THE STOCK EXCHANGE, BOMBAY

INTRODUCTION OF CAPITAL ADEQUACY STANDARDS FOR MEMBER FIRMS

REPORT

Arthur Andersen and Associates
## CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>2. EXECUTIVE SUMMARY</td>
<td>5</td>
</tr>
<tr>
<td>3. RATIONALE FOR CAPITAL ADEQUACY</td>
<td>12</td>
</tr>
<tr>
<td>4. KEY ELEMENTS OF CAPITAL ADEQUACY STANDARDS IN INTERNATIONAL MARKETS</td>
<td>15</td>
</tr>
<tr>
<td>5. CURRENT PRACTICES AT BSE</td>
<td>19</td>
</tr>
<tr>
<td>6. CAPITAL ADEQUACY GUIDELINES FOR BSE</td>
<td>22</td>
</tr>
<tr>
<td>7. IMPLEMENTATION PLAN</td>
<td>29</td>
</tr>
<tr>
<td>8. BENEFITS</td>
<td>32</td>
</tr>
<tr>
<td>9. NEXT STEPS</td>
<td>33</td>
</tr>
</tbody>
</table>

### Appendix

<table>
<thead>
<tr>
<th>Section</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. BSE Membership Requirements</td>
<td></td>
</tr>
<tr>
<td>2. Capital Adequacy Standards in New York Stock Exchange</td>
<td></td>
</tr>
<tr>
<td>4. Capital Adequacy Standards in Paris Bourse</td>
<td></td>
</tr>
<tr>
<td>5. Capital Adequacy Standards in Tokyo Stock Exchange</td>
<td></td>
</tr>
<tr>
<td>6. Capital Adequacy Standards in Singapore Stock Exchange</td>
<td></td>
</tr>
<tr>
<td>7. Capital Adequacy Standards in Other Stock Exchanges</td>
<td></td>
</tr>
</tbody>
</table>
1. INTRODUCTION

1.1 Background

Indian capital markets have, in the recent past, witnessed significant growth. The annual turnover of Bombay Stock Exchange (BSE), which accounts for over 70% of the trading in India, has increased five fold between 1985-86 and 1990-91 from approximately Rs 7,000 crores to Rs 36,000 crores. Market capitalisation, has increased nine fold from Rs 25,000 crores to Rs 2,25,000 crores over the same period.

Liberalisation measures initiated by the Government in the past year have further increased the interest in stock markets. A number of new investors and significant fresh funds have been inducted into the market.

In addition, Government is also keen to attract foreign investment into the Indian capital markets.

Growth of this nature presents greater financial risks for all the direct and indirect participants. There is, therefore, a need to ensure that control mechanisms are in place to mitigate such risks. These measures would also contribute to an increase in the confidence of foreign investors.

A particularly important area which requires to be addressed is the need for capital adequacy standards for BSE members.

Capital adequacy standards help to protect investors and ensure smooth functioning of the market by reducing the possibility of defaults that may arise because of inherent risks in the securities markets. The standards specify the minimum amount of capital a securities firm should maintain, based on the nature and scope of its activities. The capital should be sufficient to meet its commitments to customers, counterparties and creditors.

Capital adequacy standards are prevalent in all the leading markets of the world, as well as key emerging markets such as Singapore and Hong Kong.

Arthur Andersen was requested to undertake a study to develop a suitable set of standards of capital adequacy for BSE members, drawing upon the international experience.
1.2 Objectives

The objectives of our work were to:

- Review the capital adequacy standards in leading stock markets of the world and understand how these have been implemented
- Develop recommendations for the BSE.

1.3 Scope

In undertaking the work, we reviewed capital adequacy standards in the following leading exchanges:

- New York Stock Exchange
- International Stock Exchange, London
- Paris Bourse
- Tokyo Stock Exchange
- Frankfurter Stock Exchange
- Australian Stock Exchange.

In addition, we reviewed capital adequacy standards in the following emerging markets:

- Singapore
- Hong Kong.

We also had extensive discussions with personnel from Securities and Futures Authority, UK.

We briefly reviewed the capital adequacy framework proposed by the Technical Committee of IOSCO (International Organisation of Securities Commissions).

The scope of our work did not include the development of detailed capital adequacy standards or the related accounting rules and regulations, but only the principles which needed to be adopted.

1.4 Approach

In undertaking the work, our approach consisted of the following principal steps:

- Review all background documents
- Develop an understanding of formal and informal risk management mechanisms currently in place in the BSE

- Interview management and key members of the broking community to understand the key capital adequacy issues

- Review the capital adequacy standards followed in leading and emerging markets of the world, and the manner in which these have been implemented. For example:
  - Levels of security/capitalisation
  - Monitoring arrangements
  - Responsibility of exchanges
  - Legal structure of the broker organisations

- Develop recommendations

- Discuss and agree with management

- Document our findings in a concise report.

1.5 Structure of the Report

This report, which sets out the results of our work, is structured along the following lines:

- Executive Summary (Section 2), presents a summary of the results

- Rationale for Capital Adequacy (Section 3), sets out the reasons why capital adequacy standards are required

- Key Elements of Capital Adequacy Standards in International Markets (Section 4), presents a summary of the capital adequacy requirements in key developed and emerging markets

- Current Practices at BSE (Section 5), describes the measures presently in place for ensuring security against members' commitments

- Capital Adequacy Guidelines for BSE (Section 6), sets out the recommended capital adequacy requirements for BSE
- Implementation Plan (Section 7), covers the detailed plan for implementation of capital adequacy standards

- Benefits (Section 8), presents the key benefits of implementing the standards

- Next Steps (Section 9), sets out the steps which management now needs to undertake.
2. EXECUTIVE SUMMARY

2.1 Introduction

Capital markets in India have witnessed significant growth in the recent past. This presents greater financial risks for all the direct and indirect participants. Measures are therefore required to bring about greater discipline and control in order to reduce such risks.

An important measure which is required to be implemented is capital adequacy standards for members.

Capital adequacy standards specify the minimum amount of capital that a securities firm should maintain to meet its commitments to customers, counterparties and creditors on an on-going basis.

Such standards are prevalent in all the leading markets of the world, as well as key emerging markets such as Singapore and Hong Kong.

2.2 Rationale for Capital Adequacy (Section 3)

A member firm undertaking securities business is subject to the following principal financial risks:

- Position risk. This is the risk of erosion in the value of securities held by a member firm.

- Counterparty risk. This is the risk relating to inability of the member firms' trading partners to meet their commitments. Examples include the risks associated with deficits in client accounts, unsecured or undercollateralised loans, unsecured receivables, defaults by counterparty members on delivery and payment.

- Other risks. These include a number of operational risks such as a member firm having to face a period of reduced revenues, or misinterpretation of instructions received from a client.
2.3 **Key Elements of Capital Adequacy Standards in International Markets (Section 4)**

Broadly, the capital adequacy standards in the international markets, as well as the framework produced by IOSCO, comprise the following key elements:

- The capital of the member firm should exceed the sum of its risk based requirements, which consist of:
  
  - **Base requirement** which is a specified amount or an amount set in relation to items such as the member firm's annual operating expenses, or aggregate debts or customer related receivables, or total client position.
  
  - **Position risk requirement** which is determined by applying specific risk percentages to classes of securities positions held to provide for a margin of safety as a result of market fluctuations.
  
  - **Settlement risk requirement** which is determined by applying certain percentages to amounts due from counterparties (marked-to-market), depending on the number of days of outstandings and the nature of the debtor.

