

**Financial Statement As An  
Indicator Sensitivity Analysis  
Of The Balance Sheet**

**A Thesis Submitted To  
The Faculty Management And  
Graduate School Of Business  
Administration Of Bilkent University  
Supervisor :  
Ass.Prof. Can Şimşek Muğan**

**By  
Murat Göksu  
Ankara, June, 1993**

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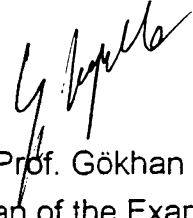
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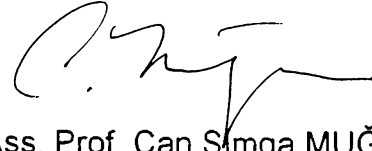
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I certify that I have read this thesis and in my opinion it is fully adequate, in scope and quality, as a thesis for the degree of Master of Business Administration.



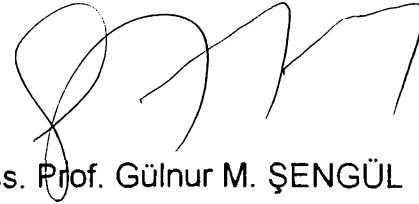
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ABSTRACT

FINANCIAL STATEMENT AS AN INDICATOR

SENSITIVITY ANALYSIS OF THE BALANCE SHEET

Different interest groups try to gather information about companies for various reasons. Several information types are evaluated and used for the purchasing decisions, for the lending decisions or simply for the efficient overall management of a firm. Among several evaluation tools, Financial Statement Analysis is one of the most widely used and reliable one.

Financial Statement Analysis includes several methods. In this study, a new method, sensitivity analysis over the balance sheet is introduced.

Within different interest groups, this study is mostly useful for a firm's management for building a control on the firm's financial structure.

In the thesis, first, a summary of descriptions of the existing methods of firm evaluation is given. Then sensitivity analysis with the balance sheet and income statement items over the selected ratios is introduced. A model for sensitivity analysis is developed, and a company application is performed.

ÖZKÖKLER A.Ş. and ÖZÇEĞAŞ A.Ş., which are sister companies are selected for case study. The sensitivity analysis is applied to the consolidated financial statements of the above group of companies.

ÖZKÖKLER A.Ş. and ÖZÇEGAŞ A.Ş. are the customers of Impexbank Ankara Branch, and periodic and accurate data of these companies are available.

During and as a result this study,

- \* The performance of the firm is examined,
- \* The sensitive items which affect the performance are investigated from the financial statements,
- \* Recommendations for a following new period for better performance, using results of the sensitivity analysis, are given.

## ÖZET

### BİLANÇO ÜZERİNDE HASSASİYET ANALİZİ

Değişik ilgi grupları, firmalar hakkında çeşitli nedenlerle bilgi toplamaktadır. Bu bilgiler satın alma, borç verme veya etkili firma yönetimi konularında, çeşitli değerlendirme yöntemleri ile incelendikten sonra kullanılmaktadır. Birçok değerlendirme yöntemleri arasında, Finansal Analiz, çokça kullanılan ve en güvenilir yöntemlerden biridir.

Finansal analiz, kendi bünyesinde çeşitli yöntemleri kapsamaktadır. Bu çalışmada, yeni bir metod olan Bilanço Üzerine Hassasiyet Analizleri tanıtılmıştır.

Bu çalışma, değişik kullanıcılar arasında en çok firma yöneticileri tarafından şirketin finansal yapısı üzerinde hakimiyet kurmak amacı ile kullanılabilir.

Çalışmada öncelikle değişik analiz teknikleri incelenmiş, daha sonra hassasiyet analizi tanıtılmış ve en son, gerçek bir firma bilançosu üzerinde uygulama yapılmıştır.

Bu çalışma sırasında IMPEXBANK Ankara Şubesi müşterilerinden Özkökler A.Ş. ve Özçegaş A.Ş. periyodik ve düzgün muhasebe bilançolarının bulunması nedeni ile uygulama için seçilmiş ve hassasiyet analizi bu iki kardeş firmanın konsolide bilançolarına uygulanmıştır.



Çalışmanın sonucu olarak,

- \* Firma performansı incelenmiş;
- \* Firma performansını etkileyen bilanço kalemleri bulunmuş;
- \* Bir sonraki periyotta firma performansını iyileştirecek tavsiyeler analiz sonuçlarından yararlanılarak verilmiştir.

## ACKNOWLEDGEMENTS

I thank to my family for their devotion through out my education.

I would like to express my special thanks to Ass. Prof. Can Şınga Muğan for her constructive supervision during the thesis study.

Special thanks for Arzum Karabaş for her motivation and patience from the beginning to the end of my thesis study.

Thanks for Özer - Gül Erke and Tahir - İrem Aydoğdu for their contribution during the preperation of the thesis.

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## 1. INTRODUCTION

Like the living organisms, the business organizations also struggle for life. The companies are faced with problems such as,

- \* Strong competition from the market,
- \* Internal organizational problems,
- \* Problems arising from the financial structure.

In this complex world of business, different interest groups need various information about a firm for their decision regarding that firm. It is essential to learn the firm's position in the puzzle called business.

There are several valuation criteria regarding performance of firms. These are both qualitative valuation criteria like financial ratios, market trend analysis, etc. and conjectural valuation criteria like management tradition, history of the firm, etc. Although most people like to make analyses based on accountable data only, a trustworthy analysis must contain both conjectural and substantial evaluations in it.

Among different valuation tools, the Financial Statement Analysis has been used extensively, as it is based on qualifiable data and it has always been an important criterion required by different parties, for evaluating a company's performance.

By the application of different types of Financial Statement Analysis, one can dig out information about,

- \* The financial structure of the firm,
- \* Trends which the firm is in,
- \* The historical operating cycle of the firm,
- \* The firm's capacity to deal with problems.

(McKinley, Johnson, Downey, Zimmerman and Bloom, 1988)

Ratio Analysis, one of the different methods of Financial Statement Analysis is based on the structure of the balance sheet and income statement. The structure of the balance sheet and income statement are both dependent on the management decisions and on the market rules in which the company is operating. So, to some extent, it is possible to improve the structure of the financial statements by managing decisions.

The purpose of this study is to try to pick some problems about a firm by the help of some financial ratios and indicate possible routes to solve these problems by the creation of a change on the firm's Financial Statement's structure.

To some extent the financial statements can be used to examine a management's performance. A management can control the company's performance by simply manipulating the activities affecting the structure of the financial statement of the company.

This study tries to help call the managers attention to the crucial items of the balance sheet and income statement, and tries to help them have a corrective tool for action for improving the structure of their future financial statements resulting from a better overall company performance.

This study allows the analyst to play with each item of balance sheet and income statement by sensitivity analysis, and it shows the effects of a structural change by the help of observing the resulting financial ratios at the end of the change. As a result, it becomes possible to take a corrective action built on the results of this sensitivity analysis.

The amount of manipulations needed to make a complete set of sensitivity analysis brings out the need of a computer program to be able to make the analysis. For this purpose, a computer program is written and later supplied with the thesis to be used in the future application of the analysis.



## 2. LITERATURE SURVEY

### 2.1 Methods of Analysis

The problem of analyzing a business is as old as the first trade trials of mankind. The questions of profitability, continuity and improvement were always in the mind of man when the discussion was about business. Man tried to formulate several valuation criteria through time with the increasing variety of business and growing complexity of the business environment.

Through out the research related to the thesis study, it is observed that the analysis of a company has been modified around two important perspective,

- \* The Time Perspective
- \* The Data Perspective

Most probably the first three questions in man's mind about the very primitive business were,

- \* How much money did you make last time ?
- \* How is your business nowadays ?
- \* Will you be able to make the same money next time ?

The time perspective examines a firms performance by looking at the firm in the past, present or future or a trend coming from the past towards future with some future projections.

The Data Perspective, on the other hand, states that the analysis can be made with both the manipulation of actual data or the individual perceptions about the past, present and usually about the future.

The analysis, however is the product of a heavy mixture of analytical and perceptual studies and the research within a broad range of time period including the past experiences, present performances and future projections (Foster, 1986).

The analytic studies include,

- \* The manipulation of the related data of the macro economic and the micro economic environment in which the company is operating
- \* The collection and manipulation of data about the market trends,
- \* Financial Statement Analysis.

The perceptual studies are usually the comments on the analytic studies or other perceptual data which include,

- \* The personal observation and comments on the micro and the macro economic environment.
- \* Comments on the growing market trends, personal future projections and the comments on the competitive power of the company in this market,

- \* The comments over the manipulation of financial statements of the company with several methods,
- \* Comments on the ownership and the management of the company,
- \* The comments on the operational characteristics of the company and investigation about technological obsolescence,
- \* Comments about the social change which can result in the frequent use of company's products or which can result in cheap or expensive labor force.

## 2.2 Financial Statement Analysis

The financial statement analysis has always been an important criterion to understand a company's present and future performance. Although there are different methods on the analysis of the company's success, financial statement analysis is the most trusted one as it takes its effect from the accountable data from the balance sheet of a company.

Focus of financial analysis is on the company's past and current financial performance rather than such factors like management characteristics, market reputation, etc. Such nonfinancial considerations help to direct the financial analysis and give depth to the financial analysis (Mc Kinley, Johnson, Downey, Zimmerman and Bloom, 1988).

Purpose of analyzing a company's financial statements is to achieve an understanding of the company's past and present performance and then use the analysis to make sound predictions about company's future performance.

Financial statement information can be used for different purposes by different interest groups like (Foster, 1986),

1. Shareholders
2. Investors
3. Security analysts
4. Managers
5. Lenders and other suppliers of money
6. Government / Regulatory agencies
7. Other parties

Shareholders and investors form the main demand for the financial statements. These range from an individual having a small capital to big investment institutions like banks, insurance companies and the like. The decision made by these parties are; which shares to buy, which shares to sell and when to sell or buy.

Security analysts, like investors and shareholders, use financial statements to develop an impression about a company and use this impression to direct investors to profitable investments.

Financial Statements are crucial for the scientific management. Managers use financial statements to oversee their company's performance. They usually develop indicators based on the financial statements. They use these indicators to take corrective action against any wrongdoing within the company's financial structure.

Lenders, like banks, leasing companies and other financial lending companies, use financial statements of the borrowing companies to decide to lend at the beginning of the relation, and later to follow up the borrowing company's performance.

The companies operate under the government rules and regulations. They are also members of several trade organizations and business organizations. Government and Regulatory Agencies need financial statements to control the companies and sometimes to supervise them.

The Financial Statement Analysis is vital for all the above mentioned parties and other parties trying to gather information about a company. All of these parties see financial statements as the main information source for their analysis, and they develop their own analysis criteria depending on the purpose of the analysis (Foster, 1986),

### 2.3 Methods in Financial Statement Analysis

The Financial Statement Analysis consists of several methods which can be grouped in two (McKinley, Johnson, Downey, Zimmerman and Bloom, 1988),

1- The first group is the analysis of the company's past performance. These are,

- a- Analysis of the Income Statement,
- b- Analysis of the Balance Sheet,
- c- Preparation and analysis of the Cash Flow Statement,
- d- Calculation and interpretation of Ratios.

2- The second group of analysis are based on the estimates of the future. These are,

- a- Preparation and the analysis of the Pro forma Balance Sheet and the Income Statement,
- b- Preparation and the analysis of Cash Budgets,
- c- Other Analytical Techniques.

### 2.3.1 Analysis of The Income Statement

The most basic form of financial analysis is the income statement analysis. This analysis is basically the analysis of the company's revenues and the expenses over a three or four year period. Income Statement presents the change of composition of the revenues and the expenses of the company through time. Knowing the economic trends, the social trends and the market trends, the analyst can attach a risk factor to the profits of the company (Henderson and Maness, 1989).

A simple sample income statement consists of,

### INCOME STATEMENT

Sales		(1)
Cost of Goods Sold		(2)
Gross Profit	(1 - 2)	(3)
Operating Expenses		(4)
Profit Before Tax	(3 - 4)	(5)
Tax		(6)
Profit After Tax	(5 - 6)	(7)

### 2.3.2 Analysis of the Balance Sheet

This statement is the summary of what the company did at the past. The two sides of the balance sheet shows,

- \* Assets : What the company owns.
- \* Liabilities and Owners Equity : What the company owes  
(Sources of the assets).

Assets	Liabilities And O.E.
Current Assets	Current Liabilities
Long Term Assets	Long Term Liabilities
	Owners' Equity

The preparation and analysis of balance sheet over a three or four year period gives the analyst a chance of observing the firms history, while watching the changing patterns of usage with the changing patterns of the source of the money (Mc Kinley, Johnson, Downey, Zimmerman and Bloom, 1988).

### 2.3.3 Cash Flow Statement

The cash flow statement is a summary of the balance sheet which shows the outflows (uses) or the inflows (sources) of the funds during a period of time.

The sources and the uses of funds can be identified as below (Henderson and Maness, 1989),

Sources of Funds	Uses of Funds
* Decrease in Assets	* Increase in Assets
* Increase in Liabilities	* Decrease in Liabilities
* Increase in Equity	* Decrease in Equity

The cash flows are classified as follows,

Operating : Selling goods and providing services are the most important ways of cash flow for a sound company.

Investing : The growth or decrement of noncurrent assets shows the trends of growth in a company.

Financing : This shows the source of the finance through the years. The source usually can be long or short term borrowing or the equity capital.

With this analysis the analyst answers questions such as:

- \* Does the company generate enough funds from its operations?
- \* Are the company's discretionary fund flows appropriate?



- \* Are the company's financing flows well organized? Do they support the discretionary or operational funds in timing and amount bases?

(Henderson and Maness, 1989)

#### 2.3.4 Calculation and Preparation of the Ratios

The financial ratios, basically, show the relations of the elements of the financial statements within each other. They are widely used in the financial statement analysis.

Although every manipulation over the balance sheet gives us another ratio every time, most of them duplicate each other (Noyan 1992). So it is better to group the financial ratios into five categories according to their meaning. These groupings are given below,

- \* Liquidity Ratios,
- \* Leverage Ratios,
- \* Coverage Ratios,
- \* Profitability Ratios,
- \* Activity Ratios.

(McKinley, Johnson, Downey, Zimmerman and Bloom, 1988)

As the sensitivity analysis will be built upon financial ratios, the ratio analysis will be discussed in more detail in the following sections.

### 2.3.5 The Analysis of the Pro Forma

#### Income Statement and the Balance Sheet

The pro forma analysis is the construction of the balance sheet and the income statement under the expected economic and competitive environment with the light of the growing trends of the income statement and balance sheet of the past years (McKinley, Johnson, Downey, Zimmerman and Bloom 1988).

### 2.3.6 The Analysis of the Cash Budgets

The cash budget analysis is the analysis of the future cash movements of the company. It includes all the potential cash outflows and inflows. By this statement, the analyst can have an idea of the time that company will need money, the time when the money will return from operations, the amount and time to borrow and the kind of questions needed to prepare a strategic plan of cash flows for the future (McKinley, Johnson, Downey, Zimmerman and Bloom 1988)

## 2.4 The Ratio Analysis

Ratios are among the best known and widely used tools of financial analysis. At the same time their function is often misunderstood and sometimes overrated. For a valid analysis, a ratio expressing a relationship which has a significance should be used.

Ratios are the tools of analysis that in most cases provide the analyst clues and symptoms of underlying conditions. If properly interpreted, the ratios also point the way to areas requiring further investigation (Bernstein 1989).

Sensitivity analysis, in this study will be built on the financial ratio analysis. The frequently used ratios and their meanings are given under the headings, below.

#### 2.4.1 Liquidity Ratios

The liquidity ratios that are commonly used include the Current and the Quick Ratio. Together they provide a measure of safety in paying short term obligations (Henderson and Maness, 1989).

##### 2.4.1.1 Current Ratio

$$\frac{\text{Current Assets}}{\text{Current Liabilities}}$$

Current Assets usually include Cash, Marketable Securities, Accounts Receivable, Inventories and Prepaid Expenses. Current Liabilities consists of Notes Payable to Banks, Commercial Paper, Notes Payable to Others, Accounts Payable, Current Maturities of Long Term Debt and Other Current Liabilities.

Measures the ability to pay currently maturing obligations. It shows the amount of protection provided by a company's current assets relative to its current liabilities. It is the most commonly used measure of short term solvency. (Weston and Brigham, 1992).

#### 2.4.1.2 Acid Test Ratio (Also called Quick Ratio)

$$\frac{\text{Monetary Current Assets}}{\text{Current Liabilities}}$$

The ratio tries to give a measure of liquidity assuming the worst possible scenario. As the inventories are the least liquid items within the current assets, this ratio measures the firm's ability to pay immediate obligations (Brigham, and Gapenski 1988).

Monetary Current Assets

(Current Assets - Inventories, as a rule of thumb )

#### 2.4.2 Leverage Ratios

The main idea of the leverage ratios is to give a measure of risk to investors and lenders by showing the amount of protection provided for an investment or for a credit line (McKinley, Johnson, Downey, Zimmerman and Bloom, 1988).

#### 2.4.2.1 Debt Ratio

$$\frac{\text{Total Debt}}{\text{Total Assets}}$$

Indicates the percentage of an enterprise's assets that is financed by outsiders for the enterprise. It is also an indicator of financial risk (McKinley, Johnson, Downey, Zimmerman and Bloom, 1988).

#### 2.4.2.2 Debt to Equity Ratio

$$\frac{\text{Long + Short Term Debt}}{\text{Shareholders Equity}}$$

Debt to equity ratio is an important indicator of a company's financial risk. The greater this ratio, the greater the chance that the company will face a financial risk and the greater the chance that the shareholders will lose their investment (McKinley, Johnson, Downey, Zimmerman and Bloom, 1988).

#### 2.4.3 Coverage Ratios

As one can understand from the word coverage, these ratios show the percentage of the obligations of the company covered by the funds generated by the operations.

#### 2.4.3.1 Times Interest Earned Ratio

$$\frac{\text{Profit Before Interest and Taxation}}{\text{Interest Cost}}$$

This ratio shows the amount of the profit going for the interest expense. In some companies, where the turnover of business is too much for the capital of the firm and the company has to finance its activities by credits and if the profitability of the business is low for the high interest costs this ratio gets dangerously smaller (Noyan 1992).

#### 2.4.3.2 Dividend Payout

$$\frac{\text{Dividend Payment}}{\text{Profit After Tax}}$$

Shows what percentage of profit after tax a company pays to its shareholders in the form of dividends. Therefore, this amount becomes unavailable for other uses such as supporting asset growth and funding current maturities of long term debt (McKinley, Johnson, Downey, Zimmerman and Bloom, 1988).

#### 2.4.3.3 Cash Flow to Debt Ratio

$$\frac{\text{Funds Generated by Operations}}{\text{Total Debt}}$$

This ratio shows the portion of the cash flow generated by the daily operations needed to pay the future obligations of the company.

#### 2.4.4 Profitability Ratios

As the main aim of the business is profitability, these ratios carry great importance for the soundness of a company for growth and for new investments.

