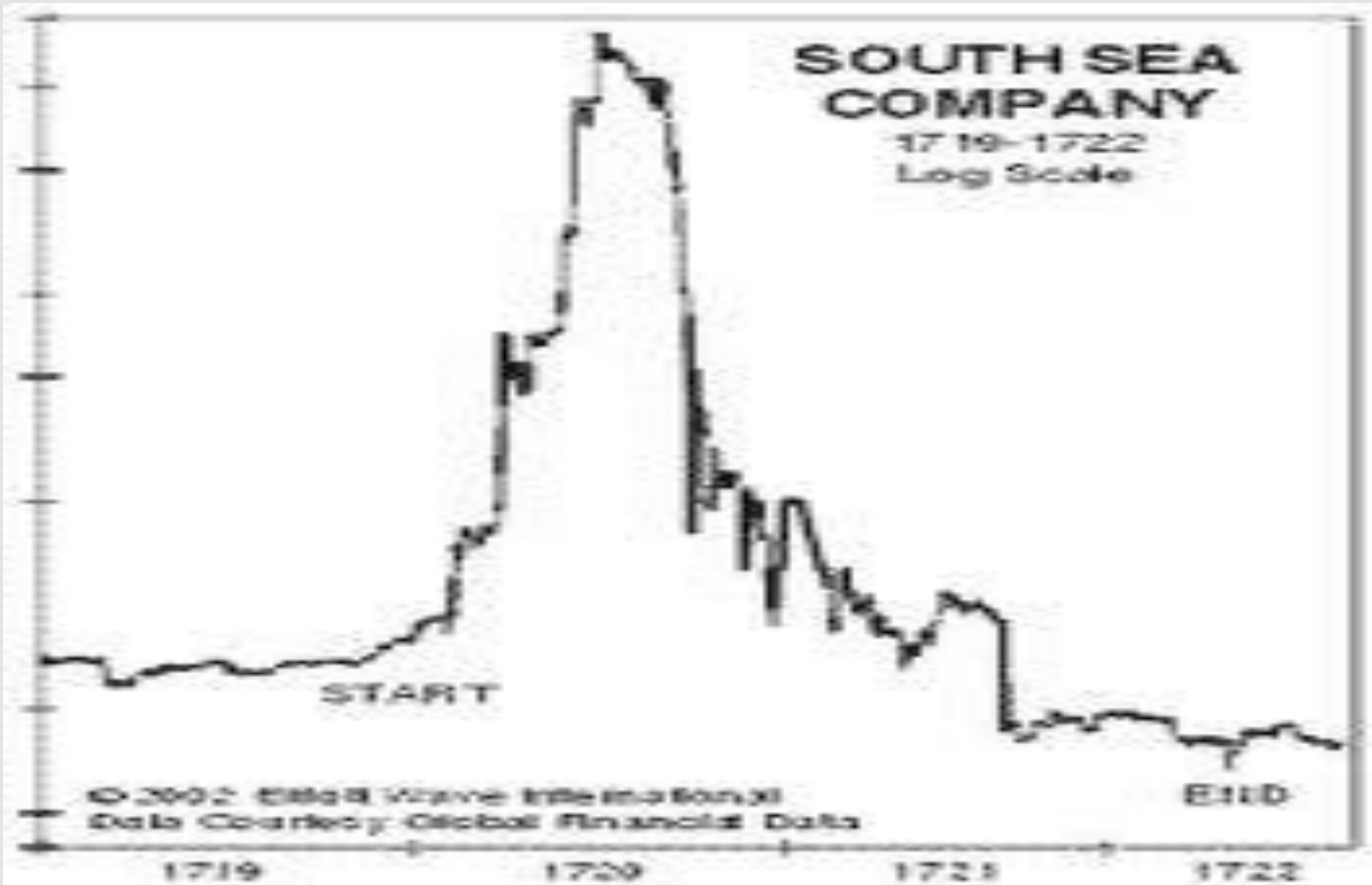
WHAT ABOUT MARKET VOLATILITY?

"Turbulence in the financial markets is nothing more than a change, that planning could not handle"

Henry Mintzberg

Companies have to focus intently on the financial viability of their strategy, their earnings and their liquidity; and, be prepared with counter measures.

AN ENGLISH BUBBLE – SOUTH SEA COMPANY



BLACK TUESDAY – WALL STREET 1929

BROOKLYN DAILY EAGLE

And Complete Long Island News

LATE NEWS

★ ★

WALL ST. IN PANIC AS STOCKS CRASH

Attempt Made to Kill Italy's Crown Prince

ASSASSIN CAUGHT IN BRUSSELS MOB; PRINCE UNHURT

Hollywood Fire Destroys Films Worth Millions

FEAR 52 PERISHED IN LAKE MICHIGAN; FERRY IS MISSING

PIECE OF PLANE LIKE DITEMAN'S IS FOUND AT SEA

High Duty Group Gave $700,000 to Coolidge Drive

STOCKS CRASH IN RUSH TO SELL; BILLIONS LOST

CARNEGIE CHARGE OF PAID ATHLETES ROUSES COLLEGES

HOOVER'S TRAIN HALTED BY AUTO PLACED ON RAILS

WARDER SOUGHT TO KEEP SEA TRIP SECRET, AID SAYS

SOMERS NAMED AS HEAD OF NEW EXCHANGE BANK

THIS CONTINUED INTO THE 1990S…

THE FINANCIAL CRISIS OF 2008

THE WALL STREET JOURNAL.