- In addition, in all the markets, there are:
  
  - Requirements for recordkeeping related to transactions and finances.
  
  - Requirements to submit reports periodically (typically monthly).
  
  - Provision for annual audit by an auditing authority.
  
  - Provision for periodic inspections.

- In certain markets, there are requirements for notification to the regulatory authority, in the event of any significant change in the capital of the member firm.

Capital adequacy standards in international markets vary in degree of sophistication. Some of these variations are:

- Rules for segregation of client money.

- Notification rules.
- Risk reduction effects of diversification of securities portfolio
- Additional requirements for concentration position
- Maximum allowable holding in a security
- Maximum allowable position with respect to a client
- Different base requirements for different types of member firms
- Treatment of subsidiary companies.

2.4 Current Practices at BSE (Section 5)

At present, there are two principal ways in which risk protection is aimed to be provided:

- Exchange deposits
- Margins.

Both these measures do not address the complete business risks faced by a member, and therefore do not fully address the need to monitor capital adequacy.

Exchange Deposits

Given the level of activity of the members, the security deposit of Rs 2 lacs and the two guarantee deposits of Rs 50,000 provide inadequate risk protection.

The membership card vested with the exchange, is also not a mechanism for providing on-going liquid capital.

Margins

Margins, to the extent imposed, do provide risk protection for member positions (position risk if own position and counterparty risk if client position) during a settlement period. However, margins have no relation to a members' total business (eg own capital put in by member, value and quality of total portfolio of securities held, receivables from counterparties etc).

For example, in a settlement period, a member may have only a small margin deposited with the exchange (because of low volume of business), but have a high position or counterparty risk.
2.5 **Capital Adequacy Guidelines for BSE (Section 6)**

In recommending capital adequacy guidelines for the BSE, which are summarised below, we have recognised the need, in the initial stages, to keep these relatively simple for ease of understanding and implementation.

**Member Firm**

Every member would be required to identify a "member firm", which would be the business entity which would carry out securities business on the exchange. The member firm's securities business would have to be segregated, from any unrelated business, for the purposes of measurement of capital adequacy.

**Net Capital Rule**

The member firm would have to maintain, at all times, sufficient net capital to be able to cover a base requirement, which would be a quarter of the firm's annual expenses incurred in normal course.

Net capital would be determined as capital adjusted for:

- Off balance sheet items
- Non-allowable assets (deduction)
- Position risk (deduction)
- Counterparty risk (deduction).

**Reporting**

The following reporting arrangements would be required:

<table>
<thead>
<tr>
<th>Report</th>
<th>Periodicity</th>
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<tbody>
<tr>
<td>Annual Statement of Accounts and Capital</td>
<td>Annual (within a quarter)</td>
</tr>
<tr>
<td>Quarterly Statement of Capital Risk Statement</td>
<td>Quarter (within a month)</td>
</tr>
<tr>
<td>Risk Statement</td>
<td>Every month (within 7 days)</td>
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</tbody>
</table>
The statements would be submitted at the end of settlement period.

Materially incomplete or late reports would be subject to a penalty.

Member firms would have to self-monitor the adherence to capital adequacy requirements at all times.

**Recordkeeping and Examination**

The member firm would be required to have an audit carried out by an auditing firm, which is approved by BSE.

The auditors would be required to certify that the annual statement was prepared based on audited figures in the annual financial statements and that the two reconcile.

BSE would reserve the right to examine the member firms' accounts at any time in order to ascertain whether adequate capital is being maintained.

**Accounting Rules**

All member firms would be required to adhere to a common set of accounting rules for the purpose of capital adequacy reporting.

2.6 **Implementation Plan (Section 7)**

Capital adequacy standards are likely to have a medium to high impact on members' organisation, businesses and systems depending on factors such as level of capital maintained currently and quality of accounting and record keeping.

The implementation of capital adequacy standards would have associated with it the following risks:

- **Management Risks.** This is the risk that the process of implementation may not be adequately managed. This risk should be addressed by the BSE appointing an operating committee with overall management responsibility to oversee the successful implementation in accordance with a pre-determined schedule.
- **Conceptual Risk.** Certain elements of the recommended capital adequacy standards may turn out to be difficult to implement. This risk should be addressed by conducting a pilot run of the standards with a few key members after the detailed rules have been developed.

- **Perception Risk.** Members may perceive the capital adequacy standards as restrictive and cumbersome, and may therefore resist their implementation. This risk should be addressed by sufficient discussion and involvement of members at the time of development of the detailed regulations.

**Key Implementation Steps**

We believe that the implementation should be carried out in a gradual manner over an 18-24 month time period.

The following key steps would be required in order to implement the standards:

- Form a "Management Committee" comprising senior stock exchange and member personnel to oversee the implementation in accordance with a pre-determined time schedule.

- Establish a "Technical Committee" for development of detailed capital adequacy and accounting regulations, based on the guidelines suggested.

Members of this team should form part of the capital adequacy monitoring department of BSE, subsequent to implementation.

- Develop the set of detailed capital adequacy rules. The rules would address issues such as:
  
  - Treatment of detailed items (e.g., which securities should be considered as non-marketable or what should be the value of the haircut on "B" category shares).
  
  - Reporting formats; penalties for late or incorrect reporting.

- Develop a set of guidelines related to recordkeeping and accounting which would establish the accounting treatment of member transactions.

- Establish a capital adequacy monitoring department.
- Undertake a pilot run of the capital adequacy rules with a cross-section of members, in order to ascertain any practical difficulties; refine the rules as appropriate
- Implement the rules for all members.

2.7 **Benefits (Section 8)**

The principal benefits of implementing capital adequacy standards would be:

- A more viable and sound securities industry
- Lower risks of undertaking securities business for all direct and indirect participants, including small investors
- Greater confidence of foreign investors in the stability of Indian capital markets.

2.8 **Next Steps (Section 9)**

BSE management should now:

- Develop detailed capital adequacy rules
- Develop detailed accounting guidelines
- Conduct pilot run of capital adequacy standards.
3. RATIONALE FOR CAPITAL ADEQUACY

3.1 Summary

A member firm undertaking securities business is subject to a number of financial risks. These risks include:

- Position risk (Section 3.2), which is the risk of erosion of the value of securities held
- Counterparty risk (Section 3.3), which is the risk of inability or unwillingness of the member firm's trading partners to meet their commitments
- Other risks (Section 3.4).

Capital adequacy standards are required in order to ensure that a member firm has sufficient liquid capital at any given time to meet its obligations in the event that such risks materialise.

3.2 Position Risk

Position risk principally arises out of the possibility of erosion in the value of securities held by a member firm. For example, the price of securities held by a member firm may fall or price of securities relating to short positions might rise.

The risk is enhanced if a member firm has a position that is large in relation to the floating stock.

There is a risk that in attempting to liquidate a long position, the member firm might experience a significant price decline (or a significant increase if it is buying to cover a short position).

There is also a risk to the member firm when it holds a large position in one issue or a number of different issues of a single issuer relative to its capital.

3.3 Counterparty Risk

Members are exposed to the risk that their clients, other members or other parties may not meet, or delay meeting their commitments. Some of these risks are described below.
Client Deficits

This could occur as follows:

- A member sells and delivers securities on behalf of a client, who fails to deliver in part or full

- A member purchases and pays for security on behalf of a client, who fails to pay in part or full.