##### 2.4.4.1 Return on Investment

$$\frac{\text{Net Profit After Tax and Interest}}{\text{Total Net Assets}}$$

Most important measure of performance as it indicates the competitive efficiency with which the whole company is run. It measures the earning power of the total investment in the company and indicates the generation of a return to shareholders (Fraser 1988).

##### 2.4.4.2 Gross Profit Ratio

$$\frac{\text{Gross Profit}}{\text{Sales}} * 100$$

It is an important indicator of profitability, showing the profit potential before charging financial, administrative and selling expenses. For the ratio to be meaningful it must be considered with the sales volume (McKinley, Johnson, Downey, Zimmerman and Bloom, 1988).

#### 2.4.4.3 Net Profit Ratio

$$\frac{\text{Net Profit Before Interest and Tax}}{\text{Sales}} * 100$$

It is also an important indicator of profitability, showing the profit potential after charging financial, administrative and selling expenses, but before interest and tax. For the ratio to be meaningful it must also be considered with the sales volume (McKinley, Johnson, Downey, Zimmerman and Bloom, 1988).

#### 2.4.4.4 Earnings per Share

$$\frac{\text{Net Profit After Tax}}{\text{\# of Shares in Issue}}$$

This ratio indicates the margin for safety with which the interest costs are being earned. It is mostly important for the existing and potential suppliers of debt. Shows what portion of company's earning is needed to pay interest on it's debt. It provides a valuable picture of the extent to which earnings are penalized to pay the financing costs of the company and the potential impact of an increase in interest rates on the company's cash flows (Lev, 1974).

#### 2.4.5 Activity Ratios

These ratios usually show the efficiency of the company to use its assets.



#### 2.4.5.1 Inventory Turnover

$$\frac{\text{Cost of Sales}}{\text{Average Inventory}}$$

Measures the speed with which the inventory is turned over. Indicates whether the capital is locked up in unnecessarily large volumes of inventory. Measures company's purchasing, selling and manufacturing efficiency. But this measure can efficiently be used within the same industry as different industries have different policies of inventory holding. The better is to hold optimal inventory levels rather than holding minimum inventory (Lev, 1974)

#### 2.4.5.2 Payables Turnover Ratio

$$\frac{\text{Creditors}}{\text{Purchases}}$$

Companies generally prefer this ratio to be high, indicating that they are taking long periods of credit from their suppliers. On the other hand, a sharp change in this ratio can indicate several scenarios. A decrease in this ratio can indicate the withdrawal of the suppliers' credit or a sharp increase can indicate an immediate cash flow problems (McKinley, Johnson, Downey, Zimmerman and Bloom, 1988).

#### 2.4.5.3 Receivables Turnover Ratio

$$\frac{\text{Debtors}}{\text{Sales}}$$

Extending credit to suppliers is using company's capital resources. Usually this ratio is preferred to be low indicating that company is managing its receivables (Lev 1974).

### 3. PROBLEM DEFINITION

Like the other interest groups, the firm management may/will want to control and direct the financial structure of the firm. This is crucial for the future performance of their company. To achieve this goal of control, the management may apply several methods of financial statement analysis and decide on the mode of action.

The analysis of the financial statements can indicate several problems about the firm's performance. Like we conduct a financial statement analysis in the present, the performance of the firm will also be measured by this kind of analysis in the following period. To obtain a better structured financial statements at the end of the following operational periods, which will yield to a better performance, the management must control and guide the operations of the firm and suppress the problematic scenes of financial statements.

In the typical analysis of the financial statements, the analyst usually deals with past data. For future predictions, the analyst constructs the future financial statements depending on the growing trends of the firm's business.

In the typical analysis, the finding at the end of the analysis is; the problems of the past and the a prediction for future. The guidance to the operations of the firm is done by the managers based on the personal abilities who will

supposed to draw conclusions after using several tools for analysis of the firm's current position. The need for a guidance to firm's operations based on analytic studies is obvious.

In a conventional analysis, the analyst does not have the chance of creating unrestrained a future scenarios but he can work on the scenarios of the growing trends. This study, with the supplementary computer program, shows the effects of a range of changes of an item over the selected ratios. Combining several sensitivity analysis over several items of balance sheet, the analyst may have a complete picture of the possible result of the future trial of a structural change of the balance sheet.

#### 4. INTRODUCTION OF THE SAMPLE FIRMS

The important part of this study is the application of the Sensitivity Analysis to a real company. For this purpose the ÖZKÖKLER Elektrik İnşaat Makina Sanayi ve Ticaret A.Ş. is selected for the case study. This company is one of the customers of IMPEXBANK Ankara Branch and the periodic appropriate financial statements are available.

The permission of the two companies about the application of their company statemnets is presented in appendix 1.

According to the daily transactions going on through the bank, one can easily see that the financial and the business relations of Özkökler A.Ş. and the sister company ÖZÇEGAŞ Çelik Konstrüksiyon ve Galvanizleme Sanayi ve Ticaret A.Ş. are very close.

The two sister companies are the parts of a vertically integrated business. Özkökler A.Ş. is the main company specialized on the manufacturing and installation of High Voltage Electrical Transmission Lines. This company usually works for the Turkish Electrical Authority and takes small contracts from the private companies like Cement Factories and the Private Electric Plants. Özçegaş A.Ş. works usually for Özkökler A.Ş. and manufactures the necessary products for Özkökler A.Ş. and also works for other companies but for small scale jobs. Özçegaş A.Ş. produces steel frames and galvanizes (process of covering metal frames with zinc) these frames for protection from oxidation.

Also the owners and the managing staff of these companies are the same.  
The ownership of the two companies are,

The Capital Formation of ÖZKÖKLER A.Ş.	
The Participant	Capital TL
Ömer Özkök	5,625,000,000
Ali Nafi Özkök	2,625,000,000
Saadet Özkök	3,150,000,000
İbrahim Cem Özkök	1,800,000,000
Ümit Işık Erdoğan	1,800,000,000
<b>Total</b>	<b>15,000,000,000</b>

The Capital Formation of ÖZÇEGAŞ A.Ş.	
The Participant	Capital TL
ÖZKÖKLER A.Ş.	1,500,000,000
Ömer Özkök	2,380,000,000
Ali Nafi Özkök	2,380,000,000
Saadet Özkök	1,700,000,000
İbrahim Cem Özkök	1,700,000,000
Ümit Işık Erdoğan	340,000,000
<b>Total</b>	<b>10,000,000,000</b>

Under the light of the above information, while making an analysis, it is better to consider the consolidated financial statements of the two sister companies.

For purposes of comparison, the consolidated balance sheet of the construction sector of 292 companies in 1991 (latest available figures) is used. This balance sheet is taken from a study of the Central Bank of Turkey which will be used as a main information source by the banks of Turkey in the near future. The balance sheet of the construction sector of 1991 can be seen in appendix 2.

## 5. INTRODUCTION TO METHODOLOGY

### 5.1 Selected Ratios

There are several ratios which are widely used in the financial statement analysis, and several more of them can be created by simply dividing one part of the financial statement to the other. Although these ratios indicate different aspects of the company, some of them vary only slightly from one another (Noyan 1992).

In this study, the ratio analysis is simplified by reducing the number of the ratios to a group of most essential ones. While doing this, the characteristics of the sector and the usage aim of the ratios are taken into consideration.

The selected ratios are,

1 Current Ratio	Liquidity
2 Quick Ratio	Liquidity
3 Debt Ratio	Leverage
4 Debt to Equity Ratio	Leverage
5 Times Interest Earned	Coverage
6 Return On Investment (ROI)	Profitability
7 Gross Profit Ratio	Profitability
8 Inventory Turnover	Activity
9 Receivables Turnover	Activity
10 Payables Turnover	Activity



## 5.2 Application of Sensitivity Analysis

The use of the sensitivity analysis is to help the analyst to find the ways to correct the structure of the financial statements in a practical way. To reach an aimed structure, in the coming financial period, a specific item of the financial statement must be controlled by decreasing or increasing it, or the amount must be shifted to another item in the financial statement.

When dealing with the items of the financial statements, it is unrealistic to apply sensitivity analysis on certain items of the financial statement due to different nature of these items.

As an example the current asset items are named to be variable items as the composition of the items of the current assets is generally easy to play with. A firm can switch the item "commercial accounts receivable" to the "receivables from group firms and partners" very easily, or with a better marketing and production organization, the "inventory" can be changed to "commercial accounts receivable".

Likewise, it is always easy to transfer some of the bank loans to commercial loans, but it is sometimes impossible to shift these loans to the capital if the owners do not have enough financial power or they are not willing to invest more on the firm. Because of this, "Capital" in Owners' Equity is treated as fixed in the analysis.

In this study, the sensitivity analysis is concentrated on the items which can be shifted to another item of the balance sheet easily. These items are named "The Variable Items of the Balance Sheet".

The first thing to do while constructing a sensitivity analysis is to classify the items of the balance sheet as variable and fixed units. The classification is done in the study as follows,

## ASSETS

### CURRENT ASSETS

Cash + Bank Accounts .....	: Variable
Marketable Securities .....	: Variable
Commercial Accounts Rec. ....	: Variable
Receivables from Grp. Firms & Partners .....	: Variable
Other Accounts Receivable .....	: Variable
Finished Goods .....	: Variable
Raw Materials .....	: Variable

### OTHER ASSETS

Land .....	: Fixed
Building .....	: Fixed
Machinery .....	: Fixed
Furnitures & Fixtures .....	: Fixed
Transportation Equipment .....	: Fixed
Other .....	: Fixed
Accumulated Depreciation .....	: Fixed
Investments .....	: Variable
Participations .....	: Variable
Patent .....	: Variable
Prepaid Expenses .....	: Variable
Other Long Term Assets .....	: Variable

## LIABILITIES & OWNER'S EQUITY

### CURRENT LIABILITIES

Short Term Bank Loans .....	: Variable
Commercial Accounts Payable .....	: Variable
Other Accounts Payable .....	: Variable
Payables to Group Firms & Partners .....	: Variable

### NON CURRENT LIABILITIES

Long Term Debt .....	: Variable
----------------------	------------

### OWNERS' EQUITY

Capital .....	: Fixed
Capital Payable .....	: Fixed
Increase in the Value of Assets .....	: Fixed
Spare Reserves .....	: Fixed
Net Income .....	: Fixed

INCOME STATEMENT	
Sales .....	: Fixed
Cost of Goods Sold .....	: Fixed
GROSS PROFIT .....	: Variable
Management Costs .....	: Variable
Marketing Costs .....	: Variable
Financial Costs .....	: Variable
PROFIT FROM OPERATIONS	
Other Revenues .....	: Variable
Other Expenses .....	: Variable
INCOME BEFORE TAX	
Income Tax .....	: Fixed
NET PROFIT	

During the study, the sensitivity analysis is applied only to the variable items of the balance sheet.

To show how the sensitivity analysis is conducted by the computer program, the below balance sheet is constructed,

BALANCE SHEET	
Assets	Liabilities & Owners' Equity
A1 (Variable)	B1 (Fixed)
A2 (Variable)	B2 (Variable)
A3 (Fixed)	B3 (Variable)
A4 (Fixed)	B4 (Variable)
	B5 (Variable)

$$\text{TOTAL} = A1+A2+A3+A4 = B1+B2+B3+B4$$

B5 : Net Income

INCOME STATEMENT	
Expenses	Revenues
C1 (Variable)	D1 (Variable)
C2 (Variable)	D2 (Variable)
C3 (Variable)	D3 (Variable)

$$B5 = D1+D2+D3-C1-C2-C3$$

Then the weights of the variable items within the Asset or the Liabilities and O.E. side is calculated

Sum of Variable Asset Items

$$AV = A1+A2$$

Sum of the Variable Liabilities & O.E. Items

$$BV = B2+B3+B4$$

Weights of the Variable Items

$$WtA1 = A1/AV$$

$$WtA2 = A2/AV$$

$$WtB2 = B2/BV$$

$$WtB3 = B3/BV$$

$$WtB4 = B4/BV$$

$$WtB5 = B5/BV$$

$$WtC1 = C1/B5$$

$$WtC2 = C2/B5$$

$$WtC3 = C3/B5$$

$$WtD1 = D1/B5$$

$$WtD2 = D2/B5$$

$$WtD3 = D3/B5$$

In the program the sensitivity analysis is conducted in three different procedures,

A- If the sensitivity analysis is applied to the Asset Item "A2" which is increased for an amount "a" then,

BALANCE SHEET	
Assets	Liabilities & Owners' Equity
A1	B1
A2+a	B2+(WtB2*a)
A3	B3+(WtB3*a)
A4	B4+(WtB4*a)
	B5+(WtB5*a)
TOTAL = A1+A2+A3+A4+a	

INCOME STATEMENT

Expenses	Revenues
$C1+(WtC1*(B5+WtB5*a))$	$D1+(WtD1*(B5+WtB5*a))$
$C2+(WtC2*(B5+WtB5*a))$	$D2+(WtD1*(B5+WtB5*a))$
$C3+(WtC3*(B5+WtB5*a))$	$D3+(WtD1*(B5+WtB5*a))$

$$B5 = (D1+D2+D3-C1-C2-C3)*(1+(WtB5*a))$$

B- If the sensitivity analysis is applied to the Liabilities and O.E. item "B4", which is increased by an amount "b",

BALANCE SHEET

Assets	Liabilities & Owners' Equity
$A1+(WtA1*b)$	B1
$A2+(WtA1*b)$	B2
A3	B3
	B4+b
	B5

$$TOTAL = B1+B2+B3+B4+B5+b$$

INCOME STATEMENT

Expenses	Revenues
C1	D1
C2	D2
C3	D3

$$B5 = D1+D2+D3-C1-C2-C3$$

C- If the sensitivity analysis is applied to Income Statement item "C1", which is increased by an amount "c",

### INCOME STATEMENT

Expenses	Revenues
C1	D1
C2+c	D2
C3	D3

$$B5 = D1 + D2 + D3 - C1 - C2 - C3 - c$$

### BALANCE SHEET

Assets	Liabilities & Owners' Equity
A1-(WtA1*c)	B1
A2-(WtA1*c)	B2
A3	B3
A4	B4
	B5-c

$$TOTAL = B1 + B2 + B3 + B4 + B5 - c$$

In the Income Statement, one item, Gross Profit is an exception from the standard application. The increment of the Gross Profit is distributed to the Sales and The Cost of Goods Sold by the following formula,

c : Increment

D1 : Sales

C1 : Cost of Goods Sold

$$D1 = D1 * (D1 - C1 + c) / (D1 - C1)$$

$$C1 = C1 * (D1 - C1 + c) / (D1 - C1)$$

After the reconstruction of the balance sheet, the new financial ratios are calculated out of this reconstructed balance sheet.

In the thesis, with the above methodology, the change of in the range of -100% to 100% are applied to a variable balance sheet item, and correspondent financial ratios are calculated with the resulting new structure. For every change in the selected item, the financial statements are reconstructed and the financial ratios are recalculated.

Sensitivity analysis in this study is based on 10 ratios, 18 variable items, and 11 different increments for each item.

For this kind of complete sensitivity analysis, 1980 new structuring and calculating must be made for the analysis. Because of the heavy manipulation needed, a computer application is needed for the analysis. In the study, a user friendly computer program is developed with the above methodology of the sensitivity analysis.

A computer programming language is chosen rather than a software package like Lotus 123, DBase or likewise, for the purpose of user friendliness and speed of calculations. The amount of manipulations used by the sensitivity analysis bring out the necessity of using several macros resulting the occupation of big volumes of computer memory which makes the application of the analysis impossible.

Due to the above stated reasons, a user friendly program is developed using the Pascal programming language.

The program operates under the below menu,

## Main Menu

### File

Retreive a File

Save a File

### Balance sheet

Balance Sheet Input

Balance Sheet Correct

Balance Sheet Printing

### Sensitivity

Output to File

Output to Printer

### Assets

Cash + Bank Accounts

.....  
Items

Liabilities and O.E.

Items

Income Statement

Items

Ratio Analysis

Exit

The computer program is supplied with the thesis.



A sample output of the computer program for the sensitivity of Commercial Accounts Receivable over the current ratio is given below,

\* Commercial Acc Rec. 50,667,435.- TL

% Change In The Item	Current Ratio	% Change In The Ratio
-100	0.97	-0.131
-80	1.01	-0.100
-60	1.04	-0.071
-40	1.07	-0.046
-20	1.09	-0.022
0	1.11	No Change
20	1.14	0.020
40	1.16	0.039
60	1.18	0.056
80	1.20	0.072
100	1.22	0.087

The rest of the output can be seen on appendix 3.

## 6. EVALUATION OF THE RESULTS AND DISCUSSIONS

### 6.1 Financial Statement Consolidation

As stated in the section 4; as the two sister companies have close relationship with each other, to investigate the two companies separately from each other is almost meaningless.

Because of this special condition, the consolidation of the financial statements of Özkökler A.Ş. and Özçegaş A.Ş. is prepared for the analysis. The financial statements of the two companies and the consolidated balance sheet and income statement can be seen in appendix 4, 5 and 6.

### 6.2 Comments on Financial Ratios

After the consolidation of the financial statements of the two sister companies, the financial ratios are calculated. The computer output of the ratio analysis can be seen on appendix 7.

To be able to comment on the financial ratios requires a comparison basis. For this purpose, Turkey's Construction Sector's Financial Statement is used.

The Central Bank of Turkey collects the data about several business sectors and it is trying to develop an information system which will be used by the banks in their credit decisions. The data of the construction sector is the

product of this study and it covers the 292 firms' financial statements. The balance sheet and the income statement of the construction sector is shown in Appendix 2.

The latest available data of construction sector published by the Central Bank is the 1991's figures. With the parallelism to the Turkish Economy between 1991 to 1992, the position of the construction sector in 1992 is supposed to be similar to the same sector of 1991.

From the financial statements of the Construction sector the financial ratios are calculated. The computer output of the ratio analysis can be seen on appendix 8.

For comparison, the financial ratios of the Özkökler/Özçegaş Consolidated and the Construction Sector is given below,

	Construction Sector (1991)	Özkökler Özçegaş Consolidated (1992)
Current Ratio	0.9478	1.1048
Quick Ratio	0.8941	0.4712
Debt Ratio	0.8839	0.8005
Debt to Equity	6.1288	4.0115
Times Int. Earned	2.4722	0.5314
R.O.I.	0.0102	0.0238
Gross Profit	0.0714	0.360
Inv. Turnover	3.7546	0.3151
Rec. Turnover	3.5827	1.0724
Payb Turnover	3.6787	3.2965
OK : This ratio is OK compared to sector ratio D : Must be Developed DS : Must be slightly developed		

When compared to the construction sector of 1991, enough protection is provided by the company's assets for the company's current liabilities (Current Ratio). But if we investigate the firm's liquidity assuming the worst possible scenario, we see that the firms of the sector are much better than our sample company. So one can conclude that the company is suffering from a short term liquidity problem.

When compared with the ratios of other sectors, the companies of the construction sector usually operate with high debt ratios. Although the debt ratios of the sample seem to be better than sector companies, it is still very high. When we look at the debt ratios, the company's capital is covering its debt better than the sector average. As the capital of the company is more than the sector average, one can conclude that the assets of the company is financed by the capital owners compared to the sector average. This results smaller financial cost and better coverage of the debt by the firm's assets.

