

## LIQUIDITY RISK CONTROL AT INDIAN OVERSEAS BANK: A COMPREHENSIVE OVERVIEW

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### ABSTRACT

In the event of solvency issues, banks might not be able to refinance short-term liabilities. Banks can increase transparency to convey solvency or build a reserve of liquid assets to handle this risk. Transparency somewhat insures against major shocks but not completely against little ones, like a liquidity buffer does. Owing to leverage, an unregulated bank can decide to forego transparency and adequate liquidity buffers. The regulatory reaction is limited; transparency cannot be independently verified, but liquidity buffers can. Furthermore, liquidity restrictions raise the risk associated with refinancing and undermine banks' decisions regarding transparency. Requirements for liquidity must be combined with policies that provide banks more motivation to embrace openness if they are to be effective.

**Keywords:** Banks, Liquidity, Risk, and Management of Liquidity

### INTRODUCTION

Being liquid means having the capacity to effectively handle deposits, reduce liabilities, support loan growth, and perhaps finance off-balance sheet demands. Various time buckets for the cash flows are assigned depending on projected future actions of assets, liabilities, and off-balance sheet factors. Funding, time, and call risks make up liquidity risk. The danger that a certain security or asset cannot be exchanged rapidly enough in the market to avoid a loss (or turn the necessary profit) is known as liquidity risk in finance.

### CAUSES OF RISK IN LIQUIDITY

When an interested party is unable to trade an asset because no one else in the market is willing to trade it, liquidity risk results. Risk associated with liquidity increases to because it impacts their ability to trade, it is especially significant to parties who own or are soon to own an asset. A price decline to zero is not the same as the manifestation of liquidity risk. When the price of an asset falls to zero, the market signals that the asset has no value. If one party is unable to locate another interested party in trading the asset, it may simply be a matter of the

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market participants being unable to locate one another. For this reason, low-volume or nascent markets are typically seen to have higher liquidity risk. Uncertain liquidity can lead to financial risk known as liquidity risk. An institution may run out of liquidity if counterparties decide not to trade with or lend to it, if its credit rating declines, or if it encounters abrupt, unanticipated financial outflows. If a company's dependent markets experience a loss of liquidity, it may also be vulnerable to liquidity risk. Risks related to liquidity often exacerbate one another. A trading organization's restricted capacity to quickly liquidate a position in an illiquid asset will increase its exposure to market risk. Let's say that on a particular day, a company has cash flows with two different counterparties that are offset. The company will need to find other sources of funding in order to pay its counterparty in the event that it defaults on the payment. It will also default if it is unable to do so. Here, credit risk is being made worse by liquidity risk.

### SUMMARY OF THE ISSUE

A researcher must first determine the research problem in any type of study, including descriptive and social science research. This makes it possible to determine the problem statement, which identifies the crucial issue that your study aims to solve. A specific method that acknowledges the relatively particular risks faced by banks is needed when analyzing its financial statements. Banks accept deposits from investors and offer interest on a portion of these accounts. They transfer these cash to borrowers and get paid interest for the loans.

### RESEARCH DEPARTURE

The banks' primary source of funding, deposits, are mobilized because to its extensive branch network throughout India. The chosen banks' profitability is mostly determined by how they use and lend money. To address the liquidity and profitability in this situation, a research would be helpful. These days, banks are employing Asset and Liability Management (ALM) as an additional tactic to develop a conceptual framework for their banking operations to operate more effectively and make the best managerial choices. Asset and liability management becomes a crucial instrument for assessing the risk that the bank must take in order to retain its assets and liabilities and guarantee company profitability. A study of asset liability management may be essential and significant since evaluating the quality of assets in the banking industry is crucial to the growth and development of the banking sector's performance.

The study's objectives

- To investigate the Indian Overseas Bank's level of liquidity risk.
- Analyzing the Indian Overseas Bank's excess return, systematic risk, and predicted return.
- To investigate the Indian Overseas Bank's size, capital adequacy ratio, return on equity, and return on asset.