The exposure of the affected member exists to the extent of an unfavourable variance in the price reduced by the amount secured from the client.

Unsecured Loans and Loan Deficits

These could include unsecured or under collateralised loans advanced by members (money or security loans).

Unsecured Receivables

These could include delays or defaults in the receipt of dues such as interest, commissions, dividends and money placed for allotment of securities in new issues.

Bad Delivery

There is a risk that a bad delivery may block capital for a significant time.

Default by Member on Delivery

A counterparty (member) may default on delivery of securities on the payavat (for "B" category shares) or pay-in day (for "A" category shares).

BSE, however, provides for purchase of shares by means of an auction, if requested by the affected member, and the counterparty is liable to pay any unfavourable variance between the auction and transaction price.

Therefore, the exposure of the affected member exists to the extent of any unfavourable difference between the value of shares purchased from auction and the transaction price.

Free Delivery to Member

This could happen in "B" category shares because the money is paid after the delivery of shares ie the pay-in-day falls after the payavat day.
The basic risk is that a member may receive delivery of shares on payavat day and default on payment on pay-in-date. The quantum of risk relates to the extent of difference between the value of the transaction and the margin paid by the defaulting member.

Default of Member on Payment

A counterparty (member) may default in payment of money on the pay-in-date, for "A" category or "B" category securities.

Although technically possible, the risk may not arise as the exchange is likely to intervene to ensure settlement.

3.4 Other Risks

Off the Exchange Business

A material portion of the business is carried out off the exchange, and not reported for trading and settlement purposes.

Default on this system could potentially give rise to settlement risks in the exchange.

Operating Risks

Some of the other operating risks faced by a member firm are:

- Misinterpretation of instructions received from the client (incorrect quantity, security, sale vs purchase).

  The risks could be in the form of costs relating to the rectification of the error.

- Change in the scale of business. Due to rapidly increased volumes, a member may have excessive paperwork which may cause settlement problems. Alternatively, due to rapidly decreased business, a member may have significantly reduced revenues, whilst the expenses remain broadly unchanged.

- Risk of inadequate systems and controls. Inadequate systems and controls could potentially result in members not being aware of all their commitments and obligations.
4. KEY ELEMENTS OF CAPITAL ADEQUACY STANDARDS IN INTERNATIONAL MARKETS

4.1 Introduction

This section describes the key elements of capital adequacy standards based on practices prevalent in international markets.

Details of capital adequacy standards in leading and emerging markets of the world are presented in the Appendix, as follows:

- New York Stock Exchange (Appendix 2)
- International Stock Exchange, London (Appendix 3)
- Paris Bourse (Appendix 4)
- Tokyo Stock Exchange (Appendix 5)
- Singapore Stock Exchange (Appendix 6)
- Other Stock Exchanges (Appendix 7).

In addition, we briefly reviewed the framework for capital adequacy proposed by IOSCO (Section 4.2).

4.2 IOSCO Framework

The Technical Committee of IOSCO comprises representatives of securities regulators of twelve countries, namely Australia, Canada, France, Germany, Hong Kong, Italy, Japan, The Netherlands, Sweden, Switzerland, UK and USA.

In 1987, it set up working groups to study various aspects of international securities markets. One group studied the issues related to capital adequacy for securities firms from a worldwide perspective, and reached a number of conclusions about the capital requirements that securities firms should meet.

The working group concluded that there is a need for a common conceptual framework regarding the capital requirements for securities firms.

The key elements of the suggested framework are:

- Liquidity and solvency should be covered by a standard that provides for a firm to have sufficient liquid assets to meet its obligations given the risk that the firm faces
- Marking of marketable securities to market prices is essential for firms to give a true picture of their position.

- Risk based capital requirements should cover all risks to the firm, in particular:
  
  . A base requirement reflecting the scale of a firm’s activities.
  
  . Position risk requirement (for both on and off balance sheet items), reflecting price volatility of individual securities with provision for concentrated positions and allowances for risk reduction measures such as hedging.
  
  . Settlement risk requirement reflecting risk of non-performance in a timely manner.

The capital held by each firm should exceed the sum of the above risk based requirements.

- Differential minimum capital requirements, based on type of business being conducted by the firm should be established so that the firm demonstrates a level of commitment to the business.

- Rules designed to establish capital adequacy standards are effective only to the extent that the securities firms’ records are adequate, accurate and current. Therefore, capital requirements should be enforced by adequate recordkeeping, reporting and examination programmes.

Recordkeeping

Recordkeeping requirements should be designed to ensure that standardised categories of information are maintained by securities firms in their business records in a readily accessible format.

Some examples are:

  . All purchase and sale of securities
  
  . Customer and firm account information
  
  . All receipts and deliveries of securities
  
  . All receipts and disbursements of cash; all debits and credits
  
  . Location and ownership of customer and firm securities
  
  . Trial balances and net capital computation.
Reporting

Securities firms should be required to file periodic reports with their supervisory authorities. For example, monthly or more frequent reports could be required to be filed indicating compliance with net capital requirements.

Securities firms should also be required to give warnings to supervisory authorities of financial or operational problems.

Examination

Firms should be examined routinely, and when possible problems exist, by the supervisory authorities for compliance with financial responsibility and recordkeeping requirements.

4.3 Key Elements of International Capital Adequacy Standards

Broadly, capital adequacy standards in the markets reviewed address the key elements of the conceptual framework proposed by IOSCO (see Exhibit 1 on the following page).

The key elements of capital adequacy standards in the international market are set out below:

- **Base Requirement.** Members are required to maintain capital (ie capital less market risks less non-marketable portion of assets) in relation to either:
  - Greater of a minimum amount or a proportion of the member firm’s annual operating expenses incurred in normal course
  - Greater of a minimum amount or a percentage of aggregate debts
  - Greater of a minimum amount or a percentage of customer related receivables
  - Percentage of client’s total position

- Position risk requirement which is determined by applying specific percentages (haircuts) to securities positions held, to provide for a margin of safety as a result of market fluctuations. The percentages vary depending on type of security (eg equity, debt) and the risk associated with the security.
## COMPARISON OF CAPITAL ADEQUACY MODELS

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>U.S.</th>
<th>U.K.</th>
<th>JAPAN</th>
<th>FRANCE</th>
<th>GERMANY</th>
<th>AUSTRALIA</th>
<th>SINGAPORE</th>
<th>HONG KONG</th>
</tr>
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<tbody>
<tr>
<td>1 Covers:</td>
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</tr>
<tr>
<td>Base Requirement</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Position Risk Requirement</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Settlement Risk Requirement</td>
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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>2 Capital should exceed sum of risks plus base requirement</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td>3 Marks positions to market</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>4 Recordkeeping, Reporting and Examination Requirements</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>5 Differential requirements for categories of brokers</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
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</table>
Additional risk requirements are provided for concentrated securities positions and allowances given for risk reduction measures, such as hedging.

In addition, in Singapore, the amount of securities that an exchange member can hold for its own account is limited to a certain percentage of its capital.

- Settlement risk requirement. The settlement risk requirement is established by determining the differences between market value of the securities and balance value, and applying a percentage depending on factors such as days overdue and nature of counterparty.

- Other than in Singapore and Australia, the liquid capital of the firm should exceed the sum of base requirement, position risk requirement and settlement risk requirement.

In Singapore, in computing the net capital, positions are marked-to-market, but no haircut is applied. Additionally, all unsecured receivables are deducted, rather than a percentage.