If debt is the main item of a company's resources to continue on business, and the bank loans are covering an important portion of this debt, the interest expense becomes very important. Although the construction sector is very successful about the coverage of operationally created funds on interest expense, the sample company is performing worse. The interest expense is a very critical item for the sample firm.

When we look at to the firms in the construction sector, the profit made by the sector is very small compared to the owned assets. This is the result of the construction works which are usually completed in two or more years

time. Although the sample firm is performing better than the sector firms, more effort must be spent to develop the firm's profits to make firm's assets more profitable.

The profitability of the operations conducted by the firm is better than the construction sector of 1991. The firm is gaining more profits than the sector firms compared to the amount of sales achieved throughout the period.

When the firm's operational efficiency is examined by the inventory turnover ratio, we see that the ratio is lower than the construction sector of 1991. Working with big volumes of inventory brings the problem of inventory holding costs with it. The sample company must try to increase its inventory turnover ratio.

The managing ability of the firm of receivables and payables is seem to be sufficient when compared to the construction sector's ratios but it still needs improvement.

Although the company seems to manage the receivables better than the sector's firms, this ratio is still very high compared to the other firms of other sectors. As the high turnover ratio results on finding expensive funds to support these receivables it is crucial to concentrate on the control of the accounts receivables.

The company's payables turnover ratio is somewhat weaker than the sectors average. With the improvement of this ratio the company can find a cheap resource to finance its assets.

### 6.3 Application of Sensitivity Analysis

Sensitivity analysis' results are presented in appendix 3 as the output of the computer and graphically in appendix 9.

From the graphs a sensitivity ranking is done from the most sensitive one to the least sensitive within each ratio at the tables given below.

The minus sign (-) indicates that the ratio can be improved either by reducing the item, or keeping the item at the same quantity and increasing the opposite side of the balance sheet. On the other hand plus sign (+) indicates a possible development of the ratio by increasing the item.

The "D" and "I" signs on the right of the tables show that the item is directly or indirectly effective on the improvement of the studied ratio. If we study the Current Ratio,

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

The items Commercial Accounts Payable, Short Term Bank Loans and Gross Profit directly involves either in the numerator are not involved in the formula the increase in the Investments increase the Current Liability items to balance the Assets and the Liabilities and O.E.. This indirectly affects the

### Current Ratio

Item Name	Course of Action	
Commercial Accounts Payable	( - )	D
Short term bank loans	( - )	D
Gross Profit	( + )	D
Investments	( - )	I

### Quick Ratio

Item Name	Course of Action	
Finished Goods	( - )	D
Raw Materials	( - )	D
Commercial Accounts Payable	( - )	D
Commercial Acc. Receivable	( + )	D
Short Term Bank Loans	( - )	D

### Debt Ratio

Item Name	Course of Action	
Commercial Accounts Payable	( - )	D
Short Term Bank Loans	( - )	D
Gross Profit	( + )	I
Finished Goods	( - )	D
Raw Materials	( - )	D
Commercial Accounts Receivable	( - )	D

### Debt To Equity Ratio

Item Name	Course of Action	
Commercial Accounts Payable	( - )	D
Gross Profit	( + )	D
Short Term Bank Loans	( - )	D
Finished Goods	( - )	D
Raw Materials	( - )	D
Commercial Accounts Receivable	( - )	D
Financial Costs	( + )	D

### Times Interest Earned

Item Name	Course of Action	
Gross Profit	( + )	D
Financial Cost	( - )	D

### Return On Investment

Item Name	Course of Action	
Gross Profit	( + )	D

### Gross Profit Ratio

Item Name	Course of Action	

### Inventory Turnover

Item Name	Course of Action	
Commercial Accounts Payable	( - )	I
Gross Profit	( + )	D
Finished Goods	( - )	D
Raw Materials	( - )	D
Short Term Bank Loans	( - )	I
Commercial Acc. Receivable	( + )	I



### Receivables Turnover

Item Name	Course of Action	
Gross Profit	( - )	D
Commercial Acc. Receivable	( - )	D
Commercial Accounts Payable	( - )	I
Finished Goods	( + )	I
Raw Materials	( + )	I

### Payables Turnover

Item Name	Course of Action	
Commercial Acc. Payable	( + )	D
Gross Profit	( - )	D

To take Gross Profit Ratio in to this study was a mistake. This ratio is the division of Gross Profit to the Sales, and as we considered a directly proportional relationship between the Gross Profit and the Sales (Heading 5.2 Application of Sensitivity Analysis/Sensitivity Analysis of the Income Statement). It would have been better if had taken Net Profit Ratio instead of Gross Profit Ratio into consideration. The Net Profit Ratio would have been affected by the changes in the Administrative, Selling and the Interest Expense.

As the company does not seem to have a problem about the Gross Profit Ratio compared to the construction sector of 1991, the mistake with profitability ratios which is mentioned in the above lines will not cause problems in the sensitivity analysis.

As discussed in the above Ratio Analysis Section, the most important ratios to be improved in the sample company are; Quick Ratio, Inventory Turnover Ratio, Payables Turnover Ratio and Times Interest Earned Ratio.

	Quick Ratio	Times Int Earned	Inventory Turnover	Payables Turnover
Finished Goods	( - )		( - )	
Raw Materials	( - )		( - )	
Comm.Acc.Payb.	( - )		( - )	( + )
Comm.Acc.Rec.	( + )		( + )	
Short T.Bank L.	( - )		( - )	( - )
Gross Profit		( + )	( + )	
Financial Costs		( - )		

If we examine the items affecting the improvement of these ratios and place the changes on a balance sheet,

## BALANCE SHEET

ASSETS	LIABILITIES & OWNERS' EQUITY
<p><b>CURRENT ASSETS</b></p> <p>Cash + Bank Accounts</p> <p>Marketable Securities</p> <p>Commercial Acc.Rec. (I I)</p> <p>R.from Grp.Firms &amp; Prt.</p> <p>Other Acc.Rec.</p> <p>Finished Goods (DD)</p> <p>Raw Materials (DD)</p> <p><b>OTHER ASSETS</b></p> <p>Land</p> <p>Building</p> <p>Machinery</p> <p>Furnitures &amp; Fixtures</p> <p>Transp.Equipment</p> <p>Other</p> <p>Accumulated Depr.</p> <p>Investments</p> <p>Participations</p> <p>Patent</p> <p>Prepaid Expenses</p> <p>Other L.T.Assets</p>	<p><b>CURRENT LIABILITIES</b></p> <p>Short Term Bank Loans (DD)</p> <p>Commercial Acc. Pybl. (DDI)</p> <p>Other Account Payables</p> <p>Pybl.to Grp.Firms &amp; Prt.</p> <p><b>NON CURRENT LIABILITIES</b></p> <p>Long Term Debt</p> <p><b>OWNER'S EQUITY</b></p> <p>Capital</p> <p>Capital Payable</p> <p>Inc.in the Val.of Ass.</p> <p>Spare Reserves</p> <p>Net Income (I I I D)</p>

(D) : Decrease the Item

( I ) : Increase The Item

## INCOME STATEMENT

Sales
Cost of Goods Sold
<b>GROSS PROFIT (IID)</b>
Administrative Exp.
Selling Expense
Financial Costs (D)
<b>PROFIT FROM OPERATIONS</b>
Other Revenues
Other Expenses
<b>INCOME BEFORE TAX</b>
Income Tax
<b>NET PROFIT</b>

For the improvement of different ratios, some of the items must be both decreased and increased at the same time like the Commercial Accounts Payable of the balance sheet and the Gross Profit of the income statement. While deciding the course of action, these items must be investigated carefully. Among the ratios to be improved, the one which is mostly affected by the item must be selected for the course of action.

When we consider the Commercial Accounts Payable,

	Course Of Action On Item	% Change In Item	% Change In Ratio
Quick Ratio	( - )	-20	2.3
Inventory Turnover	( - )	-20	12.5
Payables Turnover	( + )	-20	-20

Although the 20% decrease in Commercial Accounts Payable improve the Quick Ratio 2.3% and Inventory Turnover Ratio 12.5%, this decrease weakens the Payables Turnover Ratio of 20%.

So, one can conclude that; it is better to find other items to improve the Quick and the Inventory Turnover Ratios and use the sensitivity of the Commercial Accounts Payable to improve the Payables Turnover Ratio.

Like the Commercial Accounts Payable, when we consider the Gross Profit,

	Course Of Action On Item	% Change In Item	% Change In Ratio
Times Int. Earned	( + )	20	72.4
Inventory Turnover	( + )	20	12.5
Payables Turnover	( - )	-20	25.0

The ratio to be affected mostly from the 20% change of Gross Profit is the Times Interest Earned Ratio with 72.4% improvement. In addition to this, if we consider the improvement of 12.5% of the Inventory Turnover, the priority of increasing the gross profit is clearly understood.

From the results, to be able to get the necessary financial ratios, the firm management must concentrate itself on the following actions.

1. Decrease the Inventory or dilute the balance sheet by increasing other asset items.
2. Increase the Commercial Accounts Receivable
3. Decrease the Short Term Bank Loans
4. Increase the Gross Profit mostly by decreasing the Cost of Goods sold to affect the Payables Turnover Ratio.
5. Decrease the Financial Costs in an harmony with the action 3.

## 6.4 Application of Findings

The application of the findings are done to the consolidated statements of the sample companies. In the first case the following changes are applied to the items selected according to the results of the sensitivity analysis,

	Percent Change From The Original Balance Sheet
Commercial Acc.Rec.	59
Finished Goods	-30
Raw Materials	-30
Short Term Bank Loans	-20
Commercial Acc.Pay.	0
Sales	30
Cost of Goods Sold	20
Financial Costs	-30

The resulted ratios after the applied changes are given below,

	Construction Sector (1991)	Original	Adjusted Figures
Current Ratio	0.9478	1.1048	1.1942
Quick Ratio	0.8941	0.4712	0.7140
Debt Ratio	0.8839	0.8005	0.7418
Debt to Equity	6.1288	4.0115	3.2700
Times I.Earned	2.4722	0.5314	2.5510
R.O.I.	0.0102	0.0238	0.0791
Gross Profit	0.0714	0.3600	0.4093
Inv.Turnover	3.7546	0.3151	0.5320
Rec.Turnover	3.5827	1.0724	1.3144
Payb.Turnover	3.6787	3.2965	2.7471

fter the adjustment, the Times Interest Earned Ratio seemed to be corrected, and other ratios are also improved. The least affected ratio from the adjustment is the Inventory Turnover ratio.

To improve this ratio, as stated in the results of the sensitivity analysis, more decrease must be made on the Finished Goods and Raw Materials. To compensate this decrease in the Assets, the item to be decreased in the Liabilities is the S.T.Bank Loans or the Commercial Account Payables. As the decrease in the Commercial Account Payables will affect the Accounts Payable Ratio negatively, it is better to increase the Commercial Accounts Receivable in the Assets as the Receivables Turnover Ratio is well beyond the construction sector's ratio.

The following changes are made on the consolidated balance sheet of the sample firms.

	Percent Change From The Original Balance Sheet
Commercial Acc.Rec.	97
Finished Goods	-50
Raw Materials	-50
Short Term Bank Loans	-20
Commercial Acc.Pay.	0
Sales	30
Cost of Goods Sold	20
Financial Costs	-30

The resulted ratios after the applied changes are given below,

	Construction Sector (1991)	Original	Adjusted Figures	Second Adjustment
Current Ratio	0.9478	1.1048	1.1942	1.1869
Quick Ratio	0.8941	0.4712	0.7140	0.8491
Debt Ratio	0.8839	0.8005	0.7418	0.7458
Debt to Equity	6.1288	4.0115	3.2700	3.2700
Times I. Earned	2.4722	0.5314	2.5510	2.5510
R.O.I.	0.0102	0.0238	0.0791	0.0796
Gross Profit	0.0714	0.3600	0.4093	0.4093
Inv. Turnover	3.7546	0.3151	0.5320	0.7563
Rec. Turnover	3.5827	1.0724	1.3144	1.6267
Payb. Turnover	3.6787	3.2965	2.7471	2.7471

As we can see from the table above, the Inventory Turnover Ratio can be improved by transferring the Inventory to the Commercial Account Receivables until the Receivables Turnover Ratio reaches the Construction Sector's ratio.

The consolidated balance sheet of Özkökler A.Ş. and Özçegaş A.Ş. are simplified to a percentage basis, taking the total assets 100% on appendix 10. On the same appendix, the application of the recommended actions are done and a following period's balance sheet and the income statement is constructed (according to the second adjustment). The computer output of financial ratios adjustments is given on appendix 11.



## 7. SUMMARY AND CONCLUSION

The supplementary computer program facilitates the study of effects of a sensitivity analysis of the financial statement items over the resultant financial ratios. During this study, to obtain the outputs and the graphs, the sensitivity analysis is applied to 12 items of Assets, 5 items of Liabilities and 6 items of Income Statement, all totaling 23 items. Each item is investigated from 100% decrease of that item, to 100% increase of same, with 20% increments or decrements, which result in 11 different values for each item. For each value of an item, the balance sheet, which is formed of 49 items, is reconstructed. Finally, 10 selected ratios are calculated out of these reconstructed financial statements.

$(23 \text{ Items}) * (11 \text{ Values}) * (49 \text{ Reconstructs}) * (10 \text{ Ratios}),$

making up 123,970 calculations, not considering necessary additional ones. The supplementary program which is presented enables one have the computer make these calculations for him, in a practical manner.

During a sensitivity analysis, the analyst can easily conduct a sensitivity analysis on the items of his selection, and pick out some problems about the structure of the balance sheet. Under the guidance of the analysis he can make some decisions about the coming period. The problem in the analysis is the applicability of these decisions to the business which the company is operating in.

If the analyst picks a problem about the Receivables Turnover Ratio, and the results of the analysis shows that the correction is possible only through decreasing the Account Receivables, sometimes it may be impossible to decrease this item, because of the nature of the market in which the company sells its goods. Then the sensitivity analysis cannot be of any use.

This study must be considered with the other Financial Statement analysis techniques and the qualitative knowledge about the business environment. The knowledge about the growing economic, technological or any other trends, the management characteristics and the organizational culture which can all be influential on the firm's operations, is necessary for a complete analysis. Likewise, the outcomes of the other financial statement analysis techniques must be considered while deciding on the application of the sensitivity analysis results.

So it can be concluded that, the sensitivity analysis is just a guidance tool for the firm's management, rather than being a final solution.

The selected items for the analysis can be different for different sectors. The fixed items of the balance sheet and the income statement of one sector can be variable items for another sector. The need of reconstruction of sensitivity analysis may be necessary for firms in different sectors.

Although items like Capital, Land, Machinery, and the like, which are named fixed in this study due to the difficulty of their change, their increase or decrease is also possible. If so, this new situation will probably require a further improvement of the firm's financial statement's structure. However, such situation is not considered in this study.

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## APPENDICES

## APPENDIX 1

### PERMISSION OF THE APPLICATION COMPANIES



**ÖZÇEĞAŞ**

ÇELİK KONSTRÜKSİYON VE  
GALVANİZLEME SAN. ve TİC. A.Ş.

BİLKENT ÜNİVERSİTESİ  
İŞLETME FAKÜLTESİ DEKANLIĞINA  
ANKARA

Ankara, 17.06.1993

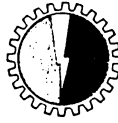
Bölümünüzün Master öğrencisi Murat GÖKSU'nun şirketimizin 1992 yılı Bilanço, Kar/Zarar ve Bilanço analizleri üzerinde çalışma yapmasında sakınca yoktur.

Gereğini arz ederiz.

Saygılarımızla,

Ö Z Ç E Ğ A Ş  
Çelik Konstrüksiyon ve Galvanizleme  
Sanayi ve Ticaret A.Ş.





**ÖZKÖKLER**  
ELEKTRİK İNŞAAT MAKİNA SANAYİ VE TİCARET A.Ş.

BİLKENT ÜNİVERSİTESİ  
İŞLETME FAKÜLTESİ DEKANLIĞINA  
ANKARA

Ankara, 17.06.1993

Bölümünüzün Master öğrencisi Murat GÖKSU'nun şirketimizin 1992 yılı Bilanço, Kar/Zarar ve Bilanço analizleri üzerinde çalışma yapmasında sakınca yoktur.

Gereğini arz ederiz.

