CHAPTER - III

RATIO ANALYSIS
(Conceptual Exposition)
CHAPTER - III
RATIO ANALYSIS
(Conceptual Exposition)

Contents
- Meaning.
- Users of ratio.
- Types of ratio
- Liquidity ratio.
- Current ratio.
- Quick ratio.
- Leverage or Capital Structure ratio.
- Debt to Total Capital ratio.
- Interest Coverage ratio
- Debt Equity ratio
- Activity ratio.
- Inventory Turnover ratio.
- Debtors Turnover and collection period.
- Total Assets Turnover ratio.
- Fixed Assets Turnover ratio.
- Profitability ratio.
- Gross Profit ratio.
- Net Profit ratio.
- Operating ratio.
- Return on Investment.
- Return on Capital Employed (ROCE).
- Return on Shareholder Equity (ROSE).
- Return on Assets (ROA).
- Earning Per Share (EPS).
- Dividend Per Share (DPS).
- Dividend Payout ratio. (DPR).
CHAPTER - III
RATIO ANALYSIS
(Conceptual Exposition)

To express the relationship of one item to another in a simple mathematical form is known as ratio. "Ratio analysis is one of the widely used powerful tool of financial analysis"\(^1\). The analysis of the balance sheet and profit and loss account depends mainly upon the proper use of ratios. "Systematic use of ratio not only helps the analysis to interpret the financial statements but also helps to know the strength and weakness of a firm it also reduces the large quantities of financial data in order to make qualitative judgement about the company's financial position and performance"\(^2\). It is through ratios that the magnitude of two related items could be expressed and their comparison is done easily. "Financial analyst needs certain yardsticks to evaluate financial soundness of a firm"\(^3\). For instance current ratio can be calculated by dividing current assets by current liabilities, the ratio indicates a quantified relationship between current assets and current liabilities. Thus a ratio indicates a quantitative relationship which can be used to make qualitative judgement, which in other terms helps the management to evaluate the performance of a firm, with the past and study the present and think of future action. It not only helps the management of a company but it also helps the share holders and creditors to know the financial position of a firm and its earning capacity.

There are two methods of analysing ratio, one is external standard and the other
is internal standard. In internal method of analysing ratio, comparison is made with the firm's own past. "It is used to see the functioning of a firm and financial problem related to the firm"\textsuperscript{4}. Internal analysis is done by the accounting department of the firm itself, whereas in external standard method the firm's performance is compared with that of other firm, external analysis is done by stock holders, creditors and investment analysis with the help of financial statement of a firm. A ratio is a quotient of two numbers. "The term ratio refers to the numerical or quantitative relationship between two items expressed in terms of percentages, fractions and propositions. These terms related to each other helps for the purpose of financial analysis. It not only gives figures of profit and sales but enables a manager to draw conclusion from them"\textsuperscript{5}.

The importance of ratio analysis lies in the fact that it makes related information comparable, as single figure by itself has no meaning but when expressed it in terms of related figures yields significant inferences. The ratio helps us to "compare the performance of different similar companies in the same industry"\textsuperscript{6}.

"The method of using financial ratios is quite popular among the financial analyst. Several ratios are worked out using the financial data drawn from the balance sheet and profit and loss account. They are then studied each by itself and also in relation with other ratios, in order to give critical insight"\textsuperscript{7}. The ratio may also be expressed as a "pure" ratio or as a percentage. A pure ratio is
in fraction and a percentage ratio is multiplied by hundred and can also be expressed in the form of ‘proportion’ between the two figures. “Financial ratio analysis in both a science and an art. The science part is the calculation of ratios, the art being their meaningful interpretation”.

It is only through the ratio analysis technique that a financial analyst can assess the profitability, solvency and efficiency of the company. To assess the performance of a company, it is important to compare its current years ratio, with past year ratio. When such a comparison is made, it shows the direction of change and indicates company’s financial position which has either improved, deteriorated or remained constant over the period. This kind of comparison is possible and is also meaningful only when the company’s accounting policies and procedures have not changed in the past. “Another important comparison is to compare the ratios of one company with some of the selected companies in the same industry during a particular period. This comparison helps in indicating the relative financial position and performance of a company”. Ratios concerning the firm’s financial aspect is of great help to the management in their task of planning and forecasting. As the investors are more interested in profitability and solvency. In the same way so they are interested in the company’s financial position to the extent it influences the earning ability. Management of a company is always interested in every aspect of the financial analysis so as to improve the efficiency in operations and thereby profits.
Users of Ratio:

Ratio analysis techniques are used by different firms, and organization such as government agencies, companies stock exchange, financial journals, bank and financial institution and also by parties outside firm i.e. owners, creditors, inventors etc.