In Australia, liquid assets are required to be greater than Aus$ 50,000 or 105% of total liabilities.

- In all countries, there are:
  . Requirements covering recordkeeping
  . Requirements to submit reports periodically (typically monthly), and self-monitor adherence to capital adequacy standards on a continuous basis
  . Provision for annual auditing by an auditing authority
  . Provision for periodic inspections.

In addition, in certain markets (e.g., UK, Singapore) there are requirements for notification when the capital changes excessively in the adverse direction, or becomes close to the minimum requirement.
5. CURRENT PRACTICES AT BSE

5.1 Introduction

At present, there are no capital adequacy requirements for members on the BSE. However, risk protection is provided in two principal ways:

- Deposits held with BSE (Section 5.2)
- Margins on transactions (Section 5.3).

5.2 Deposits Held with BSE

As per the membership requirements (see Appendix 1), members are required to keep the following security deposits, which can be used by BSE, at its discretion, to cover member defaults. These are:

- Security deposit of Rs 2 lacs. This should be made up of a minimum of Rs 45,000 in cash.

The balance can be kept in the form of securities, the total market value of which should be 10% more than the balance amount. For this purpose securities are valued at prevailing market prices every 3 to 6 months by the BSE.

- Two deposits of Rs 50,000 each made by two guarantors for a period of three years

- Membership card of the member, which is vested with BSE. As the membership can be nominated to another individual, the card has a market value.

5.3 Margins on Transactions

Introduction

Margins are charged by the exchange as a percentage of the value of a security bought or sold (transacted) by a member. Margin rates are varied from time to time by the exchange based on market conditions.

Margins have the following objectives:

- To act as protective cover against likely adverse movement in prices
- Reduce speculative component of the market

- To act as a price corrective measure.

There are three types of margins:

- Daily margins. These are chargeable on a daily basis on trades carried out by members

- Carry forward margins. These are charged on members' purchases and sales that are carried forward to the next settlement period

- Ad hoc margins. These are charged when a member exceeds a certain set limit of outstanding positions determined by the exchange.

Daily Margin

Daily margins may or may not be imposed depending upon the market trend. The rate of daily margins is variable, and is set by the stock exchange authorities. Daily margins have varied at times, by as many as three times during a week.

In the case of "A" category shares, daily margins have to be paid:

- On all purchases netted against sales made during the same day on the same security

- All shares sold unless the seller declares that the shares are for delivery.

In the case of "B" category shares margins are payable only on purchases. The member is allowed to offset his sales in any security against the purchases made in any security on the same day and pay daily margins only on the balance outstanding purchase position, if he happens to have one.

The rates for daily margin in purchases and sales could be different.

Carry Forward Margins

Carry forward margins are always charged, though the percentage varies from settlement to settlement.

In the case of "A" category shares, for the purpose of computing margins the making up price at the end of the settlement is used. Margins are computed on all purchases and sales carried forward.
In the case of "B" category shares, the member is not allowed to carry forward his position. The seller though, has the option of renewing the transaction, if agreed to by the buyer, on which he has to pay a renewal margin (equivalent to carry forward).

5.4 Assessment of Current Practices for Meeting Capital Adequacy Needs

Membership Requirements

The total membership deposit with the stock exchange amounts a maximum of Rs 3 lacs, which in view of the current volume of business is a very small amount.

The membership card vested with the exchange, however, has a market value (which is substantial in the present circumstances).

Although the card is available for the purpose of meeting a members' liabilities it can only be used in case the governing board decides to terminate membership. It is, therefore, not a mechanism for ensuring that a member maintains on an on-going basis, liquidity to sufficiently cover the risks of market activities.

Margins

Margins provide, to the extent imposed, the cover for the transactions made by members during a settlement period (including those carried forward from previous settlement periods).

However, margins have no relation to the member's total business, such as member's own capital, value and quality of securities held, risks on the current position of client accounts etc.

For example, in a settlement period, a member may have only a small margin with the exchange, (because he has not transacted a large volume of business) but he may have a large position risk or outstandings from his clients.
6.1 **Introduction**

This section sets out the recommended guidelines for implementing capital adequacy standards within BSE.

6.2 **Considerations in Development of Capital Adequacy Standards**

The securities markets currently have no formal arrangements that require members to maintain or report capital adequacy. Moreover, although there is a requirement for members to submit annual financial statements to the BSE, there are no formal member accounting guidelines in place.

Therefore, when capital adequacy standards are implemented, members may have to undertake measures to bring in the necessary capital and make appropriate changes to their record-keeping and accounting methods in order to be able to furnish capital adequacy information on a reliable and regular basis. Introducing capital adequacy standards could potentially impact the members' business and systems significantly.

Hence, the capital adequacy standards should address the following requirements:

- In the initial stages, be simple in nature, for ease of understanding and implementation

- Provide for an adequate transition period to allow members sufficient opportunity to:
  - Undertake measures to build the capital required to meet the capital adequacy standards
  - Adjust their systems to be able to promptly and accurately account and report for capital adequacy.

6.3 **Capital Adequacy Guidelines**

This section sets out the broad capital adequacy guidelines, within the framework of which, the capital adequacy regulation should be developed.
Capital adequacy standards would be required to be implemented along the lines set out below.

**Member Firm**

Every member would be required to identify a "member firm", which would carry out securities business on the exchange.

The member firm could be a limited company or a partnership or proprietary firm.

The member firm's securities business would have to be segregated from other business, for the purposes of measurement and reporting of capital adequacy.

**Net Capital Rule**

The member firm would have to maintain, at all times, sufficient capital (called net capital) to be able to cover base requirement.

Net capital would be determined as follows:

- Capital
- Adjust off balance sheet items
- Less non-allowable assets
- Less position risk
- Less counterparty risk.

These terms are explained in detailed in Section 6.4.

**Reporting**

The following reporting arrangements would be required:

<table>
<thead>
<tr>
<th>Report</th>
<th>Periodicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Statement of Accounts</td>
<td>Annual (within a quarter)</td>
</tr>
<tr>
<td>and Capital</td>
<td></td>
</tr>
<tr>
<td>Quarterly Statement of Capital</td>
<td>Quarter (within a month)</td>
</tr>
<tr>
<td>Risk Statement</td>
<td>Every month (within 7 days)</td>
</tr>
</tbody>
</table>
The statements would be submitted to the BSE at the end of settlement and be formally approved and signed by the member(s).

Materially incomplete or reports not submitted by due date would be subject to a penalty.

Member firms would have to self-monitor the adherence to capital adequacy requirements at all times. BSE would reserve the right to examine the member firms’ accounts at any time in order to ascertain whether adequate capital is being maintained.

Recordkeeping and Examination

The member firm would be required to have an audit carried out by an auditing firm, which would be from a list of auditors approved by BSE for the purpose.

The auditors would be required to certify that the annual statement was prepared based on audited figures in the annual financial statements, and that the two reconcile.

Accounting Rules

Member firms would be required to adhere to a common set of accounting rules for the purpose of capital adequacy monitoring and reporting.

6.4 Key Elements of Net Capital Rule

The key elements of net capital are described below. A simple example (a balance sheet and corresponding capital adequacy computation) illustrating computation of the capital adequacy requirement is presented in Exhibit 2.

Capital

Capital, which would include owners’ funds, would be made up of the following:

- Equity contributed by the member, in case of a sole proprietorship, and a partnership firm.
  