Crisis on Wall Street as Lehman Totters, Merrill Is Sold, AIG Seeks to Raise Cash

Ultimatum By Paulson

GLOBAL CONTAGION

- Rapid collapse of MBS market in the USA spread globally
- Equity markets dropped worldwide from the summer of 2008 until the spring of 2009
- Capital invested in equity and debt instruments in all major financial markets fled not only to cash, but to cash in traditional safe-haven countries
- Currencies of the more financially open emerging markets felt a significant impact (e.g., Icelandic Krona, South Korean Won, Mexican Peso, Brazilian Real)

CRISIS IMPACT

- Corporate borrowers had their access to credit reduced by banks
  - Companies that did not have preexisting lines of credit could not access funds at any price
  - Companies with existing lines of credit received notification that their lines were reduced
- The commercial paper (CP) market nearly ceased
  - Due to the default of Lehman, which was one of the largest CP issuers in the world, the market no longer trusted the credit quality of any counterparty
  - The Fed quickly announced that it would buy billions in CP issuances in order to add liquidity into the market

WHAT IS LIQUIDITY RISK?

Liquidity risk is the possibility of negative effects on the financial interests of owners, customers and other stakeholders of a company.

It results from the inability of the company to meet current payment obligations in a timely and cost-efficient manner.

The management of liquidity risk requires arriving at a reasonable compromise between the probability of a liquidity shortage and the loss of income

CHANGING RULES OF THE GAME

Basel III regulations

- Tighter regulation of the liability side of the balance sheet – stable deposits
- Capital linked to quality of the liabilities

Rule changes

- Corporate customers courted by banks today may be shunned tomorrow
- Corporate customers will be judged by different standards – how they add or take away from stability
- A smart Treasurer will need to be proactive and “KNOW YOUR BANK”

LIQUIDITY ACCORDING TO THE REGULATORS

- The Basel committee distinguishes between two kinds of liquidity buffers to ensure solvency of the financial institution and therefore minimize the potential associated systemic risk in the global financial system

$$\textbf{Liquidity Coverage Ratio} = \frac{\textbf{Liquidity buffer (HQLA)}}{\textbf{(Cash outflow – Cash inflow}_{\textbf{cap 75\%}}\textbf{)} \leq \textbf{30d}}$$

$$\textbf{Net Stable Funding Ratio} = \frac{\textbf{Available Stable Funding (ASF)}}{\textbf{Required Stable Funding (RSF)}}$$

The two buffers serve two different objectives and their interdependency and the interaction between them needs to be understood, monitored and managed

MANAGING LCR

$$LCR = \frac{\text{Liquidity buffer}}{(\text{Cash outflow} - \text{Cash inflow}_{\text{cap } 75\%}) \leq 30d}$$

Levers to manage the ratio:

Increase Liquidity buffer (-> higher costs)	Decrease Cash outflow (-> lower returns)	Increase Cash inflow (-> lower returns)
Hold more Cash	Increase duration of liabilites (e.g. short term deposits)	Decrease duration of assets (e.g. short term loans)
Sell illiquid assets and buy level 1/2 assets	Increase stability of deposits (e.g. stable retail deposits and wholesale operational accounts)	
	Decrease potencial liquidity drains (credit/ liquidity facilities)	

MANAGING NSFR

$$\text{NSFR} = \frac{\text{Available Stable Funding (ASF)}}{\text{Required Stable Funding (RSF)}}$$

In principle, the bank has two levers to manage the ratio:

Increase ASF (-> higher costs)

- Securitize existing business which is already term funded (and keep existing funding)
- Substitute liabilities with short duration (<1y) by liabilities with longer duration (>1yr)
- Substitute liabilities with low ASF (wholesale) by liabilities with higher ASF (retail)
- Originate new liabilities (and invest cash into assets with lower RSF)

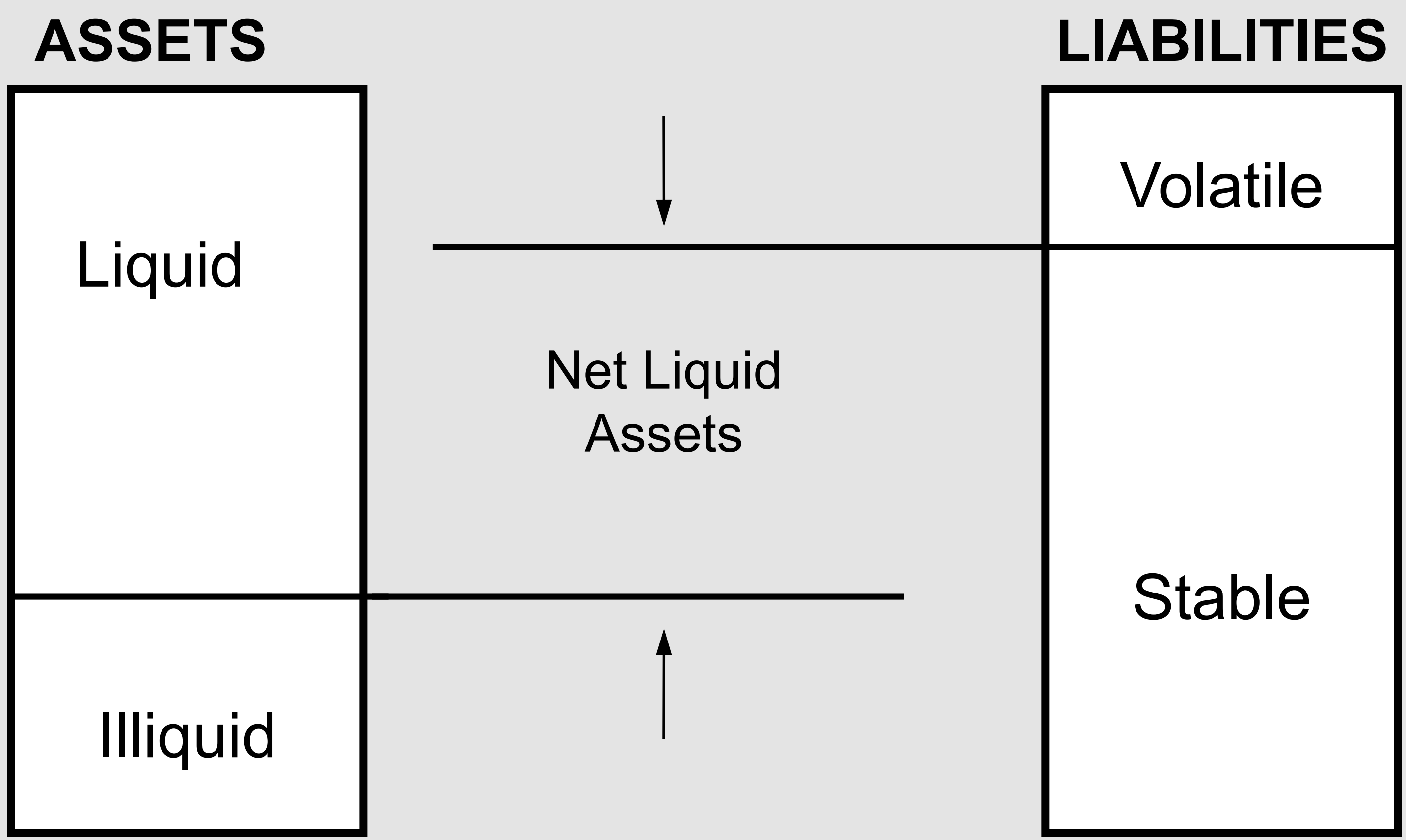
Decrease RSF (-> lower returns)