### HYPOTHESES IN THE RESEARCH

Hypothesis 1: There exists no noteworthy disparity in the profitability of individual companies.

Hypothesis 2: The liquidity positions of a few selected short-term companies do not differ much.

Hypothesis 3: A few selected companies' working capital positions do not significantly differ from one another.

## DATA SOURCES FOR RESEARCH METHODOLOGY

Character of the Data:

Secondary data were employed in this study.

Sources of Information:

The secondary data is gathered from both the BSE website and the Indian Overseas Bank's yearly reports.

Gathering information from secondary sources

- Annual Reports

- Corporate Documents

Information available on websites

Diaries

Online platforms

- The bank manual book

- | Brochures

The RBI webpage

The time frame that was covered

The five financial years that Indian Overseas Bank uses for its research are included in the study.

TOOLS: T-Test is one of the easy-to-use and practical tools used in research.

## LITERATURE REVIEW

Liquidity risk is the main factor influencing short-term yield spreads, according to Zheng (2006). When Franck and Krausz (2007) examined the role of the stock exchange as a counterpart to a lender of last resort, they discovered that the securities market matters more in assisting banks for probable liquidity deficiencies. According to many dealers, there are two things that make liquid markets unique: flexibility and tightness. They also claim that more liquid markets are better than fewer liquid markets (Mainelli, 2008).

Zheng and Shen (2008) claimed that liquidity adjusted conditional value at risk, which offers a better measure for risk, can be used to assess losses in the presence of liquidity risk in a more realistic manner. Additionally, an effective Monte Carlo technique was proposed. This method may be applied to a single security or to a portfolio of securities and discovers the estimated conditional value at risk as well as the risk at value of each percentile from the loss distribution inside a single set of samples.

Vaihekoskia (2009) looked at the relationship between the price of liquidity risk and equities that offer a high rate of return during a period of systematic liquidity risk (illiquidity). Since systematic liquidity risk is sufficient to cover all liquidity-related hazards, it is therefore priced as a market-wide systematic risk rather than an asset-specific risk.

Uddin (2009) found a negative correlation between stock return and liquidity, indicating that

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return is unaffected by changes in relative stock liquidity and that as stocks grow more illiquid, the risk of liquidity increases more than the relative rate.

Sawada (2010) looked into how banks would sell their securities in the market to raise their cash holdings during times of crisis as a result of the liquidity shock induced by depositors. financial market rather than by calling in their loans. As they buy and sell securities in the financial market, they are dynamically adjusting their portfolio.

### COMPANY PROFILE

With the dual goals of specializing in foreign currency commerce and overseas banking, Indian Overseas Bank (IOB) was established on February 10th, 1937 by Shri. M. Chidambaram Chettyar, a pioneer in several industries, including banking, insurance, and industry. IOB operated 38 locations in India and 7 overseas at the time of independence. At that time, advances were Rs. 3.23 crores and deposits were Rs. 6.64 crores. It was one of the sixteen principal banks nationalized in 1969.

With a total of 2555 CBS branches and 6 Extension Counters, Indian Overseas Bank has achieved 100% networking status as well as 100% CBS status of branches thanks to its in-house, ISO certified information technology department, which also developed the software used by its 2555 branches to offer online banking to customers.

### GOALS

- Improving rural Indian families' standard of living via cooperative efforts and offering a convenient, economical, and hygienic supply of its products to clients.

### AIM

By 2022, we aim to become a progressive, billion-dollar organization with a pan-Indian reach. To do this, it must satisfy consumers with its goods, which set the standard for excellence in the sector.

- With our special "Relationship Banking" Model, we are dedicated to boosting wealth and empowering the rural community.
- To cultivate entrepreneurship, oversee career goals, and offer creative pathways to increased employee prosperity in order to become a company of choice for employees.

### DATA ANALYSIS

**Table 1: SIZE OF THE BANK**

<b>9-*YEAR</b>	<b>SIZE OF THE BANK</b>
2016-2017	8.92
2017-2018	9.01
2018-2019	9.08
2019-2020	9.15
2020-2021	9.25

**INTERPRETATION**

In 2017-2018 the size of the bank is 8.92. In 2018-2019 the size of the bank is 9.01 which seems to be increased by 1.009% from the previous year.