  Share capital, in case of a limited company

- Reserves
SAMPLE BALANCE SHEET

(All figures in Rs. lacs)

<table>
<thead>
<tr>
<th>LIABILITIES</th>
<th>46</th>
<th>ASSETS</th>
<th>13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity</td>
<td></td>
<td>Fixed Assets</td>
<td></td>
</tr>
<tr>
<td>Unrealised Profit</td>
<td>5</td>
<td>Investments</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Non-marketable (NSC)</td>
<td>2</td>
</tr>
<tr>
<td>Secured Loans</td>
<td>5</td>
<td>- Marketable (marked to market)</td>
<td>30</td>
</tr>
<tr>
<td>(against securities pledged)</td>
<td></td>
<td>- Pledged Securities</td>
<td>10</td>
</tr>
<tr>
<td>Unsecured Loans</td>
<td>10</td>
<td>Prepaid Expenses (eg. Tax, TDS)</td>
<td>4</td>
</tr>
<tr>
<td>Other Creditors</td>
<td>10</td>
<td>Exchange Deposits</td>
<td>2</td>
</tr>
<tr>
<td>Client Payable</td>
<td>11</td>
<td>Secured Deposits</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unsecured Deposits</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Client Receivable</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Application Monies</td>
<td>1</td>
</tr>
</tbody>
</table>

87

Operating Expenses as per last annual report: Rs. 36 Lacs.
## CAPITAL ADEQUACY COMPUTATION

<table>
<thead>
<tr>
<th>ITEM</th>
<th>AMOUNT (Rs. lacs)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong></td>
<td></td>
</tr>
<tr>
<td>1.1</td>
<td>Equity</td>
</tr>
<tr>
<td>1.2</td>
<td>Reserves</td>
</tr>
<tr>
<td>1.3</td>
<td>Unrealised Profit</td>
</tr>
</tbody>
</table>

**Total:** 51

<table>
<thead>
<tr>
<th><strong>2 adjust</strong></th>
<th><strong>OFF BALANCE SHEET ITEMS</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 add</td>
<td>Guarantees/Undertakings</td>
<td>-</td>
</tr>
<tr>
<td>2.2 add</td>
<td>Undrawn Facilities eg. overdraft</td>
<td>-</td>
</tr>
<tr>
<td>2.3 less</td>
<td>Guarantees/Undertakings given</td>
<td>-</td>
</tr>
</tbody>
</table>

**Total:** 0

<table>
<thead>
<tr>
<th><strong>3 less</strong></th>
<th><strong>NON-ALLOWABLE ASSETS</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>Fixed Assets</td>
<td>13</td>
</tr>
<tr>
<td>3.2</td>
<td>Non-marketable Securities</td>
<td>2</td>
</tr>
<tr>
<td>3.3</td>
<td>Bad Deliveries</td>
<td>-</td>
</tr>
<tr>
<td>3.4</td>
<td>Pledged Securities</td>
<td>10</td>
</tr>
<tr>
<td>3.5</td>
<td>Prepaid Expenses</td>
<td>4</td>
</tr>
<tr>
<td>3.6</td>
<td>Intangible Assets</td>
<td>-</td>
</tr>
<tr>
<td>3.7</td>
<td>Exchange Membership Deposits</td>
<td>2</td>
</tr>
<tr>
<td>3.8</td>
<td>Principal Outstanding Against a Pledged Asset</td>
<td>-</td>
</tr>
</tbody>
</table>

**Total:** 31
## CAPITAL ADEQUACY COMPUTATION

<table>
<thead>
<tr>
<th>ITEM</th>
<th>AMOUNT (Rs. lacs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 less</td>
<td>POSITION RISK</td>
</tr>
<tr>
<td>4.1 Securities Position Haircut (excl. pledged securities and non-marketable securities) (15% haircut applied)</td>
<td>4.5</td>
</tr>
<tr>
<td>4.2 Underwriting Commitment</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total 4 less</strong></td>
<td><strong>4.5</strong></td>
</tr>
<tr>
<td>5 less</td>
<td>COUNTERPARTY RISK</td>
</tr>
<tr>
<td>5.1 Unsecured Deposits</td>
<td>6</td>
</tr>
<tr>
<td>5.2 Stock Loans</td>
<td>-</td>
</tr>
<tr>
<td>5.3 Stock Borrows</td>
<td>-</td>
</tr>
<tr>
<td>5.4 Client Deficits</td>
<td>1.2</td>
</tr>
<tr>
<td>5.5 Unsecured Receivables (eg. interest, dividend, application monies) (A standard 10% deduction has been taken)</td>
<td>0.1</td>
</tr>
<tr>
<td><strong>Total 5 less</strong></td>
<td><strong>7.3</strong></td>
</tr>
<tr>
<td><strong>NET CAPITAL</strong></td>
<td><strong>8.2</strong></td>
</tr>
<tr>
<td>6 LESS</td>
<td>BASE MINIMUM REQUIREMENT (25% of operating expenses)</td>
</tr>
<tr>
<td><strong>NET CAPITAL DEFICIT</strong></td>
<td><strong>-0.8</strong></td>
</tr>
</tbody>
</table>
- Unrealised gains or losses on securities positions (i.e. mark-to-market)
- Deferred payments.

Off Balance Sheet Items
- Add undertakings or guarantees
- Add undrawn facilities available (e.g. overdraft)
- Less undertakings or guarantees given.

Non-Allowable Assets

Non-allowable assets include assets that cannot be readily converted into cash. These would include items such as:

- Fixed assets such as land, property, office furniture and equipment
- Non-marketable securities
- Bad deliveries
- Securities pledged
- Prepaid expenses
- Intangible assets (e.g. goodwill)
- Exchange membership deposits

- In the case that a non-allowable asset has been provided as a security to take any loans, the lower of the principal outstanding and the value of the asset would be added to the capital.

Position Risk

Securities Positions

- All the securities positions held by the member firm would be valued at the market price (marked-to-market) for the purpose of computing position risk.

The position risk would be computed by multiplying the market value of each security held, or security position, by a haircut percentage.
Each security would be classified into a security band and would carry a fixed haircut percentage. The various types of securities, and suggested broad criteria for haircut bands, are set out in Exhibit 3 on the following page.

Underwriting

- A percentage of total underwriting commitment, where securities are not traded; in the case where securities are traded, greater of a percentage of the total underwriting commitment or the commitment on account of difference between current market price and underwriting price.

Counterparty Risk

Counterparty risk would include:

Unsecured Loans and Loan Deficits

- Full value of unsecured loans advanced by members

- Extent of undercollateralisation, in the case of a collateralised loan (e.g. in case of stock loaned by the member, excess of market value of stock over the market value of collateral)

- In case of stock borrowed by a member, excess of market value of collateral over the market value of stock.

Client Deficits

- For amounts receivable from clients for transactions carried out on their behalf:
  
  - Excess of amount due from the client over current value of securities held by the member (in case of purchase of securities)
  
  - Excess of market value of securities due from the client over amount held by the member (in case of sale of securities).