Saygılarımızla,

Ö Z K Ö K L E R  
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APPENDIX 2

BALANCE SHEET OF  
THE CONSTRUCTION SECTOR  
OF 1991

**THE CONSTRUCTION SECTOR'S  
BALANCE SHEET**  
Number of Companies = 292  
31.12.1991 (All the figures are in millions)

<b>ASSETS</b>	20,679,852
<b>CURRENT ASSETS</b>	16,492,226
Cash + Bank Accounts .....	: 445,199
Marketable Securities .....	: 65,343
Commerical Account Rec. ....	: 13,546,847
Receivables from Grp. Firms & Partners :	461,109
Other Account Receivables .....	: 1,038,545
Finished Goods .....	: 343,879
Raw Materials .....	: 591,304
<b>OTHER ASSETS</b>	4,187,626
Land .....	: 385,394
Building .....	: 371,089
Machinery .....	: 2,584,767
Furnitures & Fixtures .....	: 162,311
Transportation Equipment .....	: 507,696
Other .....	: 292,939
Accumulated Depreciation .....	: 2,379,395
Investments .....	: 398,555
Participations .....	: 1,001,043
Patent .....	:
Prepaid Expenses .....	:
Other Long Term Assets .....	: 863,227
<b>LIABILITIES &amp; OWNER'S EQUITY</b>	20,679,852
<b>CURRENT LIABILITIES</b>	17,400,058
Short Term Bank Loans .....	: 3,751,241
Commerical Account Payables .....	: 12,916,780
Other Account Payables .....	: 472,063
Payables to Group Firms & Partners :	259,974
<b>NON CURRENT LIABILITIES</b>	879,692
Long Term Debt .....	: 879,692
<b>OWNERS' EQUITY</b>	2,400,102
Capital .....	: 1,456,102
Capital Payable .....	: 291,242
Increase in the Value of Assets :	648,909
Spare Reserves .....	: 314,642
Net Income .....	: 271,691

**THE CONSTRUCTION SECTOR'S  
INCOME STATEMENT**  
Number of Companies = 292  
31.12.1991 (All the figures are in millions)

Sales .....	:	3,781,207
Cost of Goods Sold .....	:	3,511,232
<b>GROSS PROFIT</b>		<b>269,975</b>
Management Costs .....	:	219,430
Marketing Costs .....	:	9,474
Financial Costs .....	:	110,096
<b>PROFIT FROM OPERATIONS</b>		<b>-69,025</b>
Other Revenues .....	:	648,570
Other Expenses .....	:	307,854
<b>INCOME BEFORE TAX</b>		<b>271,691</b>
Income Tax .....	:	60,222
<b>NET PROFIT</b>		<b>211,469</b>

APPENDIX 3

OUTPUT OF  
THE SENSITIVITY ANALYSIS

Cash + Bank Accounts

CURRENT RATIO

-1.00	1.10579219	0.00088285969
-0.80	1.10559480	0.00070419917
-0.60	1.10539858	0.00052659217
-0.40	1.10520351	0.00035002942
-0.20	1.10500958	0.00017450172
0.00	1.10481679	
0.20	1.10462512	-0.00017348471
0.40	1.10443457	-0.00034596127
0.60	1.10424512	-0.00051743845
0.80	1.10405676	-0.00068792491
1.00	1.10386949	-0.00085742920

Cash + Bank Accounts

QUICK RATIO

-1.00	0.46272951	-0.01787440755
-0.80	0.46443374	-0.01425724050
-0.60	0.46612793	-0.01066140323
-0.40	0.46781215	-0.00708670763
-0.20	0.46948650	-0.00353296780
0.00	0.47115106	
0.20	0.47280592	0.00351237736
0.40	0.47445116	0.00700434377
0.60	0.47608687	0.01047607661
0.80	0.47771313	0.01392775125
1.00	0.47933002	0.01735954102

Cash + Bank Accounts

DEBT RATIO

-1.00	0.80601556	-0.00235288542
-0.80	0.80639948	-0.00187768804
-0.60	0.80678152	-0.00140481778
-0.40	0.80716170	-0.00093425758
-0.20	0.80754002	-0.00046599056
0.00	0.80791650	
0.20	0.80829116	0.00046373067
0.40	0.80866400	0.00092521783
0.60	0.80903504	0.00138447775
0.80	0.80940430	0.00184152649
1.00	0.80977178	0.00229638000

Cash + Bank Accounts

DEBT TO EQUITY RATIO

-1.00	3.99941033	-0.01221722622
-0.80	4.00932169	-0.00976929902
-0.60	4.01922396	-0.00732361588
-0.40	4.02911715	-0.00488017371
-0.20	4.03900128	-0.00243896944
0.00	4.04887637	
0.20	4.05874242	0.00243673769
0.40	4.06859945	0.00487124668
0.60	4.07844746	0.00730353004
0.80	4.08828648	0.00973359080
1.00	4.09811651	0.01216143202

Cash + Bank Accounts  
 TIMES INTEREST EARNED

-1.00	0.53141814
-0.80	0.53141814
-0.60	0.53141814
-0.40	0.53141814
-0.20	0.53141814
0.00	0.53141814
0.20	0.53141814
0.40	0.53141814
0.60	0.53141814
0.80	0.53141814
1.00	0.53141814

Cash + Bank Accounts  
 RETURN ON INVESTMENT

-1.00	0.02374589	-0.00248942728
-0.80	0.02375786	-0.00198665339
-0.60	0.02376977	-0.00148634170
-0.40	0.02378162	-0.00098847411
-0.20	0.02379342	-0.00049303277
0.00	0.02380515	
0.20	0.02381683	0.00049064172
0.40	0.02382846	0.00097890976
0.60	0.02384002	0.00146482129
0.80	0.02385154	0.00194839334
1.00	0.02386299	0.00242964274

Cash + Bank Accounts  
 GROSS PROFIT RATIO

-1.00	0.36001819
-0.80	0.36001819
-0.60	0.36001819
-0.40	0.36001819
-0.20	0.36001819
0.00	0.36001819
0.20	0.36001819
0.40	0.36001819
0.60	0.36001819
0.80	0.36001819
1.00	0.36001819

Cash + Bank Accounts  
 INVENTORY TURNOVER

-1.00	0.31053115	-0.01461279682
-0.80	0.31145215	-0.01169023746
-0.60	0.31237315	-0.00876767809
-0.40	0.31329416	-0.00584511873
-0.20	0.31421516	-0.00292255937
0.00	0.31513617	
0.20	0.31605717	0.00292255936
0.40	0.31697817	0.00584511873
0.60	0.31789918	0.00876767809
0.80	0.31882018	0.01169023746
1.00	0.31974119	0.01461279682

Cash + Bank Accounts

RECEIVABLES TURNOVER RATIO

-1.00	1.08825943	0.01482949725
-0.80	1.08504130	0.01182851561
-0.60	1.08184216	0.00884523023
-0.40	1.07866182	0.00587948502
-0.20	1.07550012	0.00293112575
0.00	1.07235691	
0.20	1.06923202	-0.00291404290
0.40	1.06612528	-0.00581115185
0.60	1.06303655	-0.00869147404
0.80	1.05996566	-0.01155515495
1.00	1.05691246	-0.01440233837

Cash + Bank Accounts

PAYABLES TURNOVER RATIO

-1.00	3.29648543
-0.80	3.29648543
-0.60	3.29648543
-0.40	3.29648543
-0.20	3.29648543
0.00	3.29648543
0.20	3.29648543
0.40	3.29648543
0.60	3.29648543
0.80	3.29648543
1.00	3.29648543



Marketable Securities

CURRENT RATIO

-1.00	1.10482074	0.00000357104
-0.80	1.10481995	0.00000285680
-0.60	1.10481916	0.00000214258
-0.40	1.10481837	0.00000142837
-0.20	1.10481758	0.00000071417
0.00	1.10481679	
0.20	1.10481600	-0.00000071416
0.40	1.10481521	-0.00000142830
0.60	1.10481442	-0.00000214242
0.80	1.10481363	-0.00000285653
1.00	1.10481284	-0.00000357062

Marketable Securities

QUICK RATIO

-1.00	0.47111699	-0.00007229952
-0.80	0.47112381	-0.00005783892
-0.60	0.47113062	-0.00004337867
-0.40	0.47113743	-0.00002891876
-0.20	0.47114425	-0.00001445921
0.00	0.47115106	
0.20	0.47115787	0.00001445887
0.40	0.47116468	0.00002891738
0.60	0.47117149	0.00004337555
0.80	0.47117831	0.00005783337
1.00	0.47118512	0.00007229085

Marketable Securities

DEBT RATIO

-1.00	0.80790879	-0.00000954075
-0.80	0.80791033	-0.00000763253
-0.60	0.80791187	-0.00000572434
-0.40	0.80791342	-0.00000381619
-0.20	0.80791496	-0.00000190807
0.00	0.80791650	
0.20	0.80791804	0.00000190803
0.40	0.80791958	0.00000381604
0.60	0.80792112	0.00000572400
0.80	0.80792267	0.00000763192
1.00	0.80792421	0.00000953980

Marketable Securities

DEBT TO EQUITY RATIO

-1.00	4.04867380	-0.00005003252
-0.80	4.04871431	-0.00004002594
-0.60	4.04875483	-0.00003001940
-0.40	4.04879534	-0.00002001290
-0.20	4.04883586	-0.00001000643
0.00	4.04887637	
0.20	4.04891689	0.00001000639
0.40	4.04895740	0.00002001275
0.60	4.04899791	0.00003001906
0.80	4.04903843	0.00004002534
1.00	4.04907894	0.00005003158

Marketable Securities  
TIMES INTEREST EARNED

-1.00	0.53141814
-0.80	0.53141814
-0.60	0.53141814
-0.40	0.53141814
-0.20	0.53141814
0.00	0.53141814
0.20	0.53141814
0.40	0.53141814
0.60	0.53141814
0.80	0.53141814
1.00	0.53141814

Marketable Securities

RETURN ON INVESTMENT

-1.00	0.02380491	-0.00001009442
-0.80	0.02380496	-0.00000807545
-0.60	0.02380501	-0.00000605653
-0.40	0.02380506	
-0.20	0.02380511	
0.00	0.02380515	
0.20	0.02380520	
0.40	0.02380525	
0.60	0.02380530	0.00000605617
0.80	0.02380535	0.00000807482
1.00	0.02380539	0.00001009341

Marketable Securities

GROSS PROFIT RATIO

-1.00	0.36001819
-0.80	0.36001819
-0.60	0.36001819
-0.40	0.36001819
-0.20	0.36001819
0.00	0.36001819
0.20	0.36001819
0.40	0.36001819
0.60	0.36001819
0.80	0.36001819
1.00	0.36001819

Marketable Securities

INVENTORY TURNOVER

-1.00	0.31511726	-0.00005997968
-0.80	0.31512104	-0.00004798374
-0.60	0.31512483	-0.00003598781
-0.40	0.31512861	-0.00002399187
-0.20	0.31513239	-0.00001199594
0.00	0.31513617	
0.20	0.31513995	0.00001199593
0.40	0.31514373	0.00002399187
0.60	0.31514751	0.00003598781
0.80	0.31515129	0.00004798374
1.00	0.31515507	0.00005997968

Marketable Securities

RECEIVABLES TURNOVER RATIO

-1.00	1.07242124	0.00005998328
-0.80	1.07240837	0.00004798605
-0.60	1.07239550	0.00003598910
-0.40	1.07238264	0.00002399245
-0.20	1.07236978	0.00001199608
0.00	1.07235691	
0.20	1.07234405	-0.00001199579
0.40	1.07233118	-0.00002399130
0.60	1.07231832	-0.00003598651
0.80	1.07230546	-0.00004798144
1.00	1.07229260	-0.00005997608

Marketable Securities

PAYABLES TURNOVER RATIO

-1.00	3.29648543
-0.80	3.29648543
-0.60	3.29648543
-0.40	3.29648543
-0.20	3.29648543
0.00	3.29648543
0.20	3.29648543
0.40	3.29648543
0.60	3.29648543
0.80	3.29648543
1.00	3.29648543

Commerical Acc. Receivable		
CURRENT RATIO		
-1.00	1.13605903	0.02827820696
-0.80	1.12764220	0.02065990612
-0.60	1.12056922	0.01425795617
-0.40	1.11454203	0.00880258616
-0.20	1.10934467	0.00409830905
0.00	1.10481679	
0.20	1.10083686	-0.00360234044
0.40	1.09731110	-0.00679360697
0.60	1.09416595	-0.00964036492
0.80	1.09134295	-0.01219554373
1.00	1.08879500	-0.01450175846
Commerical Acc. Receivable		
QUICK RATIO		
-1.00	0.20140692	-0.57252155015
-0.80	0.27407744	-0.41828116943
-0.60	0.33514526	-0.28866707060
-0.40	0.38718371	-0.17821746197
-0.20	0.43205753	-0.08297450593
0.00	0.47115106	
0.20	0.50551357	0.07293310829
0.40	0.53595487	0.13754360010
0.60	0.56310993	0.19517915950
0.80	0.58748362	0.24691139753
1.00	0.60948247	0.29360310018
Commerical Acc. Receivable		
DEBT RATIO		
-1.00	0.75139523	-0.06995930030
-0.80	0.76578215	-0.05215185746
-0.60	0.77833262	-0.03661749379
-0.40	0.78937717	-0.02294709081
-0.20	0.79917149	-0.01082415300
0.00	0.80791650	
0.20	0.81577225	0.00972347322
0.40	0.82286783	0.01850603150
0.60	0.82930847	0.02647794660
0.80	0.83518086	0.03374650265
1.00	0.84055701	0.04040085234
Commerical Acc. Receivable		
DEBT TO EQUITY RATIO		
-1.00	2.90349158	-0.28288954461
-0.80	3.14220019	-0.22393278996
-0.60	3.37594269	-0.16620257541
-0.40	3.60487246	-0.10966101950
-0.20	3.82913662	-0.05427178477
0.00	4.04887637	
0.20	4.26422725	0.05318781311
0.40	4.47531945	0.10532380874
0.60	4.68227806	0.15643888179
0.80	4.88522332	0.20656272891
1.00	5.08427085	0.25572390610

Commerical Acc. Receivable  
TIMES INTEREST EARNED

-1.00	0.53141814
-0.80	0.53141814
-0.60	0.53141814
-0.40	0.53141814
-0.20	0.53141814
0.00	0.53141814
0.20	0.53141814
0.40	0.53141814
0.60	0.53141814
0.80	0.53141814
1.00	0.53141814

Commerical Acc. Receivable  
RETURN ON INVESTMENT

-1.00	0.02204312	-0.07401915479
-0.80	0.02249163	-0.05517831643
-0.60	0.02288288	-0.03874246782
-0.40	0.02322719	-0.02427874863
-0.20	0.02353253	-0.01145229658
0.00	0.02380515	
0.20	0.02405005	0.01028774254
0.40	0.02427126	0.01957996727
0.60	0.02447204	0.02801450585
0.80	0.02465511	0.03570486829
1.00	0.02482271	0.04274538095

Commerical Acc. Receivable  
GROSS PROFIT RATIO

-1.00	0.36001819
-0.80	0.36001819
-0.60	0.36001819
-0.40	0.36001819
-0.20	0.36001819
0.00	0.36001819
0.20	0.36001819
0.40	0.36001819
0.60	0.36001819
0.80	0.36001819
1.00	0.36001819

Commerical Acc. Receivable  
INVENTORY TURNOVER

-1.00	0.21365275	-0.32203037964
-0.80	0.23394943	-0.25762430372
-0.60	0.25424611	-0.19321822779
-0.40	0.27454280	-0.12881215186
-0.20	0.29483948	-0.06440607593
0.00	0.31513617	
0.20	0.33543285	0.06440607593
0.40	0.35572953	0.12881215186
0.60	0.37602622	0.19321822778
0.80	0.39632290	0.25762430372
1.00	0.41661959	0.32203037964

Commerical Acc. Receivable		
RECEIVABLES TURNOVER RATIO		
-1.00	0.00000000	-1.00000000000
-0.80	0.28889871	-0.73059462884
-0.60	0.53167136	-0.50420297808
-0.40	0.73854812	-0.31128515936
-0.20	0.91694218	-0.14492817940
0.00	1.07235691	
0.20	1.20896369	0.12738928041
0.40	1.32998185	0.24024178664
0.60	1.43793568	0.34091146342
0.80	1.53483233	0.43127004995
1.00	1.62228785	0.51282453928

Commerical Acc. Receivable	
PAYABLES TURNOVER RATIO	
-1.00	3.29648543
-0.80	3.29648543
-0.60	3.29648543
-0.40	3.29648543
-0.20	3.29648543
0.00	3.29648543
0.20	3.29648543
0.40	3.29648543
0.60	3.29648543
0.80	3.29648543
1.00	3.29648543

Rec.from Group Firms & Partners

CURRENT RATIO

-1.00	1.10703589	0.00200856769
-0.80	1.10658017	0.00159608437
-0.60	1.10613052	0.00118909349
-0.40	1.10568682	0.00078748608
-0.20	1.10524895	0.00039115603
0.00	1.10481679	
0.20	1.10439024	-0.00038608268
0.40	1.10396919	-0.00076719008
0.60	1.10355352	-0.00114341774
0.80	1.10314315	-0.00151485880
1.00	1.10273796	-0.00188160403

Rec.from Group Firms & Partners

QUICK RATIO

-1.00	0.45199145	-0.04066553049
-0.80	0.45592610	-0.03231437894
-0.60	0.45980837	-0.02407442767
-0.40	0.46363927	-0.01594347031
-0.20	0.46741984	-0.00791935852
0.00	0.47115106	
0.20	0.47483388	0.00781664324
0.40	0.47846924	0.01553255666
0.60	0.48205805	0.02314967491
0.80	0.48560121	0.03066988338
1.00	0.48909957	0.03809501980

Rec.from Group Firms & Partners

DEBT RATIO

-1.00	0.80360542	-0.00533604168
-0.80	0.80448678	-0.00424514377
-0.60	0.80535840	-0.00316628676
-0.40	0.80622046	-0.00209927237
-0.20	0.80707311	-0.00104390669
0.00	0.80791650	
0.20	0.80875078	0.00103263333
0.40	0.80957610	0.00205417494
0.60	0.81039260	0.00306480257
0.80	0.81120043	0.00406469019
1.00	0.81199972	0.00505400812

Rec.from Group Firms & Partners

DEBT TO EQUITY RATIO

-1.00	3.93808269	-0.02736405695
-0.80	3.96033241	-0.02186877382
-0.60	3.98253650	-0.01638476113
-0.40	4.00469510	-0.01091198424
-0.20	4.02680834	-0.00545040864
0.00	4.04887637	
0.20	4.07089933	0.00543927591
0.40	4.09287734	0.01086745316
0.60	4.11481056	0.01628456569
0.80	4.13669912	0.02169064728
1.00	4.15854315	0.02708573161

Rec.from Group Firms & Partners

TIMES INTEREST EARNED

-1.00	0.53141814
-0.80	0.53141814
-0.60	0.53141814
-0.40	0.53141814
-0.20	0.53141814
0.00	0.53141814
0.20	0.53141814
0.40	0.53141814
0.60	0.53141814
0.80	0.53141814
1.00	0.53141814

Rec.from Group Firms & Partners

RETURN ON INVESTMENT

-1.00	0.02367076	-0.00564570105
-0.80	0.02369823	-0.00449149652
-0.60	0.02372541	-0.00335003164
-0.40	0.02375228	-0.00222109664
-0.20	0.02377886	-0.00110448633
0.00	0.02380515	
0.20	0.02383116	0.00109255876
0.40	0.02385689	0.00217338212
0.60	0.02388235	0.00324265816
0.80	0.02390753	0.00430057092
1.00	0.02393245	0.00534730061

Rec.from Group Firms & Partners

GROSS PROFIT RATIO

-1.00	0.36001819
-0.80	0.36001819
-0.60	0.36001819
-0.40	0.36001819
-0.20	0.36001819
0.00	0.36001819
0.20	0.36001819
0.40	0.36001819
0.60	0.36001819
0.80	0.36001819
1.00	0.36001819

Rec.from Group Firms & Partners

INVENTORY TURNOVER

-1.00	0.30485106	-0.03263703307
-0.80	0.30690808	-0.02610962645
-0.60	0.30896510	-0.01958221984
-0.40	0.31102212	-0.01305481323
-0.20	0.31307914	-0.00652740661
0.00	0.31513617	
0.20	0.31719319	0.00652740661
0.40	0.31925021	0.01305481322
0.60	0.32130723	0.01958221984
0.80	0.32336425	0.02610962645
1.00	0.32542128	0.03263703306



Rec.from Group Firms & Partners

RECEIVABLES TURNOVER RATIO

-1.00	1.10853625	0.03373814605
-0.80	1.10110639	0.02680961550
-0.60	1.09377546	0.01997334222
-0.40	1.08654151	0.01322749571
-0.20	1.07940261	0.00657029359
0.00	1.07235691	
0.20	1.06540260	-0.00648507588
0.40	1.05853790	-0.01288658131
0.60	1.05176109	-0.01920612135
0.80	1.04507051	-0.02544526021
1.00	1.03846451	-0.03160552258

Rec.from Group Firms & Partners

PAYABLES TURNOVER RATIO

-1.00	3.29648543
-0.80	3.29648543
-0.60	3.29648543
-0.40	3.29648543
-0.20	3.29648543
0.00	3.29648543
0.20	3.29648543
0.40	3.29648543
0.60	3.29648543
0.80	3.29648543
1.00	3.29648543