**Table 2: NET WORKING CAPITAL**

YEAR	NET WORKING CAPITAL
2016-2017	-0.2200
2017-2018	-0.2483
2018-2019	-0.2718
2019-2020	-0.2320
2020-2021	-0.0932

**INTERPRETATION**

The Networking Capital to the Total Asset Ratio of the Indian Overseas Bank had decreased from -0.2200 to -0.2718 during the period of 2016-2019.

**Table 3: CAPITAL ADEQUACY RATIO**

YEAR	CAPITAL ADEQUACY RATIO
2016-2017	16.27%
2017-2018	12.96 %
2018-2019	15.70%
2019-2020	17.26%
2020-2021	17.55%

**INTERPRETATION**

The Capital Adequacy Ratio of the Indian Overseas Bank is increasing during the year 2018– 2021 from 12.96% to 17.55%.

**Table 4: RETURN ON ASSETS**

YEAR	RETURN ON ASSETS
2016-2017	1.2260
2017-2018	1.2004
2018-2019	1.0950
2019-2020	0.5393
2020-2021	0.5999

**INTERPRETATION**

In 2020-2021 the return on assets seems to be increased from 0.5393 to 0.5999. It indicates that the earnings are growing for the amount of assets.

**Table 5: RETURN ON EQUITY**

<b>YEAR</b>	<b>RETURN ON EQUITY</b>
2016-2017	25.2720
2017-2018	24.7565
2018-2019	20.5400
2019-2020	9.3953
2020-2021	12.5020

**INTERPRETATION**

The Return on Equity of the Indian Overseas Bank has decreased during the year 2016-2020 from 25.27% to 9.40%.

**Table 4.6: BETA( $\beta$ )**

<b>YEAR</b>	<b>BETA(<math>\beta</math>)</b>
2016-2017	1.1865
2017-2018	1.0021
2018-2019	0.8208
2019-2020	1.0651
2020-2021	1.1792

**INTERPRETATION**

The systematic risk beta has decreased from 1.1865 to 0.8208 in time period of 2016-2019. The systematic risk beta has increased from 0.8208 to 1.1792 in 2019-2021.

**Table 4.7: ALPHA( $\alpha$ )**

<b>YEAR</b>	<b>Alpha (<math>\alpha</math>)</b>
2016-2017	0.0262
2017-2018	0.1751
2018-2019	0.3624
2019-2020	0.2882
2020-2021	0.1785

**INTERPRETATION**

The Excess Portfolio Return to the risk free return of the Indian Overseas Bank has increased during the year 2016-2019 from 0.0262 to 0.3942.

**Table 8: Rp (Expected Return of the Portfolio)**

YEAR	R <sub>p</sub>
2016-2017	0.0735
2017-2018	0.2057
2018-2019	0.3603
2019-2020	0.3337
2020-2021	0.2008

**INTERPRETATION**

The Expected Return of the Indian Overseas Bank has increased from the year 2016-2019 from 0.0735 to 0.3603.

**Table 9: Y<sub>1</sub> (Liquidity Risk)**

YEAR	Y <sub>1</sub> (Liquidity Risk)
2016-2017	0.4348
2017-2018	0.4940
2018-2019	-0.1902
2019-2020	0.4902
2020-2021	0.5601

**INTERPRETATION**

The Liquidity Risk of Indian Overseas Bank has increased from the year 2016-17 to 2020- 21 from 0.4348 to 0.5601. In 2018-19 the risk seems to be decreased and in 2019-2020 it has increased.