Types of Ratios:

Several ratios can be calculated from the accounting data. They can be grouped into various classes according to financial activity or function to be evaluated. Creditors researchers, investors do financial analysis to know the liquidity of profitability, efficiency and financial position of a company. On the other hand management is interested in evaluating every aspect of the firm's performance. Keeping in view the requirements of the various users, ratios are classified into four important categories.

1. Liquidity ratio
2. Leverage ratio
3. Activity ratio
4. Profitability ratio.

1. Liquidity ratio:

The liquidity ratios measure the ability of a firm to meet its current / short term obligation. "It helps in determining the solvency and strength of the firm, and meet the short term obligation of the firm". As liquidity measures the cash position of the firm, it is easy to obtain present cash solvency of the firm and its
ability to remain solvent in the event of crises. A firm should also not suffer from lack of liquidity, as it may face the formidable situation of repatriation of current liabilities to meet the obligations of short term creditors, and if it fails to meet the obligation than it is most possible that the firm will loose the confidence of the creditors and viewed negatively by lenders. Thus may result to technical insolvency of the firm.

In the same way a very high degree of liquidity is also not desirable. A proper balance between high and low liquidity should always be maintained.

Important ratios used to measure liquidity are:

1. Current ratio
2. Quick ratio.

**Current Ratio:**

According to Donald Miller, “Current ratio is generally recognized as the patriarch among ratios”\(^\text{11}\). Current ratio is calculated by dividing current assets by current liabilities.

\[
\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}
\]

Current assets of a firm are those assets which can be converted into cash within a short period of time, normally not exceeding one year, and include cash and bank balance, marketable securities, inventory of raw materials, semi finished and finished goods. Current liabilities include creditors, bills payable, expenses, short term bank loans, income tax liability and long term
debt maturity in current year.

"Current ratio is the test of quantity and not of quality. As current ratio measures only total rupees, worth of current assets and total rupees, worth of current liabilities"\(^{12}\). The current ratio is a measure of firm's short term solvency. Current ratio represents a margin of safety for creditors.

A current ratio of 2:1 has been considered satisfactory but at the same time indiscriminate use of this standard is unsound. A ratio of greater than one means that the company has more current assets than current claims against them. A relatively low value of current ratio show low liquidity, and a relatively high value of current ratio is considered as an indication that the company is liquid and is able to pay its debts.

"The ratio of 2:1 which is considered as satisfactory can vary from industry to industry and within the same industry from company to company and within the same company from season to season"\(^{13}\).

"This ratio measures the number of times that current assets cover current liabilities. Current ratio is a crude and quick measure of the firm liquidity"\(^{14}\).

Thus is essential to be very careful while determining acceptable standards within the industry in which the company operates.

**Quick Ratio:**

It is often referred to as quick ratio because it is a measurement of a firm’s ability to convert its current assets quickly into cash in order to meet its current liabilities\(^{15}\).
The quick ratio is also referred as acid test ratio. This ratio establishes a relationship between quick, or liquid assets and current liabilities.

It helps to judge the ability of the company to pay off its current obligation. Quick ratio is obtained by dividing quick assets by current liabilities.

\[
\text{Quick Ratio} = \frac{\text{Quick or Liquid Assets}}{\text{Current Liabilities}}
\]

Apart from cash which is one of the most liquid assets, the other assets which are considered to be relatively liquid and are included in quick assets are debtors, bills receivable, marketable securities. “Acid test ratio of 1:1 is considered satisfactory as a firm can easily meet all current claims”\(^{16}\). The quick ratio is a more rigorous and penetrating test of the liquidity position of a firm. “The usefulness of the ratio lies in the fact that it is widely accepted as the best available test to know the liquidity position of a firm”\(^{17}\).