Other Acc.Receivable

CURRENT RATIO

-1.00	1.11085688	0.00546705284
-0.80	1.10956172	0.00429476402
-0.60	1.10831244	0.00316401036
-0.40	1.10710666	0.00207262286
-0.20	1.10594214	0.00101858095
0.00	1.10481679	
0.20	1.10372868	-0.00098487989
0.40	1.10267598	-0.00193770406
0.60	1.10165700	-0.00286001248
0.80	1.10067014	-0.00375324800
1.00	1.09971390	-0.00461876396

Other Acc.Receivable

QUICK RATIO

-1.00	0.41900117	-0.11068613975
-0.80	0.43018356	-0.08695193986
-0.60	0.44096975	-0.06405866248
-0.40	0.45138043	-0.04196239368
-0.20	0.46143487	-0.02062222486
0.00	0.47115106	
0.20	0.48054577	0.01993991206
0.40	0.48963470	0.03923082301
0.60	0.49843255	0.05790391087
0.80	0.50695307	0.07598838802
1.00	0.51520917	0.09351165382

Other Acc.Receivable

DEBT RATIO

-1.00	0.79629530	-0.01438416190
-0.80	0.79875732	-0.01133679184
-0.60	0.80114743	-0.00837842628
-0.40	0.80346874	-0.00550522203
-0.20	0.80572417	-0.00271355401
0.00	0.80791650	
0.20	0.81004833	0.00263867333
0.40	0.81212213	0.00520552332
0.60	0.81414024	0.00770344306
0.80	0.81610487	0.01013517237
1.00	0.81801813	0.01250330773

Other Acc.Receivable

DEBT TO EQUITY RATIO

-1.00	3.76102368	-0.07109446323
-0.80	3.81920737	-0.05672413242
-0.60	3.87708204	-0.04243012392
-0.40	3.93465015	-0.02821183131
-0.20	3.99191413	-0.01406865457
0.00	4.04887637	
0.20	4.10553926	0.01399471984
0.40	4.16190515	0.02791608625
0.60	4.21797637	0.04176467444
0.80	4.27375523	0.05554105363
1.00	4.32924400	0.06924578713

Other Acc.Receivable  
TIMES INTEREST EARNED

-1.00	0.53141814
-0.80	0.53141814
-0.60	0.53141814
-0.40	0.53141814
-0.20	0.53141814
0.00	0.53141814
0.20	0.53141814
0.40	0.53141814
0.60	0.53141814
0.80	0.53141814
1.00	0.53141814

Other Acc.Receivable  
RETURN ON INVESTMENT

-1.00	0.02344287	-0.01521889873
-0.80	0.02351962	-0.01199468471
-0.60	0.02359413	-0.00886464028
-0.40	0.02366650	-0.00582469921
-0.20	0.02373681	-0.00287102605
0.00	0.02380515	
0.20	0.02387161	0.00279179994
0.40	0.02393626	0.00550760848
0.60	0.02399918	0.00815048667
0.80	0.02406042	0.01072333328
1.00	0.02412007	0.01322889546

Other Acc.Receivable  
GROSS PROFIT RATIO

-1.00	0.36001819
-0.80	0.36001819
-0.60	0.36001819
-0.40	0.36001819
-0.20	0.36001819
0.00	0.36001819
0.20	0.36001819
0.40	0.36001819
0.60	0.36001819
0.80	0.36001819
1.00	0.36001819

Other Acc.Receivable  
INVENTORY TURNOVER

-1.00	0.28863097	-0.08410710831
-0.80	0.29393201	-0.06728568665
-0.60	0.29923305	-0.05046426498
-0.40	0.30453409	-0.03364284332
-0.20	0.30983513	-0.01682142166
0.00	0.31513617	
0.20	0.32043720	0.01682142166
0.40	0.32573824	0.03364284332
0.60	0.33103928	0.05046426498
0.80	0.33634032	0.06728568664
1.00	0.34164136	0.08410710831

Other Acc.Receivable

RECEIVABLES TURNOVER RATIO

-1.00	1.17083222	0.09183072504
-0.80	1.14971637	0.07213965271
-0.60	1.12934866	0.05314625150
-0.40	1.10969004	0.03481408824
-0.20	1.09070411	0.01710922312
0.00	1.07235691	
0.20	1.05461676	-0.01654314249
0.40	1.03745401	-0.03254784139
0.60	1.02084092	-0.04803996353
0.80	1.00475152	-0.06304374497
1.00	0.98916141	-0.07758191756

Other Acc.Receivable

PAYABLES TURNOVER RATIO

-1.00	3.29648543
-0.80	3.29648543
-0.60	3.29648543
-0.40	3.29648543
-0.20	3.29648543
0.00	3.29648543
0.20	3.29648543
0.40	3.29648543
0.60	3.29648543
0.80	3.29648543
1.00	3.29648543

Finished Goods		
CURRENT RATIO		
-1.00	1.13818829	0.03020546375
-0.80	1.12905452	0.02193823390
-0.60	1.12146168	0.01506574696
-0.40	1.11505016	0.00926250473
-0.20	1.10956417	0.00429698282
0.00	1.10481679	
0.20	1.10066827	-0.00375494245
0.40	1.09701201	-0.00706432248
0.60	1.09376530	-0.01000300423
0.80	1.09086299	-0.01262996962
1.00	1.08825303	-0.01499231792
Finished Goods		
QUICK RATIO		
-1.00	0.71019647	0.50736470209
-0.80	0.64476979	0.36849907680
-0.60	0.59038107	0.25306111115
-0.40	0.54445433	0.15558337363
-0.20	0.50515729	0.07217692228
0.00	0.47115106	
0.20	0.44143452	-0.06307220675
0.40	0.41524416	-0.11866024970
0.60	0.39198749	-0.16802163025
0.80	0.37119774	-0.21214707456
1.00	0.35250216	-0.25182771495
Finished Goods		
DEBT RATIO		
-1.00	0.74784614	-0.07435218511
-0.80	0.76332733	-0.05519031586
-0.60	0.77672500	-0.03860733206
-0.40	0.78843324	-0.02411544225
-0.20	0.79875264	-0.01134257848
0.00	0.80791650	
0.20	0.81610861	0.01013979709
0.40	0.82347576	0.01925849651
0.60	0.83013658	0.02750294424
0.80	0.83618802	0.03499311674
1.00	0.84171003	0.04182799775
Finished Goods		
DEBT TO EQUITY RATIO		
-1.00	2.84882261	-0.29639180148
-0.80	3.09940109	-0.23450340201
-0.60	3.34452312	-0.17396264815
-0.40	3.58436500	-0.11472599566
-0.20	3.81909553	-0.05675175632
0.00	4.04887637	
0.20	4.27386246	0.05556753699
0.40	4.49420231	0.10998753797
0.60	4.71003839	0.16329518662
0.80	4.92150738	0.21552424289
1.00	5.12874050	0.26670711420

Finished Goods

TIMES INTEREST EARNED

-1.00	0.53141814
-0.80	0.53141814
-0.60	0.53141814
-0.40	0.53141814
-0.20	0.53141814
0.00	0.53141814
0.20	0.53141814
0.40	0.53141814
0.60	0.53141814
0.80	0.53141814
1.00	0.53141814

Finished Goods

RETURN ON INVESTMENT

-1.00	0.02193247	-0.07866696599
-0.80	0.02241510	-0.05839310163
-0.60	0.02283277	-0.04084777971
-0.40	0.02319777	-0.02551490143
-0.20	0.02351947	-0.01200080716
0.00	0.02380515	
0.20	0.02406054	0.01072822637
0.40	0.02429021	0.02037609907
0.60	0.02449786	0.02909898580
0.80	0.02468651	0.03702382547
1.00	0.02485866	0.04425534599

Finished Goods

GROSS PROFIT RATIO

-1.00	0.36001819
-0.80	0.36001819
-0.60	0.36001819
-0.40	0.36001819
-0.20	0.36001819
0.00	0.36001819
0.20	0.36001819
0.40	0.36001819
0.60	0.36001819
0.80	0.36001819
1.00	0.36001819

Finished Goods

INVENTORY TURNOVER

-1.00	0.46657665	0.48055570988
-0.80	0.41234211	0.30845696971
-0.60	0.37600881	0.19316299202
-0.40	0.34996924	0.11053340530
-0.20	0.33039166	0.04840920182
0.00	0.31513617	
0.20	0.30291379	-0.03878444277
0.40	0.29290174	-0.07055498428
0.60	0.28455016	-0.09705647638
0.80	0.27747761	-0.11949933158
1.00	0.27141115	-0.13874958908

Finished Goods

RECEIVABLES TURNOVER RATIO

-1.00	1.61643296	0.50736470209
-0.80	1.46751944	0.36849907681
-0.60	1.34372874	0.253061111115
-0.40	1.23919782	0.15558337363
-0.20	1.14975633	0.07217692228
0.00	1.07235691	
0.20	1.00472099	-0.06307220675
0.40	0.94511077	-0.11866024970
0.60	0.89217776	-0.16802163025
0.80	0.84485953	-0.21214707456
1.00	0.80230772	-0.25182771495

Finished Goods

PAYABLES TURNOVER RATIO

-1.00	3.29648543
-0.80	3.29648543
-0.60	3.29648543
-0.40	3.29648543
-0.20	3.29648543
0.00	3.29648543
0.20	3.29648543
0.40	3.29648543
0.60	3.29648543
0.80	3.29648543
1.00	3.29648543

Raw Materials		
CURRENT RATIO		
-1.00	1.12954901	0.02238581277
-0.80	1.12321868	0.01665605768
-0.60	1.11771599	0.01167542398
-0.40	1.11288860	0.00730601346
-0.20	1.10861937	0.00344181691
0.00	1.10481679	
0.20	1.10140832	-0.00308510144
0.40	1.09833570	-0.00586621107
0.60	1.09555163	-0.00838615014
0.80	1.09301728	-0.01068005801
1.00	1.09070050	-0.01277704082
Raw Materials		
QUICK RATIO		
-1.00	0.64831192	0.37601711137
-0.80	0.60296675	0.27977374594
-0.60	0.56355012	0.19611346011
-0.40	0.52897070	0.12271996133
-0.20	0.49838953	0.05781260061
0.00	0.47115106	
0.20	0.44673563	-0.05182080913
0.40	0.42472598	-0.09853543242
0.60	0.40478324	-0.14086314326
0.80	0.38662930	-0.17939418158
1.00	0.37003382	-0.21461744667
Raw Materials		
DEBT RATIO		
-1.00	0.76247177	-0.05624928511
-0.80	0.77358054	-0.04249939696
-0.60	0.78351993	-0.03019689995
-0.40	0.79246535	-0.01912468051
-0.20	0.80055882	-0.00910698090
0.00	0.80791650	
0.20	0.81463437	0.00831505392
0.40	0.82079240	0.01593717360
0.60	0.82645779	0.02294951267
0.80	0.83168737	0.02942243163
1.00	0.83652956	0.03541586708
Raw Materials		
DEBT TO EQUITY RATIO		
-1.00	3.08469408	-0.23813577055
-0.80	3.28436712	-0.18882010286
-0.60	3.48053178	-0.14037094317
-0.40	3.67327971	-0.09276565270
-0.20	3.86269942	-0.04598237450
0.00	4.04887637	
0.20	4.23189312	0.04520186280
0.40	4.41182947	0.08964291944
0.60	4.58876252	0.13334221766
0.80	4.76276686	0.17631817461
1.00	4.93391460	0.21858860274



Raw Materials

TIMES INTEREST EARNED

-1.00	0.53141814
-0.80	0.53141814
-0.60	0.53141814
-0.40	0.53141814
-0.20	0.53141814
0.00	0.53141814
0.20	0.53141814
0.40	0.53141814
0.60	0.53141814
0.80	0.53141814
1.00	0.53141814

Raw Materials

RETURN ON INVESTMENT

-1.00	0.02238842	-0.05951352463
-0.80	0.02273474	-0.04496570760
-0.60	0.02304460	-0.03194927625
-0.40	0.02332347	-0.02023451751
-0.20	0.02357578	-0.00963547414
0.00	0.02380515	
0.20	0.02401458	0.00879759031
0.40	0.02420656	0.01686203427
0.60	0.02438317	0.02428131104
0.80	0.02454620	0.03112986424
1.00	0.02469716	0.03747110872

Raw Materials

GROSS PROFIT RATIO

-1.00	0.36001819
-0.80	0.36001819
-0.60	0.36001819
-0.40	0.36001819
-0.20	0.36001819
0.00	0.36001819
0.20	0.36001819
0.40	0.36001819
0.60	0.36001819
0.80	0.36001819
1.00	0.36001819

Raw Materials

INVENTORY TURNOVER

-1.00	0.41495344	0.31674332647
-0.80	0.38383517	0.21799785472
-0.60	0.36034516	0.14345859917
-0.40	0.34198470	0.08519662330
-0.20	0.32723898	0.03840502257
0.00	0.31513617	
0.20	0.30502416	-0.03208772494
0.40	0.29644909	-0.05929840936
0.60	0.28908530	-0.08266542040
0.80	0.28269307	-0.10294944530
1.00	0.27709202	-0.12072286711

Raw Materials

RECEIVABLES TURNOVER RATIO

-1.00	1.47558146	0.37601711137
-0.80	1.37237422	0.27977374594
-0.60	1.28266054	0.19611346011
-0.40	1.20395651	0.12271996133
-0.20	1.13435265	0.05781260061
0.00	1.07235691	
0.20	1.01678651	-0.05182080913
0.40	0.96669176	-0.09853543242
0.60	0.92130135	-0.14086314326
0.80	0.87998232	-0.17939418158
1.00	0.84221041	-0.21461744667

Raw Materials

PAYABLES TURNOVER RATIO

-1.00	3.29648543
-0.80	3.29648543
-0.60	3.29648543
-0.40	3.29648543
-0.20	3.29648543
0.00	3.29648543
0.20	3.29648543
0.40	3.29648543
0.60	3.29648543
0.80	3.29648543
1.00	3.29648543

Investments		
CURRENT RATIO		
-1.00	1.18358391	0.07129427884
-0.80	1.16694461	0.05623359633
-0.60	1.15076667	0.04159050138
-0.40	1.13503117	0.02734786380
-0.20	1.11972019	0.01348947770
0.00	1.10481679	
0.20	1.09030490	-0.01313510626
0.40	1.07616931	-0.02592962414
0.60	1.06239555	-0.03839663110
0.80	1.04896991	-0.05054854354
1.00	1.03587936	-0.06239715807

Investments		
QUICK RATIO		
-1.00	0.50474143	0.07129427884
-0.80	0.49764558	0.05623359633
-0.60	0.49074647	0.04159050138
-0.40	0.48403603	0.02734786380
-0.20	0.47750664	0.01348947770
0.00	0.47115106	
0.20	0.46496244	-0.01313510625
0.40	0.45893429	-0.02592962414
0.60	0.45306044	-0.03839663110
0.80	0.44733506	-0.05054854354
1.00	0.44175257	-0.06239715807

Investments		
DEBT RATIO		
-1.00	0.79886338	-0.01120551585
-0.80	0.80075789	-0.00886057868
-0.60	0.80260902	-0.00656934190
-0.40	0.80441824	-0.00432998175
-0.20	0.80618695	-0.00214075610
0.00	0.80791650	
0.20	0.80960818	0.00209387862
0.40	0.81126322	0.00414240283
0.60	0.81288279	0.00614703044
0.80	0.81446802	0.00810915745
1.00	0.81602000	0.01003012128

Investments		
DEBT TO EQUITY RATIO		
-1.00	3.82174611	-0.05609710830
-0.80	3.86755413	-0.04478334819
-0.60	3.91316996	-0.03351705415
-0.40	3.95859482	-0.02229792809
-0.20	4.00382989	-0.01112567442
0.00	4.04887637	
0.20	4.09373543	0.01107938585
0.40	4.13840825	0.02211277141
0.60	4.18289597	0.03310044257
0.80	4.22719975	0.04404268286
1.00	4.27132072	0.05493977345

Investments  
 TIMES INTEREST EARNED

-1.00	0.53141814
-0.80	0.53141814
-0.60	0.53141814
-0.40	0.53141814
-0.20	0.53141814
0.00	0.53141814
0.20	0.53141814
0.40	0.53141814
0.60	0.53141814
0.80	0.53141814
1.00	0.53141814

Investments  
 RETURN ON INVESTMENT

-1.00	0.02352292	-0.01185579056
-0.80	0.02358199	-0.00937477279
-0.60	0.02363969	-0.00695057173
-0.40	0.02369610	-0.00458125779
-0.20	0.02375123	-0.00226498774
0.00	0.02380515	
0.20	0.02385789	0.00221538987
0.40	0.02390949	0.00438279335
0.60	0.02395998	0.00650375284
0.80	0.02400940	0.00857974535
1.00	0.02405778	0.01061218589

Investments  
 GROSS PROFIT RATIO

-1.00	0.36001819
-0.80	0.36001819
-0.60	0.36001819
-0.40	0.36001819
-0.20	0.36001819
0.00	0.36001819
0.20	0.36001819
0.40	0.36001819
0.60	0.36001819
0.80	0.36001819
1.00	0.36001819

Investments  
 INVENTORY TURNOVER

-1.00	0.29416396	-0.06654966823
-0.80	0.29835840	-0.05323973459
-0.60	0.30255284	-0.03992980094
-0.40	0.30674728	-0.02661986729
-0.20	0.31094172	-0.01330993365
0.00	0.31513617	
0.20	0.31933061	0.01330993365
0.40	0.32352505	0.02661986729
0.60	0.32771949	0.03992980094
0.80	0.33191393	0.05323973459
1.00	0.33610837	0.06654966823

Investments		
RECEIVABLES TURNOVER RATIO		
-1.00	1.14880982	0.07129427884
-0.80	1.13265940	0.05623359633
-0.60	1.11695677	0.04159050138
-0.40	1.10168358	0.02734786380
-0.20	1.08682245	0.01348947770
0.00	1.07235691	
0.20	1.05827139	-0.01313510625
0.40	1.04455110	-0.02592962414
0.60	1.03118202	-0.03839663110
0.80	1.01815083	-0.05054854354
1.00	1.00544489	-0.06239715807

Investments		
PAYABLES TURNOVER RATIO		
-1.00	3.29648543	
-0.80	3.29648543	
-0.60	3.29648543	
-0.40	3.29648543	
-0.20	3.29648543	
0.00	3.29648543	
0.20	3.29648543	
0.40	3.29648543	
0.60	3.29648543	
0.80	3.29648543	
1.00	3.29648543	

Participations  
CURRENT RATIO

-1.00	1.10481679
-0.80	1.10481679
-0.60	1.10481679
-0.40	1.10481679
-0.20	1.10481679
0.00	1.10481679
0.20	1.10481679
0.40	1.10481679
0.60	1.10481679
0.80	1.10481679
1.00	1.10481679

Participations  
QUICK RATIO

-1.00	0.47115106
-0.80	0.47115106
-0.60	0.47115106
-0.40	0.47115106
-0.20	0.47115106
0.00	0.47115106
0.20	0.47115106
0.40	0.47115106
0.60	0.47115106
0.80	0.47115106
1.00	0.47115106

Participations  
DEBT RATIO

-1.00	0.80791650
-0.80	0.80791650
-0.60	0.80791650
-0.40	0.80791650
-0.20	0.80791650
0.00	0.80791650
0.20	0.80791650
0.40	0.80791650
0.60	0.80791650
0.80	0.80791650
1.00	0.80791650

