Managing liquidity risk in a changed and global world

September 15th, 2010

Agenda

1) Introduction to Liquidity Risk and Monetary Policy

2) Liquidity Risk from a supranational regulatory perspective

3) Basel III: Overview and implications for liquidity risk management

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Solvency and liquidity: Not the same story

Recent history proves that a lack of liquidity can cause the failure of an institution even when it is solvent.

This brings a new paradigm in Asset Liability Management:

ASSETS	LIABILITIES
On the left side, there is nothing right…	**On the right side, there is nothing left…**

The macroeconomical perspective: Monetary Policy in Europe

Eurosystem

The ECB and the NCBs that have adopted the Euro

Main objective: Maintain price stability

Approach: Steering short-term interest rates for the Euro area

Tools	**Open market operations**	**Standing facilities**	**Minimum reserves**
Function	• Steering interest rates • Management of the liquidity situation in the market • Signalling stance of monetary policy	• Provide and absorb overnight liquidity • Signalling stance of monetary policy	• Pursue aim of stabilising money market interest rates • Create or enlarge structural liquidity shortage

What is Liquidity Risk? – A basic definition

Liquidity Risk

Market Liquidity Risk

The risk that a position cannot easily be unwound or offset at short notice without significantly influencing the market price

Funding Liquidity Risk

The current or prospective risk arising from an institution's inability to meet its liabilities as they come due without incurring unacceptable losses

Focus on banking industry

Tactical Liquidity Risk (short term)	Coverage of a liquidity-related net outflow
Funding (Liquidity) Risk (structural or long term)	Ensuring of long-term funding at reasonable costs
Contingency Liquidity Risk	Protection and/or survival of the institution in liquidity crisis situations

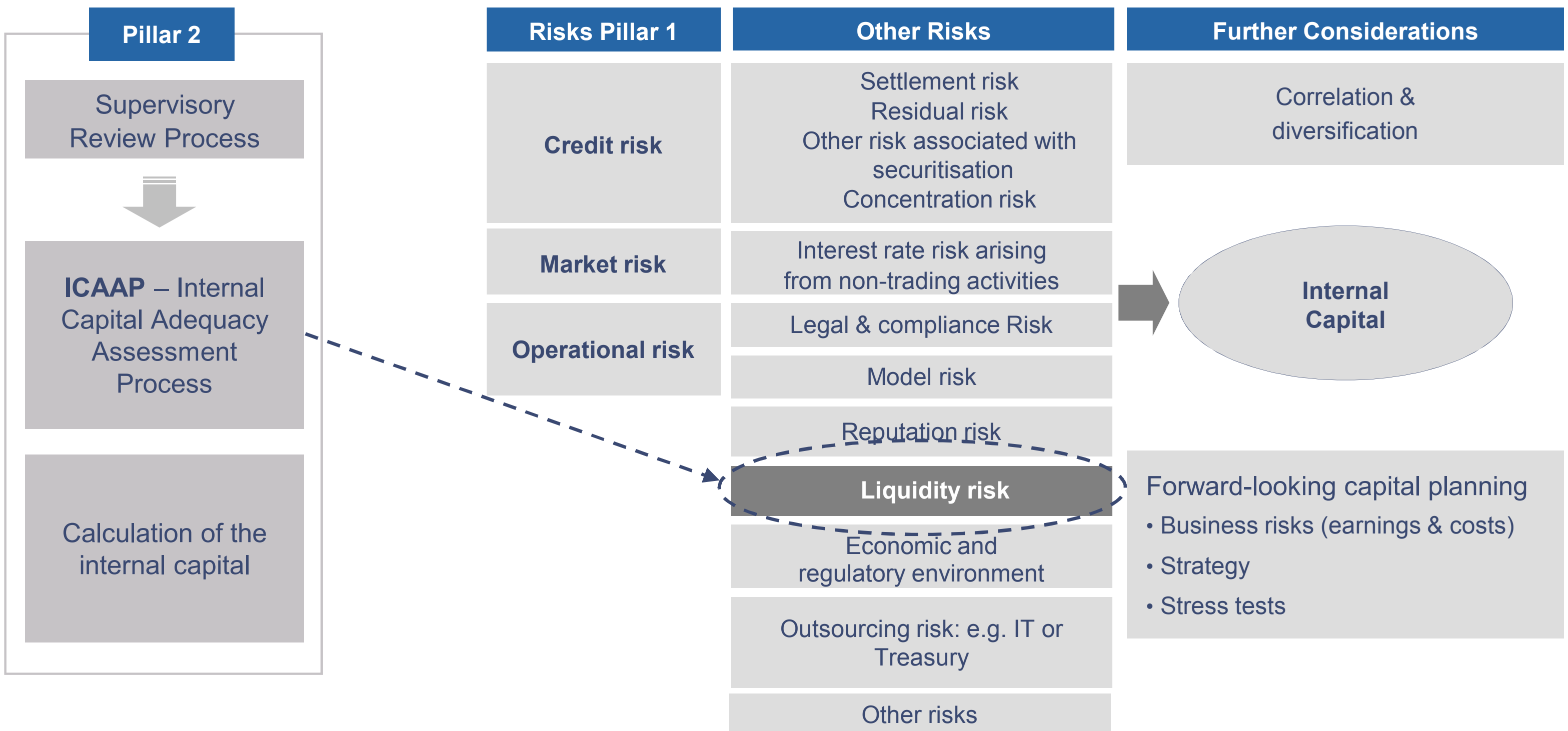
Liquidity Risk at a micro level: Liquidity Risk as a consequential risk