- Sell (non-level 1/2) assets
- Substitute assets with longer duration (>1yr) by assets with shorter duration (<1y)
- Substitute assets with high RSF (illiquid bonds, term loans, retail loans) by assets with lower RSF (0%-risk weight govies, short term loans to financial institutions)
- ! New asset business does not improve the ratio

WHAT DOES BASEL III MEAN FOR FUNDS TRANSFER PRICING

Internal treatment more conservative than B3	Internal treatment consistent with B3	Internal treatment more aggressive than B3
(✓)	✓	✘
• Is internal treatment still competitive ? • Will change of internal treatment be challenged by supervisor ?	• Only little impact on running business • The least need for adjustment	• Regulatory liquidity requirement need to be 'subsidized' by other products • Business in danger of being unprofitable • How to migrate to regulatory compliance ?

LIQUIDITY GAP ANALYSIS



Liquidity gap analysis is simply an evaluation of the two requirements:
"enough money“ and “when it is needed"

WHY IS LIQUIDITY RISK SO DIFFICULT TO MANAGE

- Uncertainty of cash flow obligations which depend on external events and on other agents' behavior
- Misunderstanding the nature and purpose of assets and liabilities held, contingent obligations and the reliability of credit availability
- Inability to predict how market react and respond to severe economic issues or consequences

WHAT CONSTITUTES GOOD LIQUIDITY MANAGEMENT

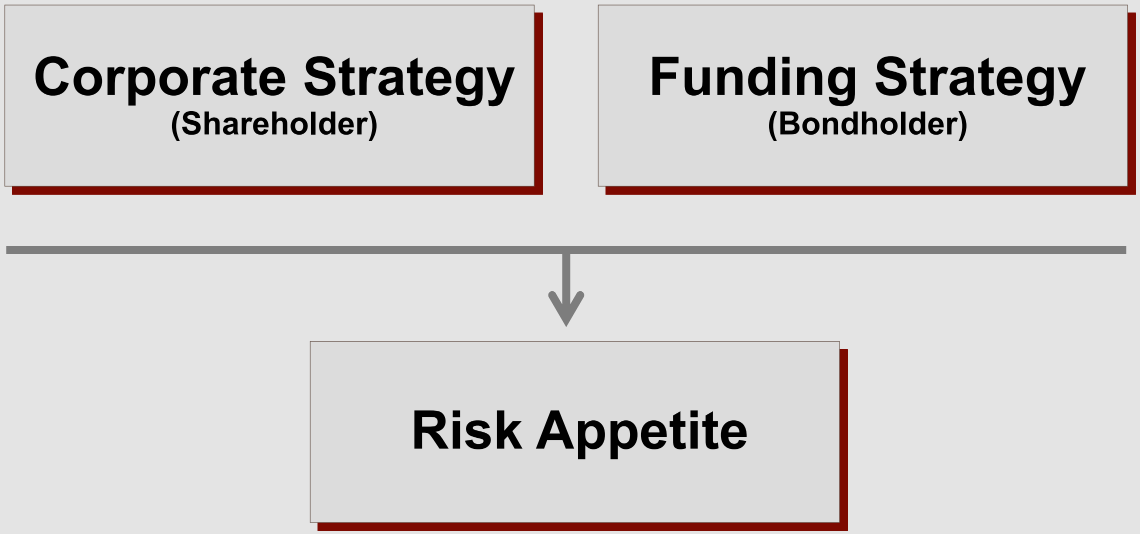
- A comprehensive process that includes identification, measurement, monitoring and control of liquidity risks
- The ability to honor all cash outflow commitments, both daily and ongoing
- The ability to minimize the cost of foregone earnings (on idle liquidity)
- To ability to satisfy minimum reserve requirements and other regulatory liquidity standards, e.g., capital buffers
- A comprehensive plan to avoid additional cost associated with emergency borrowing and the forced liquidation of assets

Liquidity management begins with the Board and flows through executive management to the entire company

Liquidity management is all encompassing

Board	⟷	Policies
Exec Management	⟷	Procedures
Management	⟷	Reporting
Operations	⟷	Systems
Front/Back Office	⟷	Transactions

THE BOARD OF DIRECTORS MUST ALIGN THE FIRM'S EXPOSURE TO RISK TAKING WITH ITS PURSUIT OF ITS' MISSION AND PLAN. BRING LIQUIDITY STRATEGY INTO THE BOARD ROOM



Risk appetite measures the sensitivity of the firm to factors affecting exposure under various scenarios

BOARD MUST DEFINE CAPACITY, APPETITE AND LIMITS

Capacity

- Capacity represents the maximum amount of risk that can be supported by the company, expressed as an aggregate capital amount
- Capacity is determined by considering the following:
  - Availability of capital resources
  - Ability to raise capital (access to capital markets)
  - Earnings strength and stability - growth in capital over the planning horizon