**Leverage or Capital Structure Ratio or Stability Ratios:**

“The long term solvency of a firm can be examined by using leverage ratios. The leverage ratios may be defined as financial ratios which throw light on the long term solvency of a firm. As long term creditors like debenture holders, financial institution, etc. are concerned with the company’s long-term financial strength”. An industry should have a strong short term as well as long term financial position. In order to judge long term financial position of an industry leverage or capital structure ratios are calculated. Accordingly, there are two different, but mutually dependent and inter-related types of leverage ratios.
“First, ratio based on the relationship between borrowed funds and owner’s capital, and the second type ratios which are calculated from the profit and loss accounts”\textsuperscript{18}. In order to financing the firm’s assets there should always be an appropriate mix of debt and owner’s equity. There are a number of implications in the manner in which assets are financed. First is between debt and equity, debt is more risky from the firm’s point of view. The firm has a legal obligation to pay interest to debt holders, irrespective of the profits made or losses incurred by the firm. In the second employment of debt is advantageous in two ways.

1. A retain control of the firm with limited stake by share holders.

2. Their earning will be magnified when the firm earns a rate of return higher than the interest rate on the borrowed funds.

   However, leverage can work in opposite direction as well. If the cost of debt is higher than the firm’s overall rate of return, the earning of share holders will be reduced. In addition, there is threat of insolvency. If the industry is actually liquidated for non-payment of debt holder’s dues worst sufferers will be share holders. Thus use of debt increases shareholders risk and at the same time magnifies shareholders earning.

3. Thirdly, a highly debt-burdened firm will have a difficulty in raising funds from creditors and owners in future. The owner’s equity is treated as a margin of safety by creditors; if the equity base is thin, the creditors risk will be high Thus, leverage ratios are calculated to measure the financial
risk and the firm’s ability of using debt for the advantage of shareholders\(^{20}\).

Leverage ratio may be calculated from balance sheet in order to determine the proportion of debt in total financing. A variation of ratios indicates the extent to which the firm has relied on debt in financing assets.

**Debt to Total Capital Ratio:**

The debt to total capital ratio is the relationship between creditor’s fund and owner’s capital. It is one of the variation of debt equity ratio.

\[
\text{Debt to total capital} = \frac{\text{Long term debt}}{\text{Permanent capital}}
\]

Calculate the debt to capital ratio is also related to the total debt to the assets of the firm. The total debt of the firm comprises long-term debt plus current liabilities, and the total assets consist of permanent capital plus current liabilities. It also relates the long-term debt to the permanent capital of the firm, permanent capital includes shareholder’s equity as well as long term debt. Shareholders get worried by very low ratio as the industry is not using the debt to their best advantage. A low ratio represents security to creditors in extending credit and a very high ratio represents a greater risk to creditors and to shareholders under adverse business conditions.

**Interest Coverage Ratio:**

The other category of leverage ratio is coverage ratio. This ratio is computed
from the information available in the profit and loss account. Coverage ratio is one of the most conventional coverage ratio used to test the firm’s debt-servicing capacity.

It is calculated by dividing the net profit before interest and taxes by interest charges.

\[
\text{Interest coverage} = \frac{\text{Net profit before interest and taxes}}{\text{Interest charges}}
\]

The interest coverage ratio indicates the number of times the interest charges are covered by funds that are available to pay the interest charges. A higher ratio is desirable, but too high a ratio indicates that the firms is very conservative in using debt and that it is not using credit to the best advantage of shareholders. At the same time lower ratio indicates excessive use of debt, or inefficient operation. One of the draw back of the coverage ratio is that it does not consider repayment of loan.

**Debt Equity Ratio:**

In order to know the long term financial solvency of a firm, the relationship between borrowed funds and owner’s capital is seen. This relationship is shown by the debt-equity ratio. This ratio relates all the creditors claim on assets to the owner’s claims.

This ratio is calculated as:

\[
\text{Debt Equity Ratio} = \frac{\text{Long term debt}}{\text{Shareholder’s Equity}}
\]
Long term debts divided by the share holders equity. Common shareholders equity plus preference shareholders equity. The debt equity ratio defined by the controller of capital issues; debt is defined as long-term debt plus preference capital, which is redeemable before 12 years, and equity is defined as paid up equity capital plus reserves and surplus plus preference capital which is redeemable after 12 years. If the ratio is greater it would mean that the creditors have invested more in the business than the owners. This means creditors would suffer more in times of distress than the owners. This is why creditors prefer low equity ratio.