**HYPOTHESES TESTING**

**Ho1: There is no significant difference between profitability of select company**

YEAR	RETURN ON EQUITY	RETURN ON ASSETS
2017	25.272	1.226
2018	24.7565	1.2004
2019	20.54	1.095
2020	9.3953	0.5393
2021	12.502	0.5999

t-Test: Two-Sample Assuming Unequal Variances		
	ROE	ROA

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Mean	18.49316	0.93212
Variance	52.0091771	0.112386797
Observations	5	5
Hypothesized Mean Difference	0	
df	4	
<b>t Stat</b>	<b>5.439093383</b>	
P(T<=t) one-tail	0.00277318	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.00554636	
<b>t Critical two-tail</b>	<b>2.776445105</b>	

The Table depicts that the calculated t value (5.4390) is more than the table value (2.7764) of t-test so null hypothesis has been rejected and it is concluded that there is significant difference in profitability of IOB bank at 5% level of significant from 2016 to 2021.

Ho2: There is no significant difference between liquidity positions of select Short term Company

YEAR	BETA( $\beta$ )
2016-2017	1.1865
2017-2018	1.0021
2018-2019	0.8208
2019-2020	1.0651
2020-2021	1.1792

t-Test: Two-Sample Assuming Unequal Variances

	BETA
Mean	1.05074
Variance	0.022594303
Observations	5
Hypothesized Mean Difference	0
df	4
<b>t Stat</b>	<b>15.63078514</b>
P(T<=t) one-tail	4.89147E-05
t Critical one-tail	2.131846786
P(T<=t) two-tail	9.78295E-05
<b>t Critical two-tail</b>	<b>2.776445105</b>

The Table depicts that the calculated t value (15.6307) is more than the table value (2.7764) of t-test so null hypothesis has been rejected and it is concluded that there is significant difference in liquidity position of IOB bank at 5% level of significant from 2016 to 2021.

Ho3: There is no significant difference between working capital positions of



select Company

YEAR	NET WORKING CAPITAL
2016-2017	-0.22
2017-2018	-0.2483
2018-2019	-0.2718
2019-2020	-0.232
2020-2021	-0.0932

t-Test: Two-Sample Assuming Unequal Variances	
	<i>Net Working Capital</i>
Mean	-0.21306
Variance	0.004866388
Observations	5
Hypothesized Mean Difference	0
df	4
<b>t Stat</b>	<b>-6.829415857</b>
P(T<=t) one-tail	0.001202063
t Critical one-tail	2.131846786
P(T<=t) two-tail	0.002404125
<b>t Critical two-tail</b>	<b>2.776445105</b>

The Table depicts that the calculated t value (6.8294) is more than the table value (2.7764) of t-test so null hypothesis has been rejected and it is concluded that there is significant difference in Working Capital position of IOB bank at 5% level of significant from 2016 to 2021.

Summary 1. The Indian Overseas Bank is growing in size over time. 2. As of the year 2017, the ratio of the bank's networking capital to total assets is rising.

- As of 2016, the Indian Overseas Bank's capital adequacy ratio has been rising.
- Between 2018 and 2019, the Indian Overseas Bank's Return on Assets fell. The return on assets appears to be rising in 2020–2021.
- Between 2018 and 2019, the Indian Overseas Bank's Return on Equity fell. The Return on Equity appears to be rising in 2019 and 2020.
- From 2017 to 2018, the Indian Overseas Bank's Beta (Systematic Risk) dropped. The beta (systematic risk) appears to be rising in 2018 and 2019.
- From 2017 to 2018, the Indian Overseas Bank's Alpha (Excess Return) rose. The Alpha (Excess Return) appears to be declining in 2020–2021
- From 2017 to 2018, the Indian Overseas Bank's Expected Return rose. The Expected Return appears to be declining in 2020–2021.
- From 2017 to 2018, Indian Overseas Bank's liquidity risk worsened. The risk appears to be

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declining in 2018–2019 and increasing in 2020–2021.

### CONCLUSION

The chosen bank has a larger liquidity risk, according to the Indian Overseas Bank's analysis on the subject. They may therefore focus on projects that yield a larger return in order to lower their systematic asset risk. The company's ability to make profit with shareholder capital has been demonstrated by an improvement in Return on Equity. The study has demonstrated that risk is an essential component of every company's development.

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