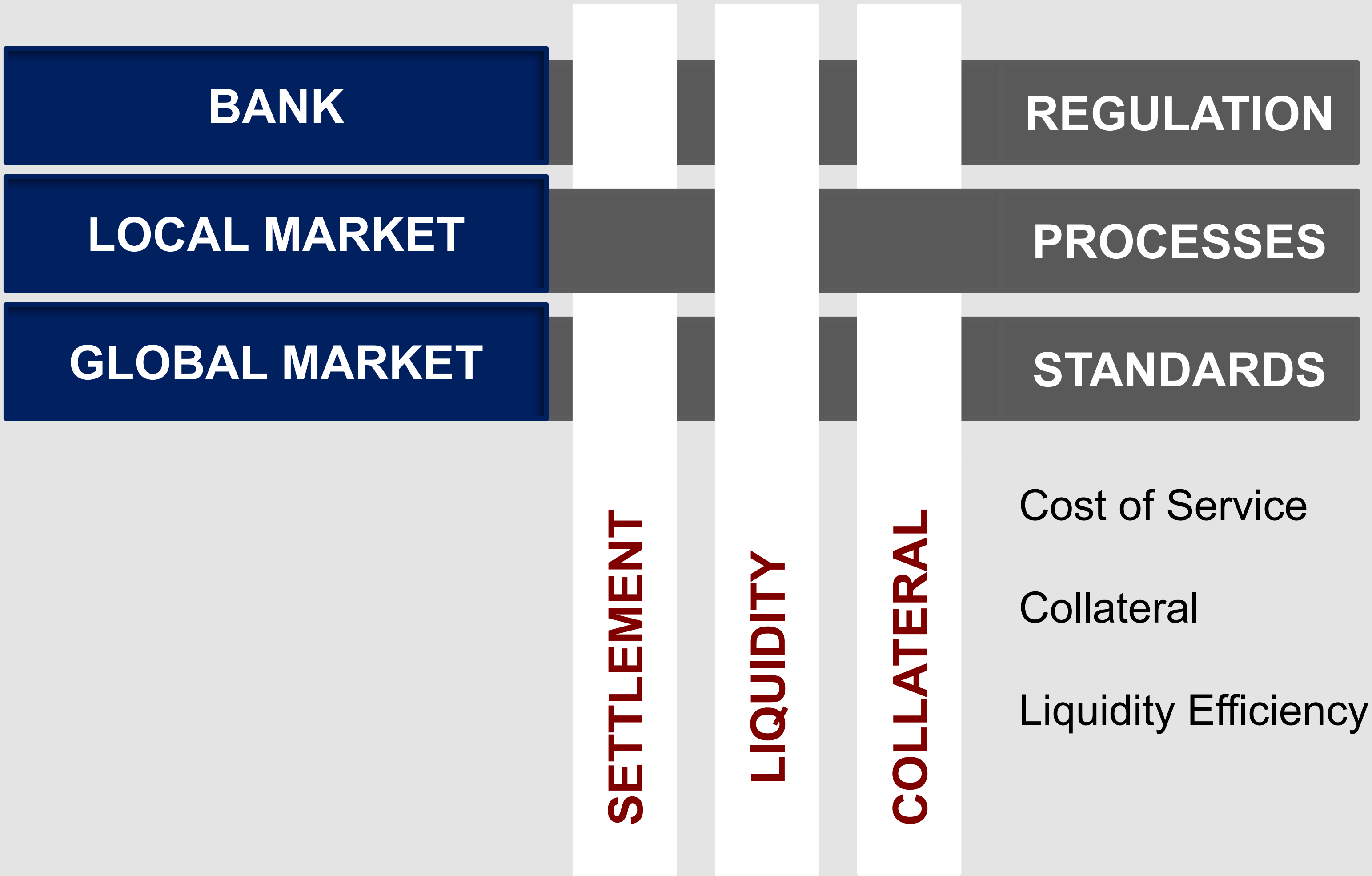
Appetite

- Risk Appetite serves as an overall guide to resource and capital allocation and aligns with business strategy
- Risk Appetite is the amount of risk that management and the Board are willing to take, given available capacity, risk preferences, and strategic business objectives

Limits

- Limits are an allocation of Risk Appetite to individual risk types, businesses, and additional dimensionality (or combinations thereof) based upon capital requirements
  - Limits effectively control significant risks within the context of the overall risk appetite
  - Limits express risk in specific metrics appropriate for a given risk category
  - Limits reflect enterprise risk preferences to support on-going decision making
  - Limits are set at a level which may be periodically tested (i.e., limits should be established at levels that may be exceeded at times)

LIQUIDITY MANAGEMENT IS A NETWORK OF INTERDEPENDENCIES



Cost of Service

Collateral

Liquidity Efficiency

KEY OBJECTIVES OF LIQUIDITY RISK MANAGEMENT

- Assess current and future cash requirements
- Assure sufficient sources of cash
- Identify all potential constraints on sources of liquidity
- Manage funding mismatches
- Provide adequate cushion for contingent events
  - Low probability/High impact events
  - High probability/Low impact events
- Incorporate all activities within the firm