"The utility of this ratio is that it reveals the long term solvency. The normal and safe ratio is 2:1. If the ratio is higher, it indicates that the firm is depending heavily on creditors. If the ratio is low, it means firm is depending mainly on internal sources and owners funds"^{21}.

"Debt Equity Ratio shows the extent to which debt financing has been used in the business. A considerable degree of risk is involved when a business is financed to a large extent by creditors"^{22}.

**Activity Ratio:**

Activity ratio measures the efficiency of the firms in the employment of the funds in the business. This ratio also measure how effectively the assets of an industry are used. Thus this ratio is also referred as efficiency ratios or assets utilization ratio. The funds of creditors and owners are invested in various assets to generate sales and profits.
The better the management of assets, the larger the amount of sales. The efficiency with which the assets are used would be reflected in the speed and rapidity with which assets are converted into sales. "The greater the rate of conversion, the more efficiency management"\textsuperscript{23}.

This ratio is also called as turnover ratio because the ratio indicates the speed with which assets are being converted or turned over into sales. The activity ratio may, therefore, be defined as a test of the relationship between sales and various assets of an industry. The proper and efficiency management of the assets of the industry results in larger amount of profit.

**Inventory Turnover Ratio:**

Inventory turnover ratio measures the relationship between the cost of goods sold and the inventory level, it also indicates the efficiency of the industries inventory management. It is calculated by dividing the cost of goods sold by the average inventory.

\[
\text{Inventory Turnover} = \frac{\text{Cost of goods sold}}{\text{Average Inventory}}
\]

It measures how quickly inventory is sold. It is a test of efficient inventory management. A high inventory turn over ratio is better than a low ratio. A high ratio implies good inventory management. At the same time a very low level of inventory has serious implications, as it will adversely affect the ability of a firm to meet customers demand as it may not cope with its requirements. A low inventory ratio signifies excessive inventory or over investment in
inventory, as a result of inferior quality goods, stock of unsaleable goods or deliberate excessive purchase in anticipation of future increase in their prices. Thus, an industry should not have too high or a too low inventory turnover.

**Debtors Turnover and Collection Period:**

It shows how quickly debtors are converted into cash. This ratio is a test of liquidity of the debtors of a firm. The debtor’s turnover shows the relationship between credit sales and debtors of industry. Generally the higher the value of debtor’s turnover the more efficiency in the management of assets.

\[
\text{Debtors Turnover Ratio} = \frac{\text{Total Assets}}{\text{Debtors}}
\]

The average collection period represents the average length of time that the company must wait after making a sales before receiving cash.

\[
\text{Average Collection Period} = \frac{\text{Debtors} \times \text{Days in year}}{\text{Sales}}
\]

This ratio reflects the credit and collection policies of the company and the effectiveness of collection machinery. A longer period of collection indicates the leniency of credit policy or slowness of collection machinery and a shorter collection period unduly restrictive credit policy or aggressive collection efforts.

Thus, a industry should have neither a very low nor a very high receivables or debtors turnover ratio and should maintain it at a reasonable level.
Total Assets Turnover Ratio:

Total assets turnover indicates the efficiency with which assets of the company have been utilized. This ratio expresses relationship between the amount invested in the assets against the sales.

It is calculated by dividing the net sales by total assets.

\[
\text{Total Assets Turnover} = \frac{\text{Net Sales}}{\text{Total Assets}}
\]

It measures how efficiently assets are employed. A higher ratio indicates better utilization and a low ratio shows improper utilization of assets. As this ratio increases there is more revenue generated per rupee of total investment in assets.

Fixed Assets Turnover Ratio:

Fixed assets turnover ratio measures the efficiency with which the industry is utilizing the industries plant and equipment.

This ratio is calculated by dividing the sales with fixed assets.

\[
\text{Fixed Assets Turnover} = \frac{\text{Sales}}{\text{Fixed Assets}}
\]

"A high fixed assets turnover ratio indicates a high degree of efficiency in assets utilization and a low ratio reflects inefficient use of assets"\(^{24}\). On the other hand if fixed assets of an industry are old, the fixed assets turnover ratio would be high as the denominator of the ratio is low.