Unsecured Receivables

- A percentage of receivables as arising out of investment business such as interest, dividends, redemption amounts, money given for new issues allotment, commissions depending on the period outstanding and nature of counterparty.
## Exhibit 3

**TYPE OF INSTRUMENT/ASSET TO BE CONSIDERED FOR CAPITAL ADEQUACY**

<table>
<thead>
<tr>
<th>TYPE OF ASSET</th>
<th>CHARACTERISTIC</th>
<th>SUGGESTED CRITERIA FOR HAIRCUT BANDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity shares</td>
<td>They are not 100% secured. &quot;A&quot; category are actively traded but &quot;B&quot; category may not be actively traded.</td>
<td>Category (&quot;A&quot; or &quot;B&quot;)</td>
</tr>
<tr>
<td>&quot;A&quot; Category</td>
<td></td>
<td>Within &quot;B&quot; category, possibly</td>
</tr>
<tr>
<td>&quot;B&quot; Category</td>
<td></td>
<td>2 bands based on liquidity of scrip</td>
</tr>
<tr>
<td>Debentures</td>
<td>They are relatively safer than equity shares but are not 100% secured. Debentures will be formally rated in the future.</td>
<td>Type of debenture</td>
</tr>
<tr>
<td>Non Convertible</td>
<td></td>
<td>Date of Redemption/Conversion</td>
</tr>
<tr>
<td>Partly Convertible</td>
<td></td>
<td>Credit Rating</td>
</tr>
<tr>
<td>Fully Convertible</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preference Shares</td>
<td>Total Market Capitalisation is Rs. 70 crores. The volume of trading is extremely low.</td>
<td>Since there is hardly any trading, they must be heavily discounted</td>
</tr>
<tr>
<td>Deposits</td>
<td>Only Bank Deposits and Margins can be considered 100% safe. Other deposits must be discounted due to lack of security.</td>
<td>Based on whether they are secured or not Date of Maturity</td>
</tr>
<tr>
<td>Long Term/Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short Term</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advances</td>
<td>Advances may be given against certain securities or may be given in the normal course of business.</td>
<td>Check the type of asset against which secured advances have been given</td>
</tr>
<tr>
<td>Secured</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unsecured</td>
<td></td>
<td>Ageing</td>
</tr>
<tr>
<td>Debtors</td>
<td>Debtors include all customers/associates, who owe money to the firm. The number of days that the amounts are outstanding may vary.</td>
<td></td>
</tr>
<tr>
<td>0–30 days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30–90 days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>90 or more days</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Margins Deposited with BSE

- Margins deposited with BSE would be considered as a secured deposit and therefore no deduction would apply to the capital.

Base Requirement

Base requirement would be the greater of a fixed rupee value or a quarter of the member firm’s annual operating expenses incurred in normal course of the business as per the last audited financial statement.

6.5 Additional Standards

Although the above guidelines are based on the principles followed in international markets, certain additional requirements are enforced in other markets which could potentially be introduced by the BSE in due course. These are:

- Rules for segregation of client money
- Notification rules
- Risk reduction effects of diversification of securities portfolio
- Additional risk requirement for concentration positions
- Maximum allowable holding in a security
- Maximum positions allowable with respect to a client

- Different base requirements, depending on the type of business of the member firm. For example, in Hong Kong, there is a base requirement of HK$ 3 million for corporations and HK$ 0.5 million for sole proprietorship. In UK, all firms have a base requirement of £ 10,000 other than clearing firms which carry other firm’s clients business and inter-dealer brokers, which have a requirement of £ 2,50,000.

At BSE, differing base requirements could be considered, provided members are officially categorised into different categories (eg jobbers, stock brokers etc)

- Rules related to options and futures (as and when these instruments are introduced)

- Treatment of subsidiaries.
6.6 Other Matters

Margins Deposited with BSE

Margins require immediate liquidity as cash is required to be deposited with BSE.

As per the capital adequacy standards set out above, margins deposited with the exchange are recognised as fully secured receivables and hence not deducted from the capital.

Since capital adequacy standards require that members monitor their capital requirements on a continuous basis, when a working system of capital adequacy standards has been established, BSE would need to undertake a review to determine whether any modifications to the margin system is required.

Members' Compensation Fund

Some of the exchanges reviewed (eg Tokyo Stock Exchange, Singapore Stock Exchange) provide for a default compensation fund, which could be used to ensure a smooth settlement in case of a member default.

In addition to capital adequacy standards, BSE may wish to consider introduction of this measure for further protection of the participants.
7. IMPLEMENTATION PLAN

7.1 Potential Impact of Introducing Capital Adequacy Standards

Member Firms

Introduction of capital standards is likely to impact the members' organisation, business and systems because:

- No capital adequacy requirements are in place currently

- Standard accounting practices have not been developed and enforced.

The degree of impact would depend on factors such as level of capital maintained presently, and the practices related to recordkeeping and accounting. In some cases implementation could present a substantial effort.

Therefore, the implementation should be carefully planned and executed, after a full and complete assessment of the degree of change it would impose on members.

BSE

It would be necessary to institute organisational arrangements to create and maintain effective regulation and subsequently monitor the adherence to capital adequacy.

7.2 Implementation Risks

Management Risk

The process of implementation may not be managed adequately.

This risk should be addressed by appointing an operating committee consisting of members representing all relevant interests, with the overall responsibility to plan, execute and oversee the successful implementation of capital adequacy standards, in accordance with a pre-determined schedule.
Conceptual Risk

The recommended system of monitoring capital adequacy may not be entirely appropriate for Indian conditions.

This risk can be addressed by conducting a pilot study of the capital adequacy rules, after the detailed rules and regulations have been developed, and making appropriate modifications as appropriate.

Perception Risk

There could be a lack of enthusiasm on the part of members as they may perceive capital adequacy standards as unnecessary, and/or difficult to comply with on account of the following:

- A belief that capital adequacy requirements are already being met because members pay margins and the membership card is vested with the exchange
- Inability to appreciate the concept and long-term benefits of capital adequacy
- A perception that the capital adequacy standards may severely restrict their businesses
- Need for greater disclosure
- A perception that significant change would be required to their systems
- A perception that capital adequacy standards may be very cumbersome to follow.

This risk could be addressed by sufficient discussion and involvement of the members at the time of development of rules and the pilot study, in order to arrive at a practical and workable system.

7.3 Key Implementation Requirements

In view of the above risks, we believe that the implementation should be carried out in a gradual manner, say over 18-24 months, allowing individual members sufficient opportunity to comply with the new requirements.
The following key steps would be required in order to implement a working system of capital adequacy standards:

- Form a "Management Committee" comprising senior stock exchange and member personnel to oversee the implementation in accordance with a pre-determined time schedule.

- Establish a "Technical Committee" for development of capital adequacy and accounting regulations along the guidelines suggested. Members of this team should form part of the capital adequacy monitoring department of the BSE, subsequent to implementation.

- Develop a set of detailed capital adequacy rules. The rules would address issues such as:
  
  . Treatment of detailed items (e.g., which securities should be considered as non-marketable or what should be the value of haircut on "B" category shares)
  
  . Exact reporting formats; penalties for late or incorrect reporting

- Develop a set of guidelines related to recordkeeping and accounting. These would establish the accounting treatment of transactions.

- Establish a capital adequacy monitoring department.

- Undertake a pilot run of the capital adequacy rules with a cross-section of members, in order to ascertain any practical difficulties; refine the rules as appropriate.

- Implement the rules for all members.