KEY ELEMENTS OF A ROBUST LIQUIDITY FRAMEWORK

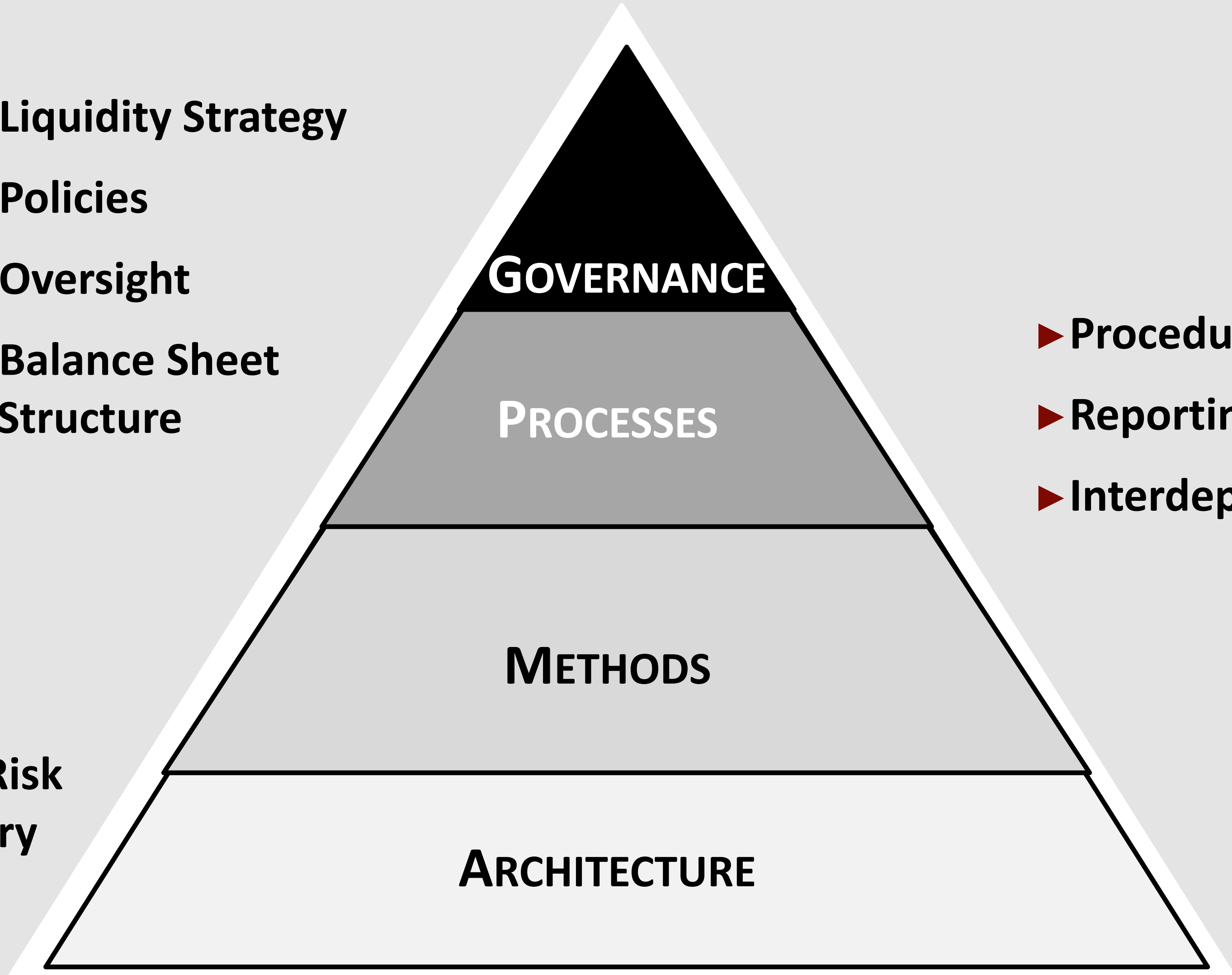
- Oversight role by the Board of Directors
- Effective liquidity management framework
- Roadmaps or plans for funding, liquidity and capital crises
- Integrated stress testing and scenario analysis
- Granular reporting of liquidity, capital and leverage ratios
- Understanding counterparty risk, collateral and allocations

BOARD OVERSIGHT ROLE - BUSINESSES EXIST TO TAKE RISKS

- A firms fiduciary governance and risk taking actions reside with the Board of Directors
- At the center of managing a business is its' appetite for risk taking, the level of risk the Board of Directors chooses to take in pursuit of its strategic business objectives.
- The single biggest risk that any organization faces is that it fails to anticipate what its customers' future needs will be (loans and deposits)
- The delicate balance between risk and reward produces a range of possible outcomes as business plans are pursued and implemented