Profitability Ratio:

In order to sustain itself an industry should earn sufficient amount of profit. It becomes essential that an industry should earn profit to survive and grow over
a long period of time. Profit is the difference between revenues and expenses over a period of time. The efficiency of the industry is judged on the basis of the profitability. Profit is the ultimate output of an industry, and it will have no future if it fails to make sufficient profit. It becomes important on the part of financial manager that he should continuously evaluate the efficiency of the company in terms of profit. Profitability ratios are calculated to measure the operating efficiency of the industry. Besides the management of the industry, creditors and owners are also interested in the profitability of the industry. Thus, profitability ratios are of two types -- Profitability as related to sales and profitability as related to investments.

a) Profitability related to sales:

1) **Gross profit**: Industries define gross profit differently. It is defined as earnings before depreciation, interest and taxes. Gross profit is the difference between sales and the manufacturing cost of goods sold. To separate the influence of taxes, therefore, profit before taxes is to be calculated.

The first profitability ratio in relation to sales is the gross profit. It is calculated by dividing the gross profit by sales.

\[
\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Sales}}
\]
This ratio indicates the average spread between the cost of goods sold and sales revenue. The gross profit reflects the efficiency with which management produces each unit of profit. "A high gross profit ratio is a sign of good management."25

Gross profit ratio is increased due to cost of goods remain constant and sales prices increases when there is low cost of goods and sales prices remain constant, gross ratio also increase or an increase in the proportional volume of higher ratio items. A careful analysis will help to reveal the management to improve the gross profit ratio.

1) Net Profit: The net profit measures the relationship between the net profit and sales. It is calculated by dividing net profit by sales.

\[
\text{Net Profit Ratio} = \frac{\text{Net Profit after tax}}{\text{Sales}}
\]

A higher ratio is an indication of the higher overall efficiency of the business and better utilization of total resources. This ratio is the overall measure of the company’s ability to turn each rupee sales into net profit. If the net margin is inadequate, the company will fail to achieve satisfactory return on owner’s equity. "The higher the firm’s net profit the better."26

2) Operating Ratio: The operating ratio is a yardstick of operating efficiency of an industry. Operating ratio expresses relationship between operating profit and sales.
This ratio is calculated by dividing all operating expenses, selling expenses, cost of goods sold and general administrative expenses by sales.

\[
\text{Operating Ratio} = \frac{\text{Cost of goods sold + operating expenses}}{\text{Sales}}
\]

A higher operating ratio is unfavourable since it will leave a small amount of operating income to meet interest dividends etc. The operating ratio indicates the average aggregative variations in expenses where some of the expenses increase while some may be falling in order to get a comprehensive idea of operating ratio, it is important to study the variation in the ratios.

b) Return on Investment:

The profitability of the firm is also computed in relation to investment. Following are the important profitability ratios, which are measured in relation to investment.

- Return on capital employed (ROCE)
- Return on shareholders equity (ROSE)
- Return on assets (ROA)

**Return on Capital Employed (ROCE):**

Return on capital employed indicates the relationship between profits and the total capital employed. "The term capital employed refers to long-term funds supplied by the creditors and owners of the firm" \(^{27}\).
The return on capital employed also indicates how well the firm management utilized the funds supplied by creditors and owners.

The return on capital employed can be computed in three different ways:

1) \[ \text{ROCE} = \frac{\text{Net profit after taxes}}{\text{Capital employed}} \]

2) \[ \text{ROCE} = \frac{\text{Net profit after taxes} + \text{interest} - \text{Tax}}{\text{Capital employed}} \]

3) \[ \text{ROCE} = \frac{\text{Net profit after taxes} + \text{Interest}}{\text{Capital employed} - \text{Intangible Assets}} \]

This ratio of an industry is computed with the ratios of similar industry. When this ratio is compared with ratios of similar firms, with the industry average over a time would provide insight into how efficiently the long-term funds of owners and creditors are utilized. “The higher the ratio, the more efficient use of the capital employed by an industry”\textsuperscript{28}.

**Return on Shareholders Equity (ROSE):**

“The return on shareholders equity measure exclusively the return on the owner’s funds”\textsuperscript{29}. The profitability ratios based on shareholders equity are termed as return on shareholders equity.
The return on shareholders equity is calculated by net profit after taxes divided by the total preference shareholders equity and common shareholders equity.

\[
\text{Return on shareholders equity} = \frac{\text{Net profit after taxes}}{\text{Shareholders Equity}}
\]

This ratio is of significance importance to existing shareholders and prospective shareholders.