Credit risk	Market risk	Concentration risk	Operational risk	Reputation risk
• Failure of counterparty • Creditworthiness as counterparty	• Interest rate uncertainty and volatility • Liquidity of the market for a financial asset • Smooth functioning of FOREX markets	• Asset concentration: potential to severe market liquidity risk • Liability concentration: inadequate access to funding	• Disruption to cash flows – internal as well as external	• Impact on rating and thus on profitability as funding costs increase

➔ Liquidity risk cannot be managed on a stand-alone basis

➔ To understand liquidity risk it is important to analyse the relationship between primary risks and the effects on liquidity

Liquidity Risk in the Supervisory Review Process



Liquidity risk is one of the risks included in the scope of Pillar 2 ICAAP. Institutions, assessing the risks to which they are or could be exposed, decide if they have to address internal own funds to cover the exposure to liquidity risk. But recent events showed that …

… capital is not an adequate protection in case of a liquidity crisis

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International liquidity risk principles and recommendations

International principles and recommendations*

BANK FOR INTERNATIONAL SETTLEMENTS

- Principles for Sound Liquidity Risk Management and Supervision (2008)
- Principles for sound stress testing practices and supervision (2009)
- International framework for liquidity risk measurement, standards and monitoring (2009)

CEBS

- Technical Advice to the European Commission on Liquidity Risk Management (2008)
- Guidelines on Liquidity Buffers & Survival Periods (2009)
- Guidelines on Stress Testing (CP32 – 2009)

IIF

- Principles of Liquidity Risk Management (2007, under revision)

- Commission Services Staff Working Document (2010)

*** Non-exhaustive list of references**

Regulation in Romania

- Regulation no. 18/2009 – On governance arrangements of the credit institutions, internal capital adequacy assessment process and the conditions for outsourcing of activities
- Emergency ordinance no. 99/2006 on credit institutions and capital adequacy

- Regulation no. 24/2009 on credit institutions' liquidity
- Order 13/2009 on reporting of the situations regarding the liquidity ratios and the large liquidity risk

Outline of the current legislation: Practical implications for banks?

1. **Liquidity Risk strategy**
   Definition of the principles and objectives regarding liquidity risk management
2. **Dimensions of liquidity risk**
   Manage intraday, tactical, and structural dimensions, as well as forex liquidity risk
3. **Exhaustive view of liquidity risk**
   Account for on- and off-balance sheet sources of liquidity risk, incl. behavioural considerations
4. **Stress Testing**
   Analyse impact of different scenarios on bank's liquidity position
5. **Liquidity buffer**
   Calibrate and maintain adequate liquidity reserve composed of cash and highly liquid assets
6. **Reporting and monitoring**
   Set up adequate reporting and monitoring framework, incl. appropriate limits
7. **Concentration risk**
   Ensure adequate diversification of asset and funding composition
8. **Crisis management**
   Define and implement a Contingency Funding Plan to prepare the bank for potential crisis situations