The implementation plan is set out in the form of a bar chart in Exhibit 4 on the following page.
## IMPLEMENTATION PLAN

<table>
<thead>
<tr>
<th>PRINCIPAL TASK</th>
<th>TIME-FRAME (Months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form Management Committee</td>
<td></td>
</tr>
<tr>
<td>Establish Capital Adequacy Team</td>
<td></td>
</tr>
<tr>
<td>Develop Capital Adequacy Rules</td>
<td></td>
</tr>
<tr>
<td>Develop Accounting Rules</td>
<td></td>
</tr>
<tr>
<td>Undertake Pilot</td>
<td></td>
</tr>
<tr>
<td>Issue Final Capital Adequacy Regulation</td>
<td></td>
</tr>
</tbody>
</table>
8. BENEFITS

The principal benefits of implementing capital adequacy standards would be as follows:

- A more viable and sound securities industry
- Lower risks for all participants of undertaking securities business
- Greater confidence of foreign investors in the stability of Indian capital markets, as the requirements would be in line with other leading and emerging markets of the world.
9. NEXT STEPS

BSE management should now:

- Initiate a project to develop detailed rules and reporting requirements for capital adequacy, within the framework of the recommendations set out in this report.

- Conduct a pilot exercise for a representative cross-section of members.

- Initiate the development of accounting guidelines for member firms.

- Implement capital adequacy standards for all members after allowing for a suitable transition period.
Appendix 1

BSE MEMBERSHIP REQUIREMENTS

The following requirements have to be met for admission to membership.

Security/Deposits

- Security deposit of Rs 2 lacs (which could be in the form of securities)

- Recommendation of two members of greater than three years standing, who are required to guarantee Rs 50,000 each for a period of 3 years

- A minimum net worth (assets - liabilities) of Rs 5 lacs after providing for
  - Rs 30 lacs as part payment of entrance fee (see below)
  - Rs 1 lac admission fee
  - Rs 2 lacs as security deposit.

In considering the net worth:

- Only realisable and easily liquidable assets are considered. Assets such as land, immovable property are not considered

- Market value of investment in securities is discounted by 25%

- Unlisted securities are valued at book value discounted by 15%

- Loans taken against immovable property and non-liquid assets are not taken into account.

Other Requirements

- Non-refundable entrance fee of Rs 55 lacs has to be paid to the exchange, which contributes to the equity of BSE

- Non-refundable admission fee of Rs 1 lac
- Annual subscription fee of Rs 5,000
- Age should be 21 years or more
- Minimum educational qualifications should be 10+2 or matriculation
- Must be a citizen of India
- Should not have been adjudged bankrupt or insolvent
- Should have not less than two years of work experience in activities related to the securities market
- Should not be engaged as principal or employee in any business other than that of securities
- Personal interview is required
- Financial statements viz capital accounts, balance sheets and computation of tax with challans for the last three years.
Introduction

Members are required to satisfy capital adequacy requirements by one of the following methods (rule 15Cj-1):

- Net capital should not be less than $25,000 and aggregate indebtedness must not exceed 1500% of the net capital (first method).

- Net capital must be equal to the greater of $100,000 or 2% of aggregate debit items computed in accordance with the formula for determination of reserve requirement for members (alternate method).

Usually, small broker/dealers with lower volumes of customer activity utilise the first method of computing net capital. Large broker/dealers with many customer accounts and transactions, normally utilise the alternate net capital method.

First Method

The key terms under the first method are:

- Net capital

- Aggregate indebtedness.

The significance of the above terms is explained below.

Net Capital

The net capital comprises the following:

- Consolidated stockholders equity

  plus

- Subordinated liabilities and other allowable credits (e.g. deferred income taxes payable)

  less

- Non-allowable assets such as fixed assets, real estate, goodwill, exchange memberships and prepaids
less

- Deductions such as unsecured or undercollateralised loans, customer deficits, unsecured receivables etc

less

- Haircuts on securities positions (haircut is the amount by which various instruments are discounted based on the type and category of the instrument).

**Aggregate Indebtedness**

Aggregate indebtedness includes items such as:

- Money borrowed
- Money payable against securities loaned
- Securities failed to receive
- Items such as guarantees, bank overdrafts, letters of credit and deferred income are excluded.

Under the first method, the aggregate indebtedness to net capital ratio must be less than 15:1 at all times.

**Alternate Method**

Aggregate debit items as shown in the formula for reserve requirement (as per rule 15C3-3 described below) include the following:

- Securities borrowed to cover short sales effected by clients or deliveries not made by clients
- Customers debit balances excluding unsecured accounts and accounts doubtful of collection.

**Other Rules**

In addition, the following two rules pertaining to the capital requirements are relevant:

**Rule 15C3-3: Customer Protection**

No member can use the funds arising out of a credit balance for the account of any customer, in connection with the operation of his business, unless he submits at least once every three months to the customer, a written statement of the amount due and states that the amount is payable on demand of the customer.
Rule 15C3-3: Formula for Determination of Reserve Requirement for Members

Members are required to deposit in the "Reserve Bank Account", a sum of not less than 105% of the excess of total credits over total debits, as a reserve for customer protection.

Total credits are calculated as follows:

- Credit balances in customer accounts
  plus
- Money borrowed on account of customers, collateralised by securities etc
- Total debits are calculated as described above (see sub-section "Alternate Method" on previous page).

Reporting

Members are required to submit FOCUS reports (Financial and Operational Combined Uniform Single Report) to the Securities and Exchange Commission (SEC) in a specified format. The report shows detailed computation of net capital according to the rules and a statement of financial condition.

Auditors are required to file a reconciliation of any differences between audited net capital computation and the member's computation as a supplemental schedule in the auditor's report.
Appendix 3

CAPITAL ADEQUACY STANDARDS IN INTERNATIONAL STOCK EXCHANGE
LONDON

Introduction

Member firms must, at all times, maintain an excess of qualifying capital over total capital requirement. The components of qualifying capital and total capital requirement are described below.

Qualifying Capital

Qualifying capital includes the following:

- Shareholders’ funds (capital and reserves)
  plus
- Qualifying short and long term subordinated loans
  plus
- Permitted undertakings
  plus
- Committed undrawn facilities
  less
- Guarantees given
  less
- Non-current and non-marketable assets.

Total Capital Requirement

This denotes the capital requirement of the member firm to cover its financial risks in the market. It comprises:

- Base requirement
  plus
- Position risk requirement
  plus
- Counterparty risk requirement.
Members must calculate their position and counterparty risk requirement on a daily basis

Base Requirement

Base requirement is the greatest of:

- Absolute minimum amount of £2,500,000 for agency and principals of £10,000 for other firms
- One quarter of adjusted annual expenditure (excluding non-recurring expenditure)
- Volume of business requirement based on customer and market liabilities at any time.

Position Risk Requirement (PRR)

PRR includes:

- Equity positions. There are three methods to calculate requirement for equity positions:
  - Based on gross position multiplied by a basic percentage (simple method)
  - Gives credit for diversification and for hedging effects (more complex)
  - Gives credit for portfolio in more than one country (most complex).

The choice of the equity method is left to the member. The more complex method results in lower PRR but requires greater effort on the part of the member firm.

- Debt positions. Debt instruments are classified into the following categories:
  - High quality bonds
  - Government bonds
  - Other bonds.

There are two methods to calculate requirement for debt positions:

- Based on a gross position multiplied by a basic percentage (simple)
- Taking into account credit for hedging effects (complex).

The choice of debt method is left to the member firms. The more complex method results in a lower PRR requirement, but requires greater effort on the part of the member firm to monitor and report.
- Convertible debt is covered by the principle that those convertible items which are unlikely to be converted should be treated as debt securities, whereas items which are likely to be converted should be treated as equity.

In addition, there are rules that relate to position in futures and options, note issuance facilities, concentrations and foreign currency positions.