The ratio indicates how profitability the owners funds have been utilized by the firm. And a comparison of this ratio with that of similar firms as also with the industry average throw light on the relative performance and strength of the firm. It is the only most important ratio which helps to judge whether the firm has earned a satisfactory return for its equity holders. from the shareholders point of view, satisfactory return of the earning in the most desirable objective of the ratio. And the ratio of net profit to owner’s equity reflects the extent to which this objective has been accomplished.

**Return on Assets (ROA).**

Return on assets indicates the relationship between the net profit and assets, to know the profitability. It is also referred as profit to assets ratio.

There are two methods to calculate return on assets.
(1) The return on assets is net profit divided by total assets.

\[
\text{Return on assets} = \frac{\text{Net profit after taxes}}{\text{Total assets}}
\]

(2) By including interest charges in the net profit after taxes.

\[
\text{Return on assets} = \frac{\text{Net profit after taxes} + \text{interest}}{\text{Total assets}}
\]

This ratio exclude the interest paid to creditors from the net profit.

**Earning Per Share (EPS)**

Earning per share is one of the measure to know the profitability of the common share holders investment.

The earning per share is calculated by dividing the profit after taxes by the total number of common shares outstanding.

\[
\text{EPS} = \frac{\text{Net profit after taxes} - \text{Preference dividend}}{\text{Number of common shares outstanding}}
\]

Earning per share made over years indicates whether the firms earning power on per share basis has changed over the period. The earning per share of the company is also compared with the industry average and the earning per share of the other firms. It is widely used ratio to know the profitability index.

**Dividend Per Share (DPS)**

A large number of present and potential investors are interested in Dividend Per Share (DPS), rather than earning per share. The income
which they really receive is the amount of earning distributed as cash dividends. Dividend Per Share (DPS) is earnings distributed to ordinary share holders, dividend by the number of ordinary shares outstanding.

\[
\text{Earning Paid to share holders} = \frac{\text{DPS}}{\text{Number of ordinary share outstanding}}
\]

**Dividend Payout Ratio (DPR)**

The Dividend Payout Ratio is not an indicator of the profitability of a company, but gives me analyst followed by a company such as the amount of income ploughed back into the company and the earning per share earned. The DPR gives an indication towards the direction the company intends to go whether it believes in expansion from internally generated funds or from borrowed funds. This, in turn, will determine the relative safety of funds layout. It is an important ratio for assessing the long term prospect of a company.

Payout ratio is computed by dividing the DPS by the EPS

\[
\text{Payout Ratio} = \frac{\text{Dividend Per Share (DPS)}}{\text{Earning Per Share (EPS)}}
\]

"By themselves ratios are meaningless and they need to be analysed on a comparative basis, as the ratios of a firm in itself do not reveal anything."\(^{30}\)

Ratio analysis is a widely used technique to evaluate financial position and performance of a business. Intra-unit and inter-unit comparison reveals the financial position of a firm. The ratio analysis also reveals the financial conditions of the firm, more reliable when trends in ratios are analysed over a
period of time. For a more meaningful information of trend analysis it is good to compare the trends in the company ratios with the trends in industry ratio. The trend analysis of ratio has a considerable significance to the financial analysis as it studies ratios over a period of time. In order to have a meaningful interpretation the ratios of a firm is compared with other firms or with the firms past performance, and this comparison also indicates how well the company is operating over a period of time with its competitors. Important ratios measure the relationship among the tangible factors affecting the performance and profitability of the company such as invested capital, assets, sales, earnings, dividends and market price. They assess the quality of the company, the safety of its senior securities and the attractiveness of equity shares for investment. Ratios therefore give an indication of the financial position of the company, whether it is good, bad or indifferent. At the same time, they reflect the direction of the change and the rate of change as well as the future potentialities. Ratios are, however, only a preliminary step in interpretation; they drew attention to those aspects of the business which require further rigorous investigation before any final conclusions can be drawn there from.
REFERENCES:

8. Ibid. p. 108.
10. Ibid. p. 104.
16. Ibid. p. 87
17. Ibid. p. 86.
20. Ibid. p. 92.
29. Ibid. p. 105.