EFFECTIVE LIQUIDITY MANAGEMENT FRAMEWORK

- Liquidity Strategy
- Policies
- Oversight
- Balance Sheet Structure



- Procedures
- Reporting
- Interdependencies

- Financial, Risk and Treasury Data
- IT Systems

ROADMAPS FOR NAVIGATING LIQUIDITY EVENTS MUST EXIST

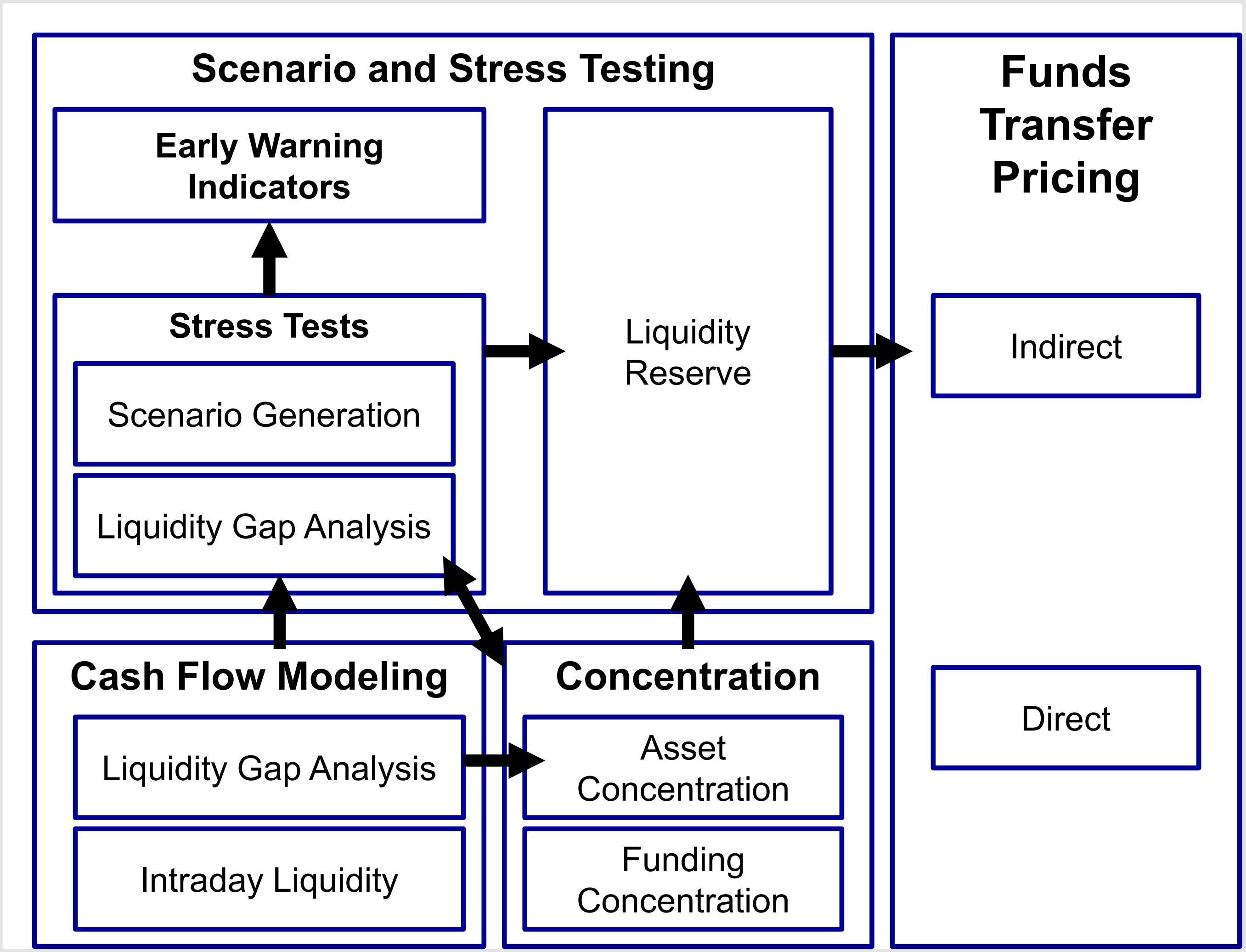
- Plans are detailed strategies to address funding needs
  - Triggers and stress events (scenarios)
  - Specific management actions linked to stress test results and associated triggers
  - Describes funding diversification and impact
- Plans evaluate the potential impact on the company under specific events
  - Cash flow projections In a worst case scenario the strategy will likely change from growth to survival or shrinking in size of funding characteristics
  - Recovery and resolutions strategies built on an understanding of internal and external cash flows
- Robust contingency plans assign duties and responsibilities as well as communication processes during a liquidity event

STRESS TESTING IS A CORE TOOL

- A stress test that measures liquidity is commonly described as the evaluation of the financial position of a company under a severe but plausible scenario to ensure that the company is able to survive low probability but extreme impact events
- Conducting the stress testing is difficult to execute and even more difficult to execute correctly, look at the difficulty that the executive management at the financial institutions Northern Rock and Bear Sterns encountered