Counterparty Risk Requirement (CRR) includes:

- Full unsecured amounts corresponding to free or unsecured deliveries

- In case of repurchase (repos) and reverse repurchase agreement, the excess of current value over 105% of the original value

- Stock borrow or lend transactions are either exempted or treated as repos

- Percentage of market value and potential future exposure for over-the-counter (OTC) contracts.

In addition, there are rules that relate to repurchase agreements, reverse repurchase agreements, options transactions, margined transactions and OTC.

**Reporting**

Member firms are required to submit financial reporting statements to the Securities Association as per the following schedule:

<table>
<thead>
<tr>
<th>Report</th>
<th>Number of Reports per annum</th>
<th>Time Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual</td>
<td>1</td>
<td>3 months</td>
</tr>
<tr>
<td>Quarterly</td>
<td>4</td>
<td>20 business days</td>
</tr>
<tr>
<td>Monthly</td>
<td>8</td>
<td>10 business days unless otherwise agreed with the Association</td>
</tr>
<tr>
<td>Position Risk</td>
<td>12</td>
<td>10 business days unless otherwise agreed with the Association</td>
</tr>
<tr>
<td>Position Risk Summary</td>
<td>24</td>
<td>5 business days</td>
</tr>
</tbody>
</table>
In addition, notification rules specify that the member firm should notify the Securities Association under certain circumstances. For example, notification has to be given if the unsecured borrowings exceed 10 times the adjusted shareholders funds or if its base capital has decreased by 10% from the figure last reported.

The rules also set out the criteria for appointment of an auditor and procedures for appointment.
Introduction

Member firms must cover for risk, taking into account both risk borne by member firms trading as principals and the risk arising from trades executed for clients, in terms of net assets.

Member firms provide the Societe des Bourses Francaises (SBF), whose activities include supervision of trades and market participants, with monthly updates concerning this, which they must calculate daily. The following formula sets out the rule:

\[ S + B + FO + OTC + \text{Total client position} < \text{net assets} \]

\[
\frac{K1}{K2} \frac{K3}{K4} \frac{K5}{K5}
\]

where

\( S \) = the firm's own position in shares
\( B \) = the firm's own position in bonds
\( FO \) = the firm's own position in futures and options
\( OTC \) = the firm's own position in OTC transactions

\( K1 \) to \( K5 \) = coefficients established by the authorities eg. \( K1 = 5, K2 = 25, K3 = 1, K4 = 5, \) and \( K5 = 150 \).

In other words, net assets of the firm should be greater than:

- 20% of the firm's own position in shares
  plus
- 4% of the firm's own position in bonds
  plus
- 100% of the firm's own position in futures and options
  plus
- 20% of the firm's own position in OTC transactions
plus

- 2/3% of the total client position.

In addition, the clearing house collects guarantee deposits from member firms for their outstanding positions, for example, the seller would have to pay the difference in price between the trade price and the latest known price of the security, if the latest known price were to rise above the trade price between the settlement date and the trade date. Similarly, the buyer would have to pay the difference if the latest known price of the security fell below the trade price. This ensures that if either buyer or seller were to default, the clearing house would be able to cover the resultant losses.

**Reporting**

Member firms are required to provide the necessary financial information to the SBF, including both annual and interim reports. Interim profit and loss accounts are required for each month.
Introduction

Member firms are required to keep the value of their owners' equity minus illiquid assets above the total value of all haircuts.

Key Terms

The key terms in calculation of the above are:

- Owners' equity
- Illiquid assets
- Haircuts.

The significance of each is explained below.

Owners' Equity

Owners' equity includes:

- Total capital
  plus
- Reserves
  less
- 90% of the difference between the book and market value of securities inventory.

Illiquid Assets

Illiquid assets include:

- Advance payments
- Prepaid expenses
- Deposits
- Firm stock
- Loans to related companies
- Fixed assets.
Frankfurt Stock Exchange

Introduction

All members of the Stock Exchange dealing on behalf of the customers need to obtain a banking licence first.

The base requirement for all banks is 6 million German marks.

The capital adequacy rules on the Frankfurt Stock Exchange cover:

- Counterparty Risks. The risk assets of the firm (ie loans, financial swaps, future contracts etc) should not exceed eighteen times its liable equity

- Position Risks. The total amount of certain positions of a bank involving price risks should not exceed 60% of its liable equity at the close of business on any day.

Reporting

The review of the compliance with the capital adequacy rules is subject to the annual audit of the financial statements.
Appendix 6

CAPITAL ADEQUACY STANDARDS IN SINGAPORE STOCK EXCHANGE

Introduction

Capital adequacy requirement set out by both the stock exchanges of Singapore (SES) and the Securities Industry Regulation (SIR) follow the same principal methods but differ in the level of capital required.

The capital adequacy requirements of the SIR have been explained below.

The adjusted net capital should not be less than $250,000 and aggregate indebtedness must not exceed 1200% of the adjusted net capital.

Adjusted net capital is described as:

- Shareholders' funds
  less
- Non-current assets and prepaid expenses
- Unsecured loans and advances that are included as current assets
- Unsecured accounts due from each direction
- Deficits in clients' accounts, more than 7 days old
- Short fall in the security values carried in the books.

The percent of net profit to be deposited depends on the paid-up capital of the member firm. In addition, members are required to set aside a portion of their profits in a reserve fund.

Reporting

Member firms are required to submit statements of assets and liabilities, adjusted net capital and aggregate indebtedness to SES by the 14th day of each month.
Member firms must have their financial accounts audited annually by approved auditors. The auditors must submit to the Exchange whether the member has complied with the net capital requirements.

Member firms must immediately, notify SES if they are unable to maintain the above capital adequacy requirements.
Appendix 7

CAPITAL ADEQUACY STANDARDS IN OTHER STOCK EXCHANGES

Hong Kong Stock Exchange

Introduction

All registered securities dealers must maintain actual liquid capital (ALC) in excess of a prescribed level, which is the required liquid capital (RLC). ALC must be greater than required RLC at all times.

Actual Liquid Capital

Actual liquid capital is calculated by subtracting the ranking liabilities (RL) from the liquid assets (LA).

Liquid assets are calculated by taking into account position and counterparty risks and include:

- Equities, debt instruments and other securities using discounting criteria (haircuts) on the market values
- Amounts receivable in the ordinary course of business of dealing in securities using the ageing criteria
- Amounts receivable outside the ordinary course of business of dealing in securities
- Cash and bank balances
- Other allowable liquid assets such as prepaid expenses, dividends and prepaid tax.

Ranking liabilities exclude subordinated loans but include:

- Short positions in securities held
- Accruals, accounts payable, bank loans and overdrafts
- Off balance sheet risk adjustments which include underwriting commitments, financial guarantees, repurchase and reverse repurchase agreements and stock borrowing and lending arrangements.

Required Liquid Capital

The required liquid capital for a securities dealer should vary with its level of activity although there is a floor level which represents the absolute minimum.
Haircuts

Haircuts are calculated for:

- Market risks which are position risks arising out of market price fluctuation of securities
- Customer risks which are risks arising out of customers failing to fulfill their side of the contract
- Basic risks which arise due to risks in the daily operation of the firm such as clerical errors.

Reporting

Member firms are required to submit their positions as of the last business day of each month by the 15th of the following month.

Should a securities firm’s net liquid asset position fall below 120% of its total haircuts, the member firm must immediately notify the Securities Bureau of the reasons and the measures that will be taken to improve the percentage.