Participations  
DEBT TO EQUITY RATIO

-1.00	4.04887637
-0.80	4.04887637
-0.60	4.04887637
-0.40	4.04887637
-0.20	4.04887637
0.00	4.04887637
0.20	4.04887637
0.40	4.04887637
0.60	4.04887637
0.80	4.04887637
1.00	4.04887637

Participations  
TIMES INTEREST EARNED

-1.00	0.53141814
-0.80	0.53141814
-0.60	0.53141814
-0.40	0.53141814
-0.20	0.53141814
0.00	0.53141814
0.20	0.53141814
0.40	0.53141814
0.60	0.53141814
0.80	0.53141814
1.00	0.53141814

Participations  
RETURN ON INVESTMENT

-1.00	0.02380515
-0.80	0.02380515
-0.60	0.02380515
-0.40	0.02380515
-0.20	0.02380515
0.00	0.02380515
0.20	0.02380515
0.40	0.02380515
0.60	0.02380515
0.80	0.02380515
1.00	0.02380515

Participations  
GROSS PROFIT RATIO

-1.00	0.36001819
-0.80	0.36001819
-0.60	0.36001819
-0.40	0.36001819
-0.20	0.36001819
0.00	0.36001819
0.20	0.36001819
0.40	0.36001819
0.60	0.36001819
0.80	0.36001819
1.00	0.36001819

Participations  
INVENTORY TURNOVER

-1.00	0.31513617
-0.80	0.31513617
-0.60	0.31513617
-0.40	0.31513617
-0.20	0.31513617
0.00	0.31513617
0.20	0.31513617
0.40	0.31513617
0.60	0.31513617
0.80	0.31513617
1.00	0.31513617

Participations  
 RECEIVABLES TURNOVER RATIO

-1.00	1.07235691
-0.80	1.07235691
-0.60	1.07235691
-0.40	1.07235691
-0.20	1.07235691
0.00	1.07235691
0.20	1.07235691
0.40	1.07235691
0.60	1.07235691
0.80	1.07235691
1.00	1.07235691

Participations  
 PAYABLES TURNOVER RATIO

-1.00	3.29648543
-0.80	3.29648543
-0.60	3.29648543
-0.40	3.29648543
-0.20	3.29648543
0.00	3.29648543
0.20	3.29648543
0.40	3.29648543
0.60	3.29648543
0.80	3.29648543
1.00	3.29648543



Prepaid Expenses		
CURRENT RATIO		
-1.00	1.11338764	0.00775771364
-0.80	1.11166285	0.00619655669
-0.60	1.10994339	0.00464022916
-0.40	1.10822925	0.00308870867
-0.20	1.10652039	0.00154197298
0.00	1.10481679	
0.20	1.10311843	-0.00153723224
0.40	1.10142528	-0.00306974557
0.60	1.09973733	-0.00459756168
0.80	1.09805454	-0.00612070214
1.00	1.09637689	-0.00763918837
Prepaid Expenses		
QUICK RATIO		
-1.00	0.47480611	0.00775771364
-0.80	0.47407057	0.00619655669
-0.60	0.47333731	0.00464022916
-0.40	0.47260631	0.00308870867
-0.20	0.47187756	0.00154197298
0.00	0.47115106	
0.20	0.47042679	-0.00153723224
0.40	0.46970474	-0.00306974557
0.60	0.46898491	-0.00459756168
0.80	0.46826728	-0.00612070213
1.00	0.46755185	-0.00763918837
Prepaid Expenses		
DEBT RATIO		
-1.00	0.80692089	-0.00123232134
-0.80	0.80712103	-0.00098458818
-0.60	0.80732067	-0.00073749192
-0.40	0.80751979	-0.00049103009
-0.20	0.80771840	-0.00024520026
0.00	0.80791650	
0.20	0.80811409	0.00024457310
0.40	0.80831118	0.00048852145
0.60	0.80850777	0.00073184744
0.80	0.80870386	0.00097455345
1.00	0.80889944	0.00121664184
Prepaid Expenses		
DEBT TO EQUITY RATIO		
-1.00	4.02284601	-0.00642903399
-0.80	4.02805711	-0.00514198581
-0.60	4.03326569	-0.00385555876
-0.40	4.03847176	-0.00256975241
-0.20	4.04367532	-0.00128456631
0.00	4.04887637	
0.20	4.05407491	0.00128394696
0.40	4.05927095	0.00256727502
0.60	4.06446448	0.00384998462
0.80	4.06965551	0.00513207622
1.00	4.07484404	0.00641355025

Prepaid Expenses

TIMES INTEREST EARNED

-1.00	0.53141814
-0.80	0.53141814
-0.60	0.53141814
-0.40	0.53141814
-0.20	0.53141814
0.00	0.53141814
0.20	0.53141814
0.40	0.53141814
0.60	0.53141814
0.80	0.53141814
1.00	0.53141814

Prepaid Expenses

RETURN ON INVESTMENT

-1.00	0.02377412	-0.00130383501
-0.80	0.02378035	-0.00104172547
-0.60	0.02378658	-0.00078028979
-0.40	0.02379279	-0.00051952537
-0.20	0.02379898	-0.00025942963
0.00	0.02380515	
0.20	0.02381131	0.00025876609
0.40	0.02381746	0.00051687117
0.60	0.02382359	0.00077431776
0.80	0.02382970	0.00103110840
1.00	0.02383580	0.00128724559

Prepaid Expenses

GROSS PROFIT RATIO

-1.00	0.36001819
-0.80	0.36001819
-0.60	0.36001819
-0.40	0.36001819
-0.20	0.36001819
0.00	0.36001819
0.20	0.36001819
0.40	0.36001819
0.60	0.36001819
0.80	0.36001819
1.00	0.36001819

Prepaid Expenses

INVENTORY TURNOVER

-1.00	0.31271025	-0.00769799481
-0.80	0.31319543	-0.00615839584
-0.60	0.31368062	-0.00461879688
-0.40	0.31416580	-0.00307919792
-0.20	0.31465098	-0.00153959896
0.00	0.31513617	
0.20	0.31562135	0.00153959896
0.40	0.31610653	0.00307919792
0.60	0.31659172	0.00461879688
0.80	0.31707690	0.00615839584
1.00	0.31756208	0.00769799480

Prepaid Expenses

RECEIVABLES TURNOVER RATIO

-1.00	1.08067595	0.00775771364
-0.80	1.07900183	0.00619655669
-0.60	1.07733289	0.00464022916
-0.40	1.07566911	0.00308870867
-0.20	1.07401046	0.00154197298
0.00	1.07235691	
0.20	1.07070845	-0.00153723224
0.40	1.06906505	-0.00306974557
0.60	1.06742668	-0.00459756168
0.80	1.06579333	-0.00612070213
1.00	1.06416498	-0.00763918837

Prepaid Expenses

PAYABLES TURNOVER RATIO

-1.00	3.29648543
-0.80	3.29648543
-0.60	3.29648543
-0.40	3.29648543
-0.20	3.29648543
0.00	3.29648543
0.20	3.29648543
0.40	3.29648543
0.60	3.29648543
0.80	3.29648543
1.00	3.29648543

Other Long Term Assets

CURRENT RATIO

-1.00	1.10574503	0.00084017979
-0.80	1.10555926	0.00067203091
-0.60	1.10537355	0.00050393851
-0.40	1.10518790	0.00033590258
-0.20	1.10500231	0.00016792309
0.00	1.10481679	
0.20	1.10463133	-0.00016786671
0.40	1.10444593	-0.00033567708
0.60	1.10426059	-0.00050343112
0.80	1.10407532	-0.00067112887
1.00	1.10389010	-0.00083877036

Other Long Term Assets

QUICK RATIO

-1.00	0.47154691	0.00084017979
-0.80	0.47146769	0.00067203091
-0.60	0.47138849	0.00050393851
-0.40	0.47130932	0.00033590258
-0.20	0.47123017	0.00016792309
0.00	0.47115106	
0.20	0.47107197	-0.00016786671
0.40	0.47099290	-0.00033567707
0.60	0.47091387	-0.00050343112
0.80	0.47083485	-0.00067112887
1.00	0.47075587	-0.00083877035

Other Long Term Assets

DEBT RATIO

-1.00	0.80780855	-0.00013361883
-0.80	0.80783015	-0.00010688013
-0.60	0.80785175	-0.00008014890
-0.40	0.80787334	-0.00005342514
-0.20	0.80789492	-0.00002670884
0.00	0.80791650	
0.20	0.80793807	0.00002670138
0.40	0.80795964	0.00005339530
0.60	0.80798120	0.00008008178
0.80	0.80800275	0.00010676080
1.00	0.80802430	0.00013343238

Other Long Term Assets

DEBT TO EQUITY RATIO

-1.00	4.04604078	-0.00070033977
-0.80	4.04660796	-0.00056025708
-0.60	4.04717511	-0.00042018176
-0.40	4.04774222	-0.00028011380
-0.20	4.04830931	-0.00014005322
0.00	4.04887637	
0.20	4.04944340	0.00014004585
0.40	4.05001040	0.00028008434
0.60	4.05057737	0.00042011547
0.80	4.05114431	0.00056013923
1.00	4.05171121	0.00070015563

Other Long Term Assets

TIMES INTEREST EARNED

-1.00	0.53141814
-0.80	0.53141814
-0.60	0.53141814
-0.40	0.53141814
-0.20	0.53141814
0.00	0.53141814
0.20	0.53141814
0.40	0.53141814
0.60	0.53141814
0.80	0.53141814
1.00	0.53141814

Other Long Term Assets

RETURN ON INVESTMENT

-1.00	0.02380179	-0.00014137296
-0.80	0.02380246	-0.00011308256
-0.60	0.02380313	-0.00008480007
-0.40	0.02380381	-0.00005652549
-0.20	0.02380448	-0.00002825880
0.00	0.02380515	
0.20	0.02380583	0.00002825090
0.40	0.02380650	0.00005649392
0.60	0.02380717	0.00008472905
0.80	0.02380784	0.00011295631
1.00	0.02380851	0.00014117569

Other Long Term Assets

GROSS PROFIT RATIO

-1.00	0.36001819
-0.80	0.36001819
-0.60	0.36001819
-0.40	0.36001819
-0.20	0.36001819
0.00	0.36001819
0.20	0.36001819
0.40	0.36001819
0.60	0.36001819
0.80	0.36001819
1.00	0.36001819

Other Long Term Assets

INVENTORY TURNOVER

-1.00	0.31487162	-0.00083947448
-0.80	0.31492453	-0.00067157958
-0.60	0.31497744	-0.00050368469
-0.40	0.31503035	-0.00033578979
-0.20	0.31508326	-0.00016789490
0.00	0.31513617	
0.20	0.31518908	0.00016789489
0.40	0.31524199	0.00033578979
0.60	0.31529490	0.00050368469
0.80	0.31534781	0.00067157958
1.00	0.31540072	0.00083947448

Other Long Term Assets

RECEIVABLES TURNOVER RATIO

-1.00	1.07325788	0.00084017979
-0.80	1.07307757	0.00067203091
-0.60	1.07289731	0.00050393851
-0.40	1.07271712	0.00033590259
-0.20	1.07253699	0.00016792309
0.00	1.07235691	
0.20	1.07217690	-0.00016786671
0.40	1.07199695	-0.00033567707
0.60	1.07181705	-0.00050343112
0.80	1.07163722	-0.00067112887
1.00	1.07145745	-0.00083877035

Other Long Term Assets

PAYABLES TURNOVER RATIO

-1.00	3.29648543
-0.80	3.29648543
-0.60	3.29648543
-0.40	3.29648543
-0.20	3.29648543
0.00	3.29648543
0.20	3.29648543
0.40	3.29648543
0.60	3.29648543
0.80	3.29648543
1.00	3.29648543

Short Term Bank Loans

CURRENT RATIO

-1.00	1.18149220	0.06940101597
-0.80	1.16110282	0.05094603510
-0.60	1.14381773	0.03530082560
-0.40	1.12897814	0.02186909831
-0.20	1.11609934	0.01021214283
0.00	1.10481679	
0.20	1.09485104	-0.00902026934
0.40	1.08598428	-0.01704581804
0.60	1.07804422	-0.02423258867
0.80	1.07089279	-0.03070554640
1.00	1.06441805	-0.03656600697

Short Term Bank Loans

QUICK RATIO

-1.00	0.50384942	0.06940101597
-0.80	0.49515434	0.05094603511
-0.60	0.48778308	0.03530082560
-0.40	0.48145471	0.02186909832
-0.20	0.47596252	0.01021214284
0.00	0.47115106	
0.20	0.46690115	-0.00902026934
0.40	0.46311990	-0.01704581804
0.60	0.45973385	-0.02423258867
0.80	0.45668411	-0.03070554640
1.00	0.45392294	-0.03656600696

Short Term Bank Loans

DEBT RATIO

-1.00	0.73464218	-0.08222394161
-0.80	0.75106407	-0.06170835632
-0.60	0.76557185	-0.04358403350
-0.40	0.77848175	-0.02745591449
-0.20	0.79004397	-0.01301142153
0.00	0.80045908	
0.20	0.80988972	0.01178153820
0.40	0.81846918	0.02249970262
0.60	0.82630770	0.03229224316
0.80	0.83349731	0.04127410233
1.00	0.84011539	0.04954194790

Short Term Bank Loans

DEBT TO EQUITY RATIO

-1.00	2.76849648	-0.30986063486
-0.80	3.01709789	-0.24788850789
-0.60	3.26569929	-0.18591638092
-0.40	3.51430070	-0.12394425394
-0.20	3.76290210	-0.06197212697
0.00	4.01150351	
0.20	4.26010491	0.06197212697
0.40	4.50870632	0.12394425395
0.60	4.75730772	0.18591638092
0.80	5.00590913	0.24788850789
1.00	5.25451053	0.30986063486

Short Term Bank Loans

TIMES INTEREST EARNED

-1.00	0.53141814
-0.80	0.53141814
-0.60	0.53141814
-0.40	0.53141814
-0.20	0.53141814
0.00	0.53141814
0.20	0.53141814
0.40	0.53141814
0.60	0.53141814
0.80	0.53141814
1.00	0.53141814

Short Term Bank Loans

RETURN ON INVESTMENT

-1.00	0.03165708	0.32984163018
-0.80	0.02969796	0.24754328782
-0.60	0.02796719	0.17483750327
-0.40	0.02642704	0.11013949727
-0.20	0.02504767	0.05219536311
0.00	0.02380515	
0.20	0.02268008	-0.04726168182
0.40	0.02165656	-0.09025763598
0.60	0.02072142	-0.12954044672
0.80	0.01986371	-0.16557120628
1.00	0.01907417	-0.19873769777

Short Term Bank Loans

GROSS PROFIT RATIO

-1.00	0.36001819
-0.80	0.36001819
-0.60	0.36001819
-0.40	0.36001819
-0.20	0.36001819
0.00	0.36001819
0.20	0.36001819
0.40	0.36001819
0.60	0.36001819
0.80	0.36001819
1.00	0.36001819

Short Term Bank Loans

INVENTORY TURNOVER

-1.00	0.42699310	0.35494793570
-0.80	0.39869024	0.26513642333
-0.60	0.37390620	0.18649093277
-0.40	0.35202316	0.11705097344
-0.20	0.33255993	0.05528963398
0.00	0.31513617	
0.20	0.29944727	-0.04978450038
0.40	0.28524642	-0.09484708596
0.60	0.27233149	-0.13582913035
0.80	0.26053540	-0.17326088214
1.00	0.24971877	-0.20758453286



Short Term Bank Loans

RECEIVABLES TURNOVER RATIO

-1.00	0.79143773	-0.26196426176
-0.80	0.84762156	-0.20957140941
-0.60	0.90380540	-0.15717855706
-0.40	0.95998924	-0.10478570470
-0.20	1.01617307	-0.05239285235
0.00	1.07235691	
0.20	1.12854075	0.05239285235
0.40	1.18472459	0.10478570471
0.60	1.24090842	0.15717855706
0.80	1.29709226	0.20957140941
1.00	1.35327610	0.26196426176

Short Term Bank Loans

PAYABLES TURNOVER RATIO

-1.00	3.29648543
-0.80	3.29648543
-0.60	3.29648543
-0.40	3.29648543
-0.20	3.29648543
0.00	3.29648543
0.20	3.29648543
0.40	3.29648543
0.60	3.29648543
0.80	3.29648543
1.00	3.29648543

## Commerical Acc.Payable

## CURRENT RATIO

-1.00	1.43379242	0.29776487613
-0.80	1.29480153	0.17196040366
-0.60	1.21629971	0.10090625397
-0.40	1.16585646	0.05524867647
-0.20	1.13070930	0.02343602124
0.00	1.10481679	
0.20	1.08494890	-0.01798297484
0.40	1.06922206	-0.03221776698
0.60	1.05646379	-0.04376562637
0.80	1.04590606	-0.05332171489
1.00	1.03702476	-0.06136043047

## Commerical Acc.Payable

## QUICK RATIO

-1.00	0.61144329	0.29776487613
-0.80	0.55217038	0.17196040367
-0.60	0.51869315	0.10090625397
-0.40	0.49718153	0.05524867647
-0.20	0.48219296	0.02343602124
0.00	0.47115106	
0.20	0.46267836	-0.01798297484
0.40	0.45597162	-0.03221776698
0.60	0.45053084	-0.04376562637
0.80	0.44602848	-0.05332171489
1.00	0.44224103	-0.06136043047

## Commerical Acc.Payable

## DEBT RATIO

-1.00	0.57820452	-0.27765886983
-0.80	0.65504805	-0.18165954315
-0.60	0.70820740	-0.11524846462
-0.40	0.74717014	-0.06657297839
-0.20	0.77695331	-0.02936536521
0.00	0.80045908	
0.20	0.81948288	0.02376610564
0.40	0.83519503	0.04339502441
0.60	0.84839102	0.05988055435
0.80	0.85963046	0.07392179504
1.00	0.86931845	0.08602484483

## Commerical Acc.Payable

## DEBT TO EQUITY RATIO

-1.00	1.37081725	-0.65827843739
-0.80	1.89895450	-0.52662274991
-0.60	2.42709175	-0.39496706243
-0.40	2.95522900	-0.26331137495
-0.20	3.48336626	-0.13165568748
0.00	4.01150351	
0.20	4.53964076	0.13165568748
0.40	5.06777801	0.26331137495
0.60	5.59591526	0.39496706243
0.80	6.12405252	0.52662274991
1.00	6.65218977	0.65827843739

Commerical Acc.Payable

TIMES INTEREST EARNED

-1.00	0.53141814
-0.80	0.53141814
-0.60	0.53141814
-0.40	0.53141814
-0.20	0.53141814
0.00	0.53141814
0.20	0.53141814
0.40	0.53141814
0.60	0.53141814
0.80	0.53141814
1.00	0.53141814