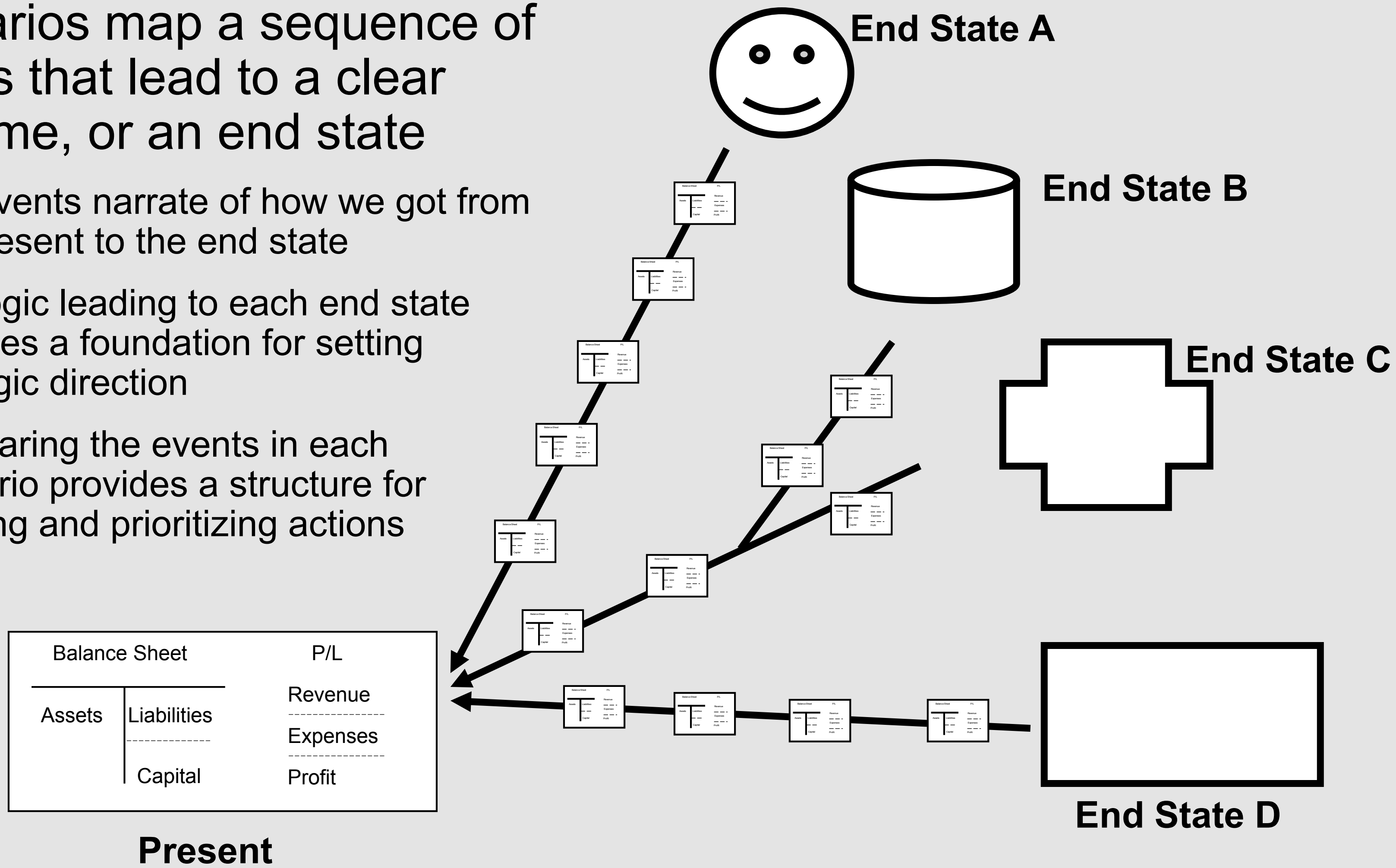
METHODS OR MADNESS

ILLUSTRATIVE

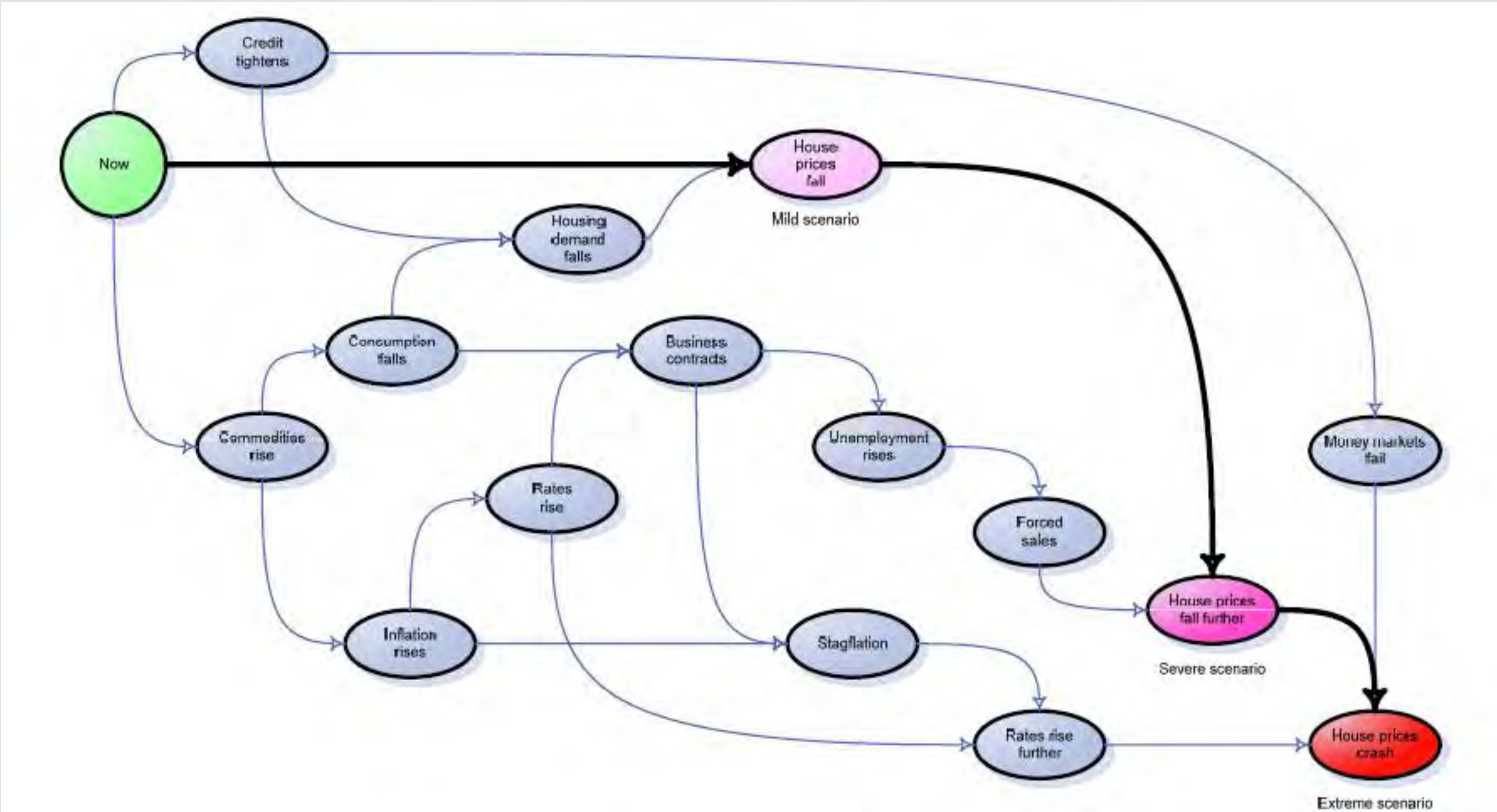


INTEGRATED STRESS TESTING AND SCENARIO ANALYSIS

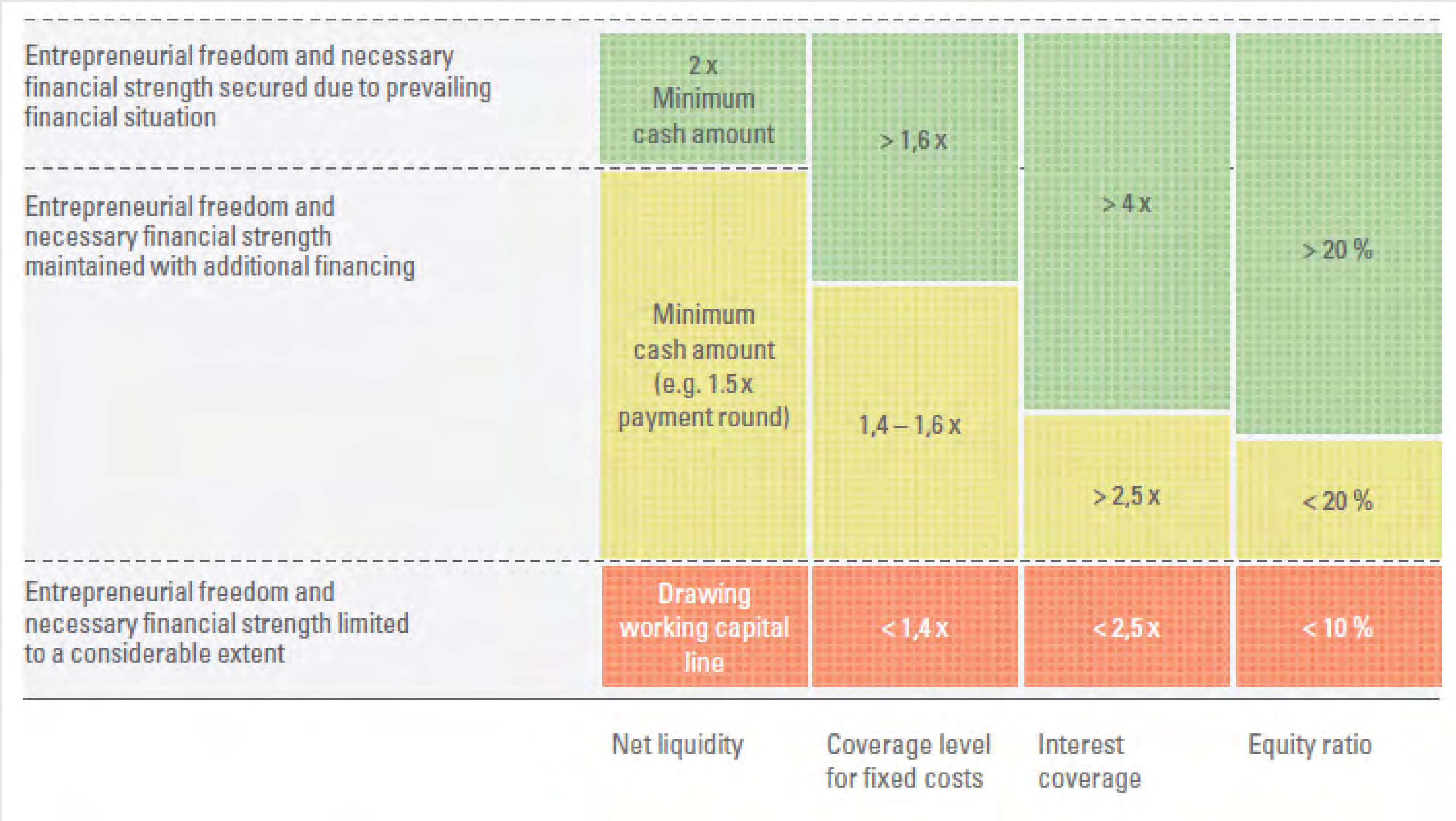
- Scenarios map a sequence of events that lead to a clear outcome, or an end state
  - The events narrate of how we got from the present to the end state
  - The logic leading to each end state provides a foundation for setting strategic direction
  - Comparing the events in each scenario provides a structure for defining and prioritizing actions



A STRATEGY MAP CAN ILLUSTRATE CASUAL CHAINS OF EVENTS FROM NOW THROUGH SCENARIOS THAT TEST SURVIVABILITY



FINANCIAL VIABILITY SCENARIOS



Establishing an "internal rating" shows the leeway and limits of entrepreneurial freedom as well as financial independence from a liquidity perspective

GRANULAR REPORTING OF LIQUIDITY, CAPITAL AND LEVERAGE RATIOS

- Reporting should provide aggregate information with sufficient supporting detail and permit management to assess the sensitivity of the financial institution to changes in market conditions, its own financial performance, and other important risk factors
  - liquidity positions
  - contractual and behavioral cash flows
- Frequency
  - T+2 basis reconciled/aligned to books and records

COUNTERPARTY RISK, COLLATERAL AND ALLOCATIONS

- Specific management actions focused on collateral management and intra-day liquidity positions
- Granular allocation of liquidity costs to business lines, products and transactions that create liquidity risk including contingent liquidity cost (CLC)

KEY TACTICAL MOVES FOR IMPROVING LIQUIDITY

- Always keep some asset liquidity reserves. This is the insurance cost of liquidity management. But recognize that you cannot and do not want to hold enough for a catastrophe
- Extend liability terms to reduce liquidity risk
- Be prepared to enhance capital quickly at the first signs of increased potential need