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Background of Basel III

The recent crisis of the financial sector uncovered fundamental weaknesses in the risk management frameworks of numerous banks across the globe. In order to reduce the magnitude of a potential future crisis, the Basel Committee on Banking Supervision proposes a number of far-reaching changes to existing regulations, which are detailed in the following documents:

- BIS "Consultative Document – Strengthening the resilience of the banking sector"
- BIS, "Consultative Document - International framework for liquidity risk measurement, standards and monitoring" (17/12/2009)

Fundamental changes:

1. Modification of the definition of capital, including more restrictive definitions of Tier 1 capital
2. Introduction of:
   i. further measures to strengthen risk coverage of the capital framework
   ii. a leverage ratio as a supplement to the Basel II risk-based framework
   iii. a series of measures to promote the build-up of capital buffers during favorable conditions
   iv. a global minimum liquidity standard
      - 30-day liquidity coverage ratio
      - Medium-term net stable funding ratio
      - Harmonized monitoring metrics

Outline of proposed "Liquidity Coverage Ratio"

Calibration:

$$\frac{\text{Stock of high quality liquid assets}}{\text{Net cash outflows over a 30-day time period}} \geq 100\%$$

Description:

- Short-end of a bank's counterbalancing capacity
- Net cash outflows calculated according to strict parameters specified by supervisor
- Stock of highly liquid assets subject to quantitative and qualitative eligibility criteria

Objectives:

- Ensure a bank maintains an adequate level of high-quality, unencumbered assets to enable it to weather a severe stress scenario specified by supervisors
- Major aspects considered in stress scenario:
  - i. Significant downgrade credit rating
  - ii. Partial outflow of deposits
  - iii. Loss of unsecured wholesale funding
  - iv. Impairment of secured funding capacity
  - v. Contractual and non-contractual off-balance sheet funding requirements

Outline of proposed "Net Stable Funding Ratio"

Calibration:

$$\frac{\text{Available amount of stable funding}}{\text{Required amount of stable funding}} > 100\%$$

Description:

- Medium- to long-term orientation
- Assets (on- and off-balance sheet) assigned required stable funding factors
- Liabilities assigned available stable funding factors

Objectives:

- Provide incentive for structural changes to shift from short-term funding profiles to more stable, longer term funding profiles
- Reduce reliance on wholesale funding
- Counteract potential "side-stepping" of LCR
- Ensure minimum level of stable funding for
  - i. Investment banking inventories
  - ii. Off-balance sheet exposures
  - iii. Securitisation pipelines

Outline of proposed "Monitoring tools"

Banks

Contractual maturity mismatch:

- Overview of gaps between contractual inflows and outflows for specified maturity bands
- Illustrate extent of maturity transformation inherent to current activities

Available unencumbered assets:

- Provide data on quantity and key characteristics on bank's available unencumbered assets
- Enable supervisor to gauge secured borrowing capacities in secondary markets and with Central Banks

Concentration of funding:

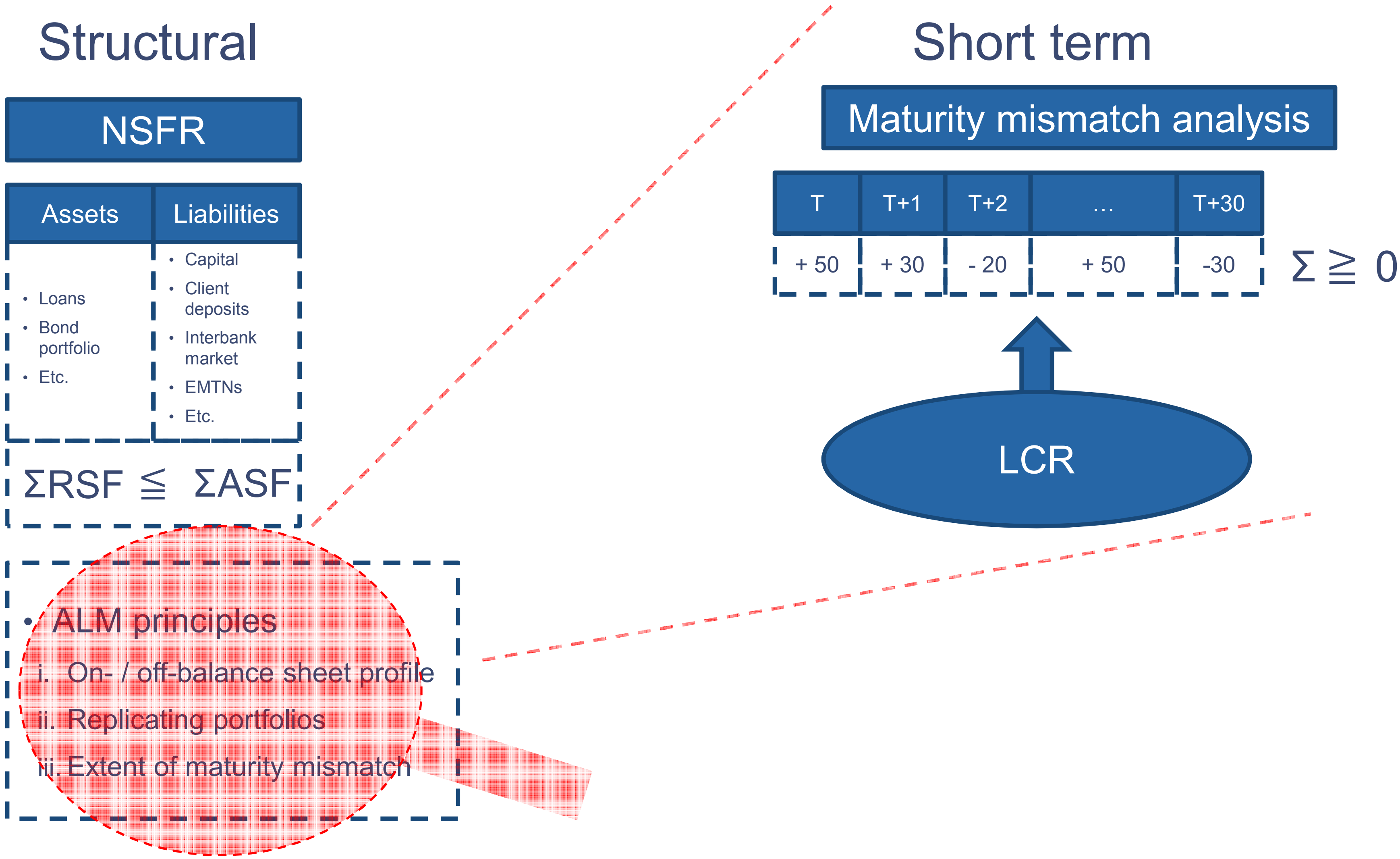
- Identify sources of wholesale funding whose withdrawal could trigger liquidity problem
- Examine funding concentrations by counterparty or type of instrument/product
- Assess structural currency mismatch

Market-related monitoring tools:

- Monitoring near- or real-time data to identify potential liquidity difficulties at different levels
  - Market
  - Industry
  - Bank-specific

Supervisor

Linking proposed standards



Criticism of prospective new regulation

The BIS provided stakeholders with the opportunity to provide feedback on the December 2009 proposals until mid-April 2010. The below table provides an overview of key issues and concerns that were expressed:

1. Proposed stress scenario as a basis for the liquidity coverage ratio is far too severe
2. Differences in initial rating of institutions are ignored in the assumptions underlying the liquidity coverage ratio
3. Lack of explanation regarding basis for deriving the assumptions specified for the LCR and the NSFR
4. Severe restriction to the refinancing ability of institutions, significantly increasing the costs of funding
5. The regulator should specify operational guidelines on how to use the buffer
6. Assets subject to wrong-way risk are totally excluded from the liquidity buffer
7. The proposed regulation in its current form would introduce significant additional elements of procyclicality and systemic risk
8. One-size-fits-all-approach fails to take into account differences in business models and resulting risk profiles

Recent amendmends of prospective liquidity standards

On July 26th 2010, the BIS announced having reached broad agreement on the proposed capital and liquidity reform packages. In a technical annex, a variety of amendments were presented, including modifications regarding the LCR and the NSFR.