Commerical Acc.Payable

RETURN ON INVESTMENT

-1.00	0.05032004	1.11382953020
-0.80	0.04115263	0.72872789450
-0.60	0.03481074	0.46231962005
-0.40	0.03016250	0.26705773631
-0.20	0.02660938	0.11779926556
0.00	0.02380515	
0.20	0.02153562	-0.09533781612
0.40	0.01966117	-0.17407929265
0.60	0.01808689	-0.24021105380
0.80	0.01674603	-0.29653754007
1.00	0.01559026	-0.34508896676

Commerical Acc.Payable

GROSS PROFIT RATIO

-1.00	0.36001819
-0.80	0.36001819
-0.60	0.36001819
-0.40	0.36001819
-0.20	0.36001819
0.00	0.36001819
0.20	0.36001819
0.40	0.36001819
0.60	0.36001819
0.80	0.36001819
1.00	0.36001819

Commerical Acc.Payable

INVENTORY TURNOVER

-1.00	0.71060760	1.25492239840
-0.80	0.56803870	0.80251828463
-0.60	0.47311737	0.50131091881
-0.40	0.40537734	0.28635612800
-0.20	0.35460560	0.12524563627
0.00	0.31513617	
0.20	0.28357303	-0.10015714546
0.40	0.25775684	-0.18207788927
0.60	0.23624898	-0.25032730064
0.80	0.21805402	-0.30806411476
1.00	0.20246126	-0.35754355849

Commerical Acc.Payable		
RECEIVABLES TURNOVER RATIO		
-1.00	0.47556267	-0.55652575862
-0.80	0.59492152	-0.44522060690
-0.60	0.71428037	-0.33391545517
-0.40	0.83363921	-0.22261030345
-0.20	0.95299806	-0.11130515172
0.00	1.07235691	
0.20	1.19171576	0.11130515173
0.40	1.31107461	0.22261030345
0.60	1.43043346	0.33391545518
0.80	1.54979231	0.44522060690
1.00	1.66915116	0.55652575863

Commerical Acc.Payable		
PAYABLES TURNOVER RATIO		
-1.00	0.00000000	-1.00000000000
-0.80	0.65929709	-0.80000000000
-0.60	1.31859417	-0.60000000000
-0.40	1.97789126	-0.40000000000
-0.20	2.63718834	-0.20000000000
0.00	3.29648543	
0.20	3.95578252	0.20000000000
0.40	4.61507960	0.40000000000
0.60	5.27437669	0.60000000000
0.80	5.93367377	0.80000000000
1.00	6.59297086	1.00000000000

Other Acc.Payable		
CURRENT RATIO		
-1.00	1.11035060	0.00500880166
-0.80	1.10921533	0.00398123977
-0.60	1.10809459	0.00296682627
-0.40	1.10698810	0.00196531040
-0.20	1.10589559	0.00097644774
0.00	1.10481679	
0.20	1.10375145	-0.00096426516
0.40	1.10269933	-0.00191657432
0.60	1.10166016	-0.00285714848
0.80	1.10063373	-0.00378620321
1.00	1.09961979	-0.00470394885
Other Acc.Payable		
QUICK RATIO		
-1.00	0.47351096	0.00500880166
-0.80	0.47302682	0.00398123977
-0.60	0.47254888	0.00296682627
-0.40	0.47207702	0.00196531040
-0.20	0.47161111	0.00097644774
0.00	0.47115106	
0.20	0.47069674	-0.00096426516
0.40	0.47024806	-0.00191657432
0.60	0.46980491	-0.00285714848
0.80	0.46936718	-0.00378620321
1.00	0.46893479	-0.00470394885
Other Acc.Payable		
DEBT RATIO		
-1.00	0.79531664	-0.00642436941
-0.80	0.79636622	-0.00511314099
-0.60	0.79740510	-0.00381529152
-0.40	0.79843343	-0.00253061726
-0.20	0.79945137	-0.00125891863
0.00	0.80045908	
0.20	0.80145672	0.00124633030
0.40	0.80244443	0.00248026014
0.60	0.80342236	0.00370197369
0.80	0.80439066	0.00491165146
1.00	0.80534947	0.00610947043
Other Acc.Payable		
DEBT TO EQUITY RATIO		
-1.00	3.88559498	-0.03138686694
-0.80	3.91077669	-0.02510949355
-0.60	3.93595839	-0.01883212017
-0.40	3.96114010	-0.01255474678
-0.20	3.98632180	-0.00627737339
0.00	4.01150351	
0.20	4.03668521	0.00627737339
0.40	4.06186692	0.01255474678
0.60	4.08704862	0.01883212017
0.80	4.11223033	0.02510949355
1.00	4.13741203	0.03138686694

Other Acc.Payable

TIMES INTEREST EARNED

-1.00	0.53141814
-0.80	0.53141814
-0.60	0.53141814
-0.40	0.53141814
-0.20	0.53141814
0.00	0.53141814
0.20	0.53141814
0.40	0.53141814
0.60	0.53141814
0.80	0.53141814
1.00	0.53141814

Other Acc.Payable

RETURN ON INVESTMENT

-1.00	0.02441865	0.02577138042
-0.80	0.02429343	0.02051138301
-0.60	0.02416949	0.01530505529
-0.40	0.02404681	0.01015158003
-0.20	0.02392537	0.00505015648
0.00	0.02380515	
0.20	0.02368614	-0.00499965837
0.40	0.02356830	-0.00994957227
0.60	0.02345164	-0.01485048044
0.80	0.02333612	-0.01970310706
1.00	0.02322173	-0.02450816209

Other Acc.Payable

GROSS PROFIT RATIO

-1.00	0.36001819
-0.80	0.36001819
-0.60	0.36001819
-0.40	0.36001819
-0.20	0.36001819
0.00	0.36001819
0.20	0.36001819
0.40	0.36001819
0.60	0.36001819
0.80	0.36001819
1.00	0.36001819

Other Acc.Payable

INVENTORY TURNOVER

-1.00	0.32372633	0.02725859008
-0.80	0.32197104	0.02168863176
-0.60	0.32023468	0.01617875008
-0.40	0.31851694	0.01072797829
-0.20	0.31681753	0.00533537028
0.00	0.31513617	
0.20	0.31347255	-0.00527903902
0.40	0.31182641	-0.01050263423
0.60	0.31019746	-0.01567165452
0.80	0.30858545	-0.02078695072
1.00	0.30699010	-0.02584935608

Other Acc.Payable

RECEIVABLES TURNOVER RATIO

-1.00	1.04390163	-0.02653527587
-0.80	1.04959268	-0.02122822070
-0.60	1.05528374	-0.01592116552
-0.40	1.06097480	-0.01061411035
-0.20	1.06666585	-0.00530705517
0.00	1.07235691	
0.20	1.07804797	0.00530705518
0.40	1.08373903	0.01061411035
0.60	1.08943008	0.01592116552
0.80	1.09512114	0.02122822070
1.00	1.10081220	0.02653527587

Other Acc.Payable

PAYABLES TURNOVER RATIO

-1.00	3.29648543
-0.80	3.29648543
-0.60	3.29648543
-0.40	3.29648543
-0.20	3.29648543
0.00	3.29648543
0.20	3.29648543
0.40	3.29648543
0.60	3.29648543
0.80	3.29648543
1.00	3.29648543

## Payab.to Group Firms &amp; Partners

## CURRENT RATIO

-1.00	1.10489779	0.00007331219
-0.80	1.10488158	0.00005864419
-0.60	1.10486538	0.00004397897
-0.40	1.10484918	0.00002931653
-0.20	1.10483298	0.00001465688
0.00	1.10481679	
0.20	1.10480060	-0.00001465410
0.40	1.10478441	-0.00002930542
0.60	1.10476823	-0.00004395396
0.80	1.10475205	-0.00005859973
1.00	1.10473587	-0.00007324271

## Payab.to Group Firms &amp; Partners

## QUICK RATIO

-1.00	0.47118560	0.00007331220
-0.80	0.47117869	0.00005864419
-0.60	0.47117178	0.00004397897
-0.40	0.47116487	0.00002931654
-0.20	0.47115796	0.00001465688
0.00	0.47115106	
0.20	0.47114415	-0.00001465410
0.40	0.47113725	-0.00002930542
0.60	0.47113035	-0.00004395396
0.80	0.47112345	-0.00005859973
1.00	0.47111655	-0.00007324271

## Payab.to Group Firms &amp; Partners

## DEBT RATIO

-1.00	0.80038334	-0.00009463044
-0.80	0.80039849	-0.00007569860
-0.60	0.80041364	-0.00005676964
-0.40	0.80042879	-0.00003784356
-0.20	0.80044394	-0.00001892034
0.00	0.80045908	
0.20	0.80047423	0.00001891747
0.40	0.80048937	0.00003783207
0.60	0.80050451	0.00005674380
0.80	0.80051964	0.00007565266
1.00	0.80053477	0.00009455865

## Payab.to Group Firms &amp; Partners

## DEBT TO EQUITY RATIO

-1.00	4.00960181	-0.00047406081
-0.80	4.00998215	-0.00037924865
-0.60	4.01036249	-0.00028443649
-0.40	4.01074283	-0.00018962432
-0.20	4.01112317	-0.00009481216
0.00	4.01150351	
0.20	4.01188385	0.00009481216
0.40	4.01226419	0.00018962432
0.60	4.01264453	0.00028443649
0.80	4.01302486	0.00037924865
1.00	4.01340520	0.00047406081



Payab.to Group Firms & Partners

TIMES INTEREST EARNED

-1.00	0.53141814
-0.80	0.53141814
-0.60	0.53141814
-0.40	0.53141814
-0.20	0.53141814
0.00	0.53141814
0.20	0.53141814
0.40	0.53141814
0.60	0.53141814
0.80	0.53141814
1.00	0.53141814

Payab.to Group Firms & Partners

RETURN ON INVESTMENT

-1.00	0.02381419	0.00037961033
-0.80	0.02381238	0.00030366521
-0.60	0.02381057	0.00022773162
-0.40	0.02380877	0.00015180955
-0.20	0.02380696	0.00007589902
0.00	0.02380515	
0.20	0.02380335	-0.00007588750
0.40	0.02380154	-0.00015176348
0.60	0.02379973	-0.00022762794
0.80	0.02379793	-0.00030348090
1.00	0.02379612	-0.00037932234

Payab.to Group Firms & Partners

GROSS PROFIT RATIO

-1.00	0.36001819
-0.80	0.36001819
-0.60	0.36001819
-0.40	0.36001819
-0.20	0.36001819
0.00	0.36001819
0.20	0.36001819
0.40	0.36001819
0.60	0.36001819
0.80	0.36001819
1.00	0.36001819

Payab.to Group Firms & Partners

INVENTORY TURNOVER

-1.00	0.31526252	0.00040094406
-0.80	0.31523724	0.00032072953
-0.60	0.31521197	0.00024052786
-0.40	0.31518669	0.00016033905
-0.20	0.31516143	0.00008016310
0.00	0.31513617	
0.20	0.31511091	-0.00008015025
0.40	0.31508565	-0.00016028765
0.60	0.31506040	-0.00024041221
0.80	0.31503516	-0.00032052393
1.00	0.31500992	-0.00040062281

Payab.to Group Firms & Partners		
RECEIVABLES TURNOVER RATIO		
-1.00	1.07192713	-0.00040078337
-0.80	1.07201309	-0.00032062670
-0.60	1.07209904	-0.00024047002
-0.40	1.07218500	-0.00016031335
-0.20	1.07227096	-0.00008015667
0.00	1.07235691	
0.20	1.07244287	0.00008015667
0.40	1.07252882	0.00016031335
0.60	1.07261478	0.00024047002
0.80	1.07270074	0.00032062670
1.00	1.07278669	0.00040078337

Payab.to Group Firms & Partners		
PAYABLES TURNOVER RATIO		
-1.00	3.29648543	
-0.80	3.29648543	
-0.60	3.29648543	
-0.40	3.29648543	
0.20	3.29648543	
0.00	3.29648543	
0.20	3.29648543	
0.40	3.29648543	
0.60	3.29648543	
0.80	3.29648543	
1.00	3.29648543	

Long Term Debt	
CURRENT RATIO	
-1.00	1.10481679
-0.80	1.10481679
-0.60	1.10481679
-0.40	1.10481679
-0.20	1.10481679
0.00	1.10481679
0.20	1.10481679
0.40	1.10481679
0.60	1.10481679
0.80	1.10481679
1.00	1.10481679
Long Term Debt	
QUICK RATIO	
-1.00	0.47115106
-0.80	0.47115106
-0.60	0.47115106
-0.40	0.47115106
-0.20	0.47115106
0.00	0.47115106
0.20	0.47115106
0.40	0.47115106
0.60	0.47115106
0.80	0.47115106
1.00	0.47115106
Long Term Debt	
DEBT RATIO	
-1.00	0.80045908
-0.80	0.80045908
-0.60	0.80045908
-0.40	0.80045908
-0.20	0.80045908
0.00	0.80045908
0.20	0.80045908
0.40	0.80045908
0.60	0.80045908
0.80	0.80045908
1.00	0.80045908
Long Term Debt	
DEBT TO EQUITY RATIO	
-1.00	4.01150351
-0.80	4.01150351
-0.60	4.01150351
-0.40	4.01150351
-0.20	4.01150351
0.00	4.01150351
0.20	4.01150351
0.40	4.01150351
0.60	4.01150351
0.80	4.01150351
1.00	4.01150351

Long Term Debt  
 TIMES INTEREST EARNED

-1.00	0.53141814
-0.80	0.53141814
-0.60	0.53141814
-0.40	0.53141814
-0.20	0.53141814
0.00	0.53141814
0.20	0.53141814
0.40	0.53141814
0.60	0.53141814
0.80	0.53141814
1.00	0.53141814

Long Term Debt  
 RETURN ON INVESTMENT

-1.00	0.02380515
-0.80	0.02380515
-0.60	0.02380515
-0.40	0.02380515
-0.20	0.02380515
0.00	0.02380515
0.20	0.02380515
0.40	0.02380515
0.60	0.02380515
0.80	0.02380515
1.00	0.02380515

Long Term Debt  
 GROSS PROFIT RATIO

-1.00	0.36001819
-0.80	0.36001819
-0.60	0.36001819
-0.40	0.36001819
-0.20	0.36001819
0.00	0.36001819
0.20	0.36001819
0.40	0.36001819
0.60	0.36001819
0.80	0.36001819
1.00	0.36001819

Long Term Debt  
 INVENTORY TURNOVER

-1.00	0.31513617
-0.80	0.31513617
-0.60	0.31513617
-0.40	0.31513617
-0.20	0.31513617
0.00	0.31513617
0.20	0.31513617
0.40	0.31513617
0.60	0.31513617
0.80	0.31513617
1.00	0.31513617

Long Term Debt  
RECEIVABLES TURNOVER RATIO  
-1.00 1.07235691  
-0.80 1.07235691  
-0.60 1.07235691  
-0.40 1.07235691  
-0.20 1.07235691  
0.00 1.07235691  
0.20 1.07235691  
0.40 1.07235691  
0.60 1.07235691  
0.80 1.07235691  
1.00 1.07235691

Long Term Debt  
PAYABLES TURNOVER RATIO  
-1.00 3.29648543  
-0.80 3.29648543  
-0.60 3.29648543  
-0.40 3.29648543  
-0.20 3.29648543  
0.00 3.29648543  
0.20 3.29648543  
0.40 3.29648543  
0.60 3.29648543  
0.80 3.29648543  
1.00 3.29648543

Spare Reserves		
CURRENT RATIO		
-1.00	1.09611487	-0.00787634688
-0.80	1.09785525	-0.00630107750
-0.60	1.09959564	-0.00472580813
-0.40	1.10133602	-0.00315053875
-0.20	1.10307641	-0.00157526938
0.00	1.10481679	
0.20	1.10655717	0.00157526938
0.40	1.10829756	0.00315053875
0.60	1.11003794	0.00472580813
0.80	1.11177833	0.00630107750
1.00	1.11351871	0.00787634688
Spare Reserves		
QUICK RATIO		
-1.00	0.46744011	-0.00787634687
-0.80	0.46818230	-0.00630107750
-0.60	0.46892449	-0.00472580812
-0.40	0.46966668	-0.00315053875
-0.20	0.47040887	-0.00157526937
0.00	0.47115106	
0.20	0.47189325	0.00157526938
0.40	0.47263544	0.00315053875
0.60	0.47337763	0.00472580813
0.80	0.47411982	0.00630107750
1.00	0.47486201	0.00787634688
Spare Reserves		
DEBT RATIO		
-1.00	0.80647329	0.00751344622
-0.80	0.80526323	0.00600173823
-0.60	0.80405680	0.00449455988
-0.40	0.80285397	0.00299189084
-0.20	0.80165474	0.00149371091
0.00	0.80045908	
0.20	0.79926699	-0.00148926186
0.40	0.79807844	-0.00297409451
0.60	0.79689342	-0.00445451769
0.80	0.79571192	-0.00593055100
1.00	0.79453391	-0.00740221395
Spare Reserves		
DEBT TO EQUITY RATIO		
-1.00	4.16724540	0.03882382041
-0.80	4.13513704	0.03081974825
-0.60	4.10351967	0.02293807477
-0.40	4.07238214	0.01517601367
-0.20	4.04171359	0.00753086260
0.00	4.01150351	
0.20	3.98174169	-0.00741911788
0.40	3.95241823	-0.01472895988
0.60	3.92352352	-0.02193192261
0.80	3.89504822	-0.02903033314
1.00	3.86698327	-0.03602645145

## Spare Reserves

TIMES INTEREST EARNED	
-1.00	0.53141814
-0.80	0.53141814
-0.60	0.53141814
-0.40	0.53141814
-0.20	0.53141814
0.00	0.53141814
0.20	0.53141814
0.40	0.53141814
0.60	0.53141814
0.80	0.53141814
1.00	0.53141814

## Spare Reserves

RETURN ON INVESTMENT		
-1.00	0.02398401	0.00751344622
-0.80	0.02394803	0.00600173823
-0.60	0.02391215	0.00449455988
-0.40	0.02387638	0.00299189084
-0.20	0.02384071	0.00149371091
0.00	0.02380515	
0.20	0.02376970	-0.00148926186
0.40	0.02373435	-0.00297409451
0.60	0.02369911	-0.00445451769
0.80	0.02366398	-0.00593055100
1.00	0.02362894	-0.00740221395

## Spare Reserves

GROSS PROFIT RATIO	
-1.00	0.36001819
-0.80	0.36001819
-0.60	0.36001819
-0.40	0.36001819
-0.20	0.36001819
0.00	0.36001819
0.20	0.36001819
0.40	0.36001819
0.60	0.36001819
0.80	0.36001819
1.00	0.36001819

## Spare Reserves

INVENTORY TURNOVER		
-1.00	0.31763799	0.00793887622
-0.80	0.31713446	0.00634103284
-0.60	0.31663251	0.00474824743
-0.40	0.31613215	0.00316049601
-0.20	0.31563337	0.00157775476
0.00	0.31513617	
0.20	0.31464052	-0.00157279181
0.40	0.31414644	-0.00314064403
0.60	0.31365390	-0.00470357991
0.80	0.31316290	-0.00626162253
1.00	0.31267344	-0.00781479484