- Manage cash flow profiles

KEY STRATEGIC MOVES FOR A STRONG LIQUIDITY POSITION

- Manage liquidity by monitoring cash flows and estimated market values in fluctuating interest rate environments
- Maintain updated, prioritized sequence of scenarios and potential events
- Know why you have chosen the specific risk measures and indicators
- Create timelines and manage to them
- Maintain open communication lines with key liquidity contacts

Your goal is to manage the actions that you can control !

HOW TO BE EFFECTIVE AT LIQUIDITY MANAGEMENT

- Recognize that even in the same markets a company can have different characteristics in terms of their financial position as well as their operating approaches from a competitor
- The starting point for designing any liquidity solution is to understand fully how a company operates, its cash flows, what are its strategic goals and guiding objectives
- Lastly, a holistic, scenario-based view of intraday, end-of-day and multi-day liquidity flow schedules is essential. This requirement may go beyond regulatory compliance – complying with just liquidity ratios

The essence of liquidity risk is cash flow.

Therefore, fundamentally, liquidity gap analysis is simply an evaluation of the two requirements:

"enough money"

and

***“when we need it"*.**

THANK YOU

Q&A

About Ma Lee Advisory Limited

Ma Lee Advisory Limited has had a focused client strategy of delivering sound strategic direction to its' clients and implementing those results. The firm delivers clients solutions in three professional areas: Strategy, Risk Management and Corporate Advisory. The partners and staff are seasoned subject matter experts with over 20 years of exceptional, practical experience in industry, Big-4 accounting firms, and larger consultancies.

Since 2007, we have been advising some of the largest corporations and financial institutions on liquidity and risk management.

info@maleeadvisory.com

+852 81910957