LCR:

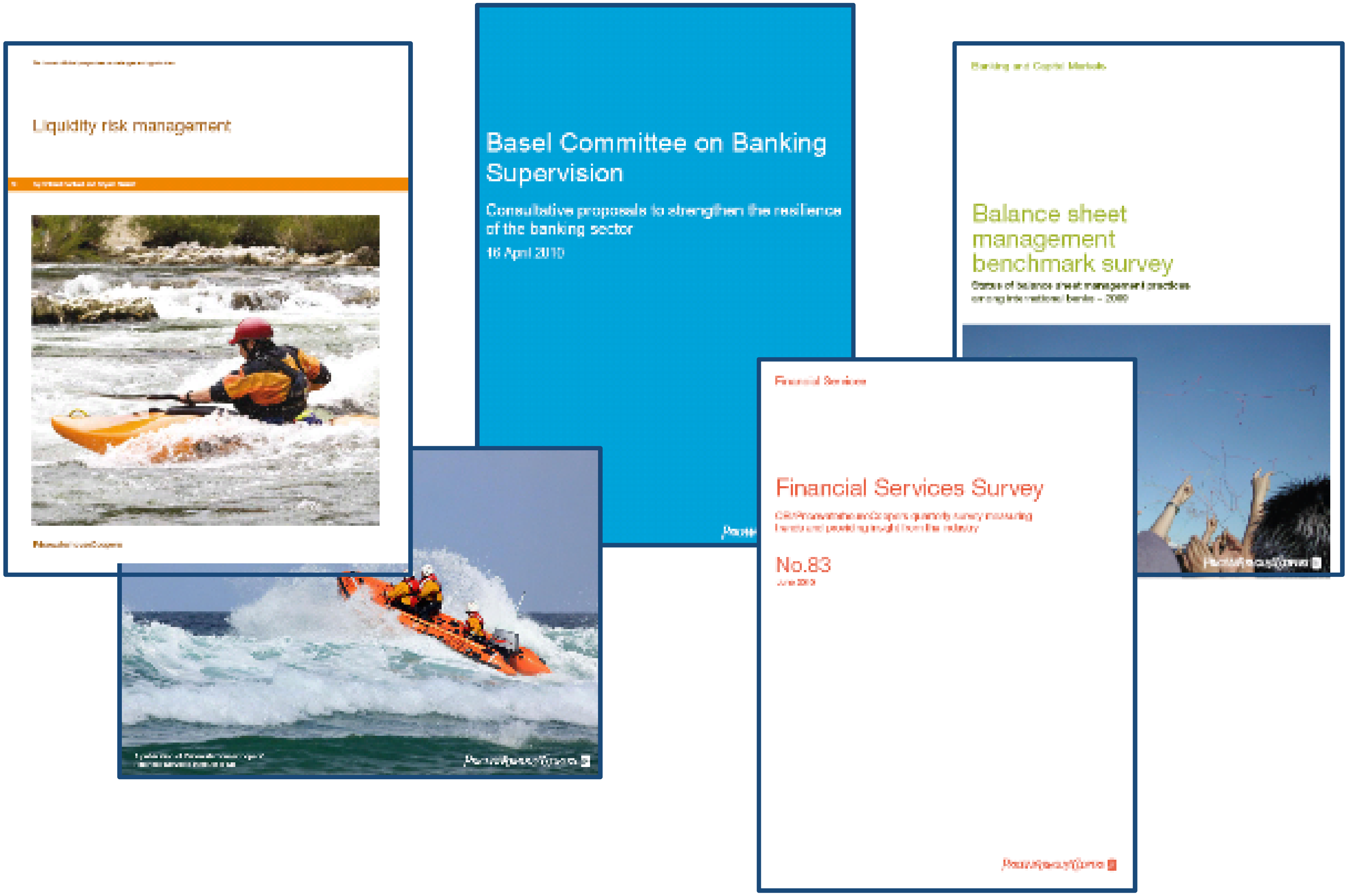
- Reduction in run-off rates for retail and SME deposits
- Recognition of operational relationships with financial counterparties
- Introduction of "level 2" of liquid assets within stock of high-quality liquid assets
  - i. Cap at 40% of stock
  - ii. Include high-quality corporate & covered bonds (rated AA- and above)
- Operational requirements for the LCR will be finalised by the end of the year

NSFR:

- BIS remains committed to introduction of NSFR
- Adjustment of various factors, a.o.:
  - i. ASF-factors for retail and SME deposits
  - ii. Reduced RSF-factor for residential mortgages and loans meeting specific criteria
- Extended transition period ("observation phase") to avoid unintended consequences, with final introduction on January 1st 2018

Questions and Answers

PwC: Liquidity Risk Management Credentials - Publications



In case of any further questions, please do not hesitate to contact:

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Thank you for your attention