Spare Reserves

RECEIVABLES TURNOVER RATIO

-1.00	1.06391066	-0.00787634688
-0.80	1.06559991	-0.00630107750
-0.60	1.06728916	-0.00472580813
-0.40	1.06897841	-0.00315053875
-0.20	1.07066766	-0.00157526938
0.00	1.07235691	
0.20	1.07404616	0.00157526938
0.40	1.07573541	0.00315053875
0.60	1.07742466	0.00472580813
0.80	1.07911392	0.00630107750
1.00	1.08080317	0.00787634688

Spare Reserves

PAYABLES TURNOVER RATIO

-1.00	3.29648543
-0.80	3.29648543
-0.60	3.29648543
-0.40	3.29648543
-0.20	3.29648543
0.00	3.29648543
0.20	3.29648543
0.40	3.29648543
0.60	3.29648543
0.80	3.29648543
1.00	3.29648543



Net Income		
CURRENT RATIO		
-1.00	0.00000000	-1.00000000000
-0.80	1.08260442	-0.02010502654
-0.60	1.08815751	-0.01507876990
-0.40	1.09371060	-0.01005251327
-0.20	1.09926370	-0.00502625664
0.00	1.10481679	
0.20	1.11036988	0.00502625664
0.40	1.11592298	0.01005251327
0.60	1.12147607	0.01507876990
0.80	1.12702916	0.02010502654
1.00	1.13258225	0.02513128317
Net Income		
QUICK RATIO		
-1.00	0.00000000	-1.00000000000
-0.80	0.46167855	-0.02010502653
-0.60	0.46404668	-0.01507876990
-0.40	0.46641481	-0.01005251327
-0.20	0.46878293	-0.00502625663
0.00	0.47115106	
0.20	0.47351918	0.00502625664
0.40	0.47588731	0.01005251327
0.60	0.47825544	0.01507876991
0.80	0.48062356	0.02010502654
1.00	0.48299169	0.02513128318
Net Income		
DEBT RATIO		
-1.00	0.00000000	-1.00000000000
-0.80	0.81599204	0.01940505738
-0.60	0.81205256	0.01448352961
-0.40	0.80815093	0.00960929424
-0.20	0.80428662	0.00478167287
0.00	0.80045908	
0.20	0.79666781	-0.00473637726
0.40	0.79291228	-0.00942809948
0.60	0.78919199	-0.01407579522
0.80	0.78550644	-0.01868008129
1.00	0.78185516	-0.02324156304
Net Income		
DEBT TO EQUITY RATIO		
-1.00	0.00000000	-1.00000000000
-0.80	4.43454746	0.10545770538
-0.60	4.32063636	0.07706159431
-0.40	4.21243082	0.05008778144
-0.20	4.10951263	0.02443201793
0.00	4.01150351	
0.20	3.91806039	-0.02329378937
0.40	3.82887146	-0.04552708052
0.60	3.74365268	-0.06677068364
0.80	3.66214471	-0.08708924211
1.00	3.58411034	-0.10654188953

Net Income  
TIMES INTEREST EARNED

-1.00	0.00000000	-1.000000000000
-0.80	0.53141814	0.000000000000
-0.60	0.53141814	0.000000000000
-0.40	0.53141814	-0.000000000000
-0.20	0.53141814	0.000000000000
0.00	0.53141814	
0.20	0.53141814	-0.000000000000
0.40	0.53141814	0.000000000001
0.60	0.53141814	0.000000000001
0.80	0.53141814	-0.000000000001
1.00	0.53141814	

Net Income  
RETURN ON INVESTMENT

-1.00	0.00000000	-1.000000000000
-0.80	0.00485342	-0.79611898852
-0.60	0.00965997	-0.59420658816
-0.40	0.01442034	-0.39423442346
-0.20	0.01913519	-0.19617466170
0.00	0.02380515	
0.20	0.02843088	0.19431634729
0.40	0.03301300	0.38680066075
0.60	0.03755212	0.57747872766
0.80	0.04204885	0.76637585367
1.00	0.04650377	0.95351687392

Net Income  
GROSS PROFIT RATIO

-1.00	0.00000000	-1.000000000000
-0.80	0.36001819	
-0.60	0.36001819	
-0.40	0.36001819	-0.000000000000
-0.20	0.36001819	
0.00	0.36001819	
0.20	0.36001819	-0.000000000000
0.40	0.36001819	
0.60	0.36001819	0.000000000000
0.80	0.36001819	-0.000000000000
1.00	0.36001819	

Net Income  
INVENTORY TURNOVER

-1.00	0.00000000	-1.000000000000
-0.80	0.06432040	-0.79589649359
-0.60	0.12798431	-0.59387615194
-0.40	0.19100175	-0.39390724453
-0.20	0.25338250	-0.19595868199
0.00	0.31513617	
0.20	0.37627216	0.19399865633
0.40	0.43679970	0.38606654763
0.60	0.49672782	0.57623235500
0.80	0.55606539	0.76452419425
1.00	0.61482109	0.95096962977

Net Income

RECEIVABLES TURNOVER RATIO

-1.00	0.00000000	-1.000000000000
-0.80	5.25398574	3.89947486730
-0.60	2.64046772	1.46230307520
-0.40	1.76929505	0.64991247789
-0.20	1.33370871	0.24371717921
0.00	1.07235691	
0.20	0.89812238	-0.16247811947
0.40	0.77366914	-0.27853391909
0.60	0.68032921	-0.36557576881
0.80	0.60773149	-0.43327498526
1.00	0.54965331	-0.48743435841

Net Income

PAYABLES TURNOVER RATIO

-1.00	0.00000000	-1.000000000000
-0.80	16.48242715	4.000000000000
-0.60	8.24121357	1.500000000000
-0.40	5.49414238	0.666666666667
-0.20	4.12060679	0.250000000000
0.00	3.29648543	
0.20	2.74707119	-0.166666666667
0.40	2.35463245	-0.28571428571
0.60	2.06030339	-0.375000000000
0.80	1.83138079	-0.444444444444
1.00	1.64824271	-0.500000000000

Gross Profit		
CURRENT RATIO		
-1.00	0.00000000	-1.00000000000
-0.80	1.02087636	-0.07597678598
-0.60	1.04186147	-0.05698258948
-0.40	1.06284658	-0.03798839299
-0.20	1.08383168	-0.01899419650
0.00	1.10481679	
0.20	1.12580190	0.01899419650
0.40	1.14678700	0.03798839299
0.60	1.16777211	0.05698258948
0.80	1.18875722	0.07597678598
1.00	1.20974233	0.09497098247
Gross Profit		
QUICK RATIO		
-1.00	0.00000000	-1.00000000000
-0.80	0.43535451	-0.07597678598
-0.60	0.44430365	-0.05698258948
-0.40	0.45325279	-0.03798839299
-0.20	0.46220192	-0.01899419649
0.00	0.47115106	
0.20	0.48010019	0.01899419650
0.40	0.48904933	0.03798839299
0.60	0.49799847	0.05698258949
0.80	0.50694760	0.07597678598
1.00	0.51589674	0.09497098247
Gross Profit		
DEBT RATIO		
-1.00	0.00000000	-1.00000000000
-0.80	0.86250390	0.07751153600
-0.60	0.84610811	0.05702855919
-0.40	0.83032405	0.03730979812
-0.20	0.81511810	0.01831326691
0.00	0.80045908	
0.20	0.78631800	-0.01766621470
0.40	0.77266789	-0.03471907478
0.60	0.75948360	-0.05118997783
0.80	0.74674170	-0.06710821444
1.00	0.73442030	-0.08250114197
Gross Profit		
DEBT TO EQUITY RATIO		
-1.00	0.00000000	-1.00000000000
-0.80	6.27293341	0.56373623991
-0.60	5.49806832	0.37057547387
-0.40	4.89358719	0.21988854826
-0.20	4.40885845	0.09905386846
0.00	4.01150351	
0.20	3.67985141	-0.08267525984
0.40	3.39885056	-0.15272402151
0.60	3.15772066	-0.21283362844
0.80	2.94853798	-0.26497933358
1.00	2.76534797	-0.31064550711

Gross Profit		
TIMES INTEREST EARNED		
-1.00	0.00000000	-1.00000000000
-0.80	-1.07444972	-3.02185367240
-0.60	-0.67298276	-2.26639025430
-0.40	-0.27151579	-1.51092683620
-0.20	0.12995118	-0.75546341809
0.00	0.53141814	
0.20	0.93288511	0.75546341809
0.40	1.33435207	1.51092683620
0.60	1.73581904	2.26639025430
0.80	2.13728601	3.02185367240
1.00	2.53875297	3.77731709050

Gross Profit		
RETURN ON INVESTMENT		
-1.00	0.00000000	-1.00000000000
-0.80	-0.05186121	-3.17857065610
-0.60	-0.03186583	-2.33861066590
-0.40	-0.01261648	-1.52998941330
-0.20	0.00592784	-0.75098515440
0.00	0.02380515	
0.20	0.04105082	0.72445102444
0.40	0.05769774	1.42374977960
0.60	0.07377655	2.09918380960
0.80	0.08931585	2.75195425370
1.00	0.10434234	3.38318297500

Gross Profit		
GROSS PROFIT RATIO		
-1.00	0.00000000	-1.00000000000
-0.80	0.36001819	-0.00000000000
-0.60	0.36001819	
-0.40	0.36001819	-0.00000000000
-0.20	0.36001819	
0.00	0.36001819	
0.20	0.36001819	-0.00000000000
0.40	0.36001819	
0.60	0.36001819	-0.00000000000
0.80	0.36001819	-0.00000000000
1.00	0.36001819	0.00000000000

Gross Profit		
INVENTORY TURNOVER		
-1.00	0.00000000	-1.00000000000
-0.80	0.06820958	-0.78355522138
-0.60	0.13367141	-0.57582967659
-0.40	0.19654825	-0.37630690147
-0.20	0.25699026	-0.18451043089
0.00	0.31513617	
0.20	0.37111438	0.17763182963
0.40	0.42504390	0.34876267351
0.60	0.47703517	0.51374300383
0.80	0.52719083	0.67289854526
1.00	0.57560643	0.82653242142

Gross Profit

RECEIVABLES TURNOVER RATIO

-1.00	0.00000000	-1.000000000000
-0.80	4.95441340	3.62011607010
-0.60	2.52812810	1.35754352630
-0.40	1.71936633	0.60335267835
-0.20	1.31498544	0.22625725438
0.00	1.07235691	
0.20	0.91060456	-0.15083816959
0.40	0.79506716	-0.25857971929
0.60	0.70841412	-0.33938588157
0.80	0.64101730	-0.40223511890
1.00	0.58709985	-0.45251450876

Gross Profit

PAYABLES TURNOVER RATIO

-1.00	0.00000000	-1.000000000000
-0.80	16.48242715	4.000000000000
-0.60	8.24121357	1.500000000000
-0.40	5.49414238	0.666666666666
-0.20	4.12060679	0.250000000000
0.00	3.29648543	
0.20	2.74707119	-0.166666666667
0.40	2.35463245	-0.28571428572
0.60	2.06030339	-0.375000000000
0.80	1.83138079	-0.444444444444
1.00	1.64824271	-0.500000000000

Management Costs

CURRENT RATIO

-1.00	1.10901037	0.00379572147
-0.80	1.10817165	0.00303657718
-0.60	1.10733294	0.00227743288
-0.40	1.10649422	0.00151828859
-0.20	1.10565551	0.00075914430
0.00	1.10481679	
0.20	1.10397807	-0.00075914430
0.40	1.10313936	-0.00151828859
0.60	1.10230064	-0.00227743288
0.80	1.10146193	-0.00303657718
1.00	1.10062321	-0.00379572147

Management Costs

QUICK RATIO

-1.00	0.47293942	0.00379572147
-0.80	0.47258174	0.00303657718
-0.60	0.47222407	0.00227743289
-0.40	0.47186640	0.00151828859
-0.20	0.47150873	0.00075914430
0.00	0.47115106	
0.20	0.47079339	-0.00075914429
0.40	0.47043571	-0.00151828859
0.60	0.47007804	-0.00227743288
0.80	0.46972037	-0.00303657718
1.00	0.46936270	-0.00379572146

Management Costs

DEBT RATIO

-1.00	0.79759267	-0.00358096313
-0.80	0.79816431	-0.00286682370
-0.60	0.79873677	-0.00215165988
-0.40	0.79931005	-0.00143546947
-0.20	0.79988415	-0.00071825025
0.00	0.80045908	
0.20	0.80103484	0.00071928350
0.40	0.80161143	0.00143960248
0.60	0.80218884	0.00216095918
0.80	0.80276709	0.00288335585
1.00	0.80334618	0.00360679473

Management Costs

DEBT TO EQUITY RATIO

-1.00	3.94053253	-0.01769186483
-0.80	3.95452511	-0.01420375003
-0.60	3.96861743	-0.01069077480
-0.40	3.98281054	-0.00715267240
-0.20	3.99710553	-0.00358917229
0.00	4.01150351	
0.20	4.02600559	0.00361512289
0.40	4.04061290	0.00725647883
0.60	4.05532659	0.01092435442
0.80	4.07014784	0.01461904042
1.00	4.08507782	0.01834083187

Management Costs

TIMES INTEREST EARNED

-1.00	0.61164564	0.15096867701
-0.80	0.59560014	0.12077494161
-0.60	0.57955464	0.09058120620
-0.40	0.56350914	0.06038747080
-0.20	0.54746364	0.03019373540
0.00	0.53141814	
0.20	0.51537264	-0.03019373540
0.40	0.49932714	-0.06038747080
0.60	0.48328165	-0.09058120620
0.80	0.46723615	-0.12077494161
1.00	0.45119065	-0.15096867701

Management Costs

RETURN ON INVESTMENT

-1.00	0.02730087	0.14684710061
-0.80	0.02660373	0.11756187744
-0.60	0.02590559	0.08823464637
-0.40	0.02520645	0.05886531696
-0.20	0.02450631	0.02945379849
0.00	0.02380515	
0.20	0.02310299	-0.02949616976
0.40	0.02239982	-0.05903480227
0.60	0.02169564	-0.08861598931
0.80	0.02099044	-0.11823982289
1.00	0.02028422	-0.14790639531

Management Costs

GROSS PROFIT RATIO

-1.00	0.36001819
-0.80	0.36001819
-0.60	0.36001819
-0.40	0.36001819
-0.20	0.36001819
0.00	0.36001819
0.20	0.36001819
0.40	0.36001819
0.60	0.36001819
0.80	0.36001819
1.00	0.36001819

Management Costs

INVENTORY TURNOVER

-1.00	0.31394452	-0.00378136845
-0.80	0.31418213	-0.00302738429
-0.60	0.31442010	-0.00227225797
-0.40	0.31465842	-0.00151598688
-0.20	0.31489711	-0.00075856843
0.00	0.31513617	
0.20	0.31537558	0.00075972103
0.40	0.31561536	0.00152059729
0.60	0.31585551	0.00228263142
0.80	0.31609602	0.00304582606
1.00	0.31633689	0.00381018387



Management Costs

RECEIVABLES TURNOVER RATIO

-1.00	1.07642728	0.00379572147
-0.80	1.07561321	0.00303657718
-0.60	1.07479913	0.00227743288
-0.40	1.07398506	0.00151828859
-0.20	1.07317099	0.00075914429
0.00	1.07235691	
0.20	1.07154284	-0.00075914429
0.40	1.07072876	-0.00151828859
0.60	1.06991469	-0.00227743288
0.80	1.06910062	-0.00303657717
1.00	1.06828654	-0.00379572147

Management Costs

PAYABLES TURNOVER RATIO

-1.00	3.29648543
-0.80	3.29648543
-0.60	3.29648543
-0.40	3.29648543
-0.20	3.29648543
0.00	3.29648543
0.20	3.29648543
0.40	3.29648543
0.60	3.29648543
0.80	3.29648543
1.00	3.29648543

Marketing Costs

CURRENT RATIO

-1.00	1.10481679
-0.80	1.10481679
-0.60	1.10481679
-0.40	1.10481679
-0.20	1.10481679
0.00	1.10481679
0.20	1.10481679
0.40	1.10481679
0.60	1.10481679
0.80	1.10481679
1.00	1.10481679

Marketing Costs

QUICK RATIO

-1.00	0.47115106
-0.80	0.47115106
-0.60	0.47115106
-0.40	0.47115106
-0.20	0.47115106
0.00	0.47115106
0.20	0.47115106
0.40	0.47115106
0.60	0.47115106
0.80	0.47115106
1.00	0.47115106

Marketing Costs

DEBT RATIO

-1.00	0.80045908
-0.80	0.80045908
-0.60	0.80045908
-0.40	0.80045908
-0.20	0.80045908
0.00	0.80045908
0.20	0.80045908
0.40	0.80045908
0.60	0.80045908
0.80	0.80045908
1.00	0.80045908

Marketing Costs

DEBT TO EQUITY RATIO

-1.00	4.01150351
-0.80	4.01150351
-0.60	4.01150351
-0.40	4.01150351
-0.20	4.01150351
0.00	4.01150351
0.20	4.01150351
0.40	4.01150351
0.60	4.01150351
0.80	4.01150351
1.00	4.01150351

Marketting Costs  
TIMES INTEREST EARNED

-1.00	0.53141814
-0.80	0.53141814
-0.60	0.53141814
-0.40	0.53141814
-0.20	0.53141814
0.00	0.53141814
0.20	0.53141814
0.40	0.53141814
0.60	0.53141814
0.80	0.53141814
1.00	0.53141814

Marketting Costs  
RETURN ON INVESTMENT

-1.00	0.02380515
-0.80	0.02380515
-0.60	0.02380515
-0.40	0.02380515
-0.20	0.02380515
0.00	0.02380515
0.20	0.02380515
0.40	0.02380515
0.60	0.02380515
0.80	0.02380515
1.00	0.02380515

Marketting Costs  
GROSS PROFIT RATIO

-1.00	0.36001819
-0.80	0.36001819
-0.60	0.36001819
-0.40	0.36001819
-0.20	0.36001819
0.00	0.36001819
0.20	0.36001819
0.40	0.36001819
0.60	0.36001819
0.80	0.36001819
1.00	0.36001819

Marketting Costs  
INVENTORY TURNOVER

-1.00	0.31513617
-0.80	0.31513617
-0.60	0.31513617
-0.40	0.31513617
-0.20	0.31513617
0.00	0.31513617
0.20	0.31513617
0.40	0.31513617
0.60	0.31513617
0.80	0.31513617
1.00	0.31513617

Marketting Costs

RECEIVABLES TURNOVER RATIO	
-1.00	1.07235691
-0.80	1.07235691
-0.60	1.07235691
-0.40	1.07235691
-0.20	1.07235691
0.00	1.07235691
0.20	1.07235691
0.40	1.07235691
0.60	1.07235691
0.80	1.07235691
1.00	1.07235691

Marketting Costs

PAYABLES TURNOVER RATIO	
-1.00	3.29648543
-0.80	3.29648543
-0.60	3.29648543
-0.40	3.29648543
-0.20	3.29648543
0.00	3.29648543
0.20	3.29648543
0.40	3.29648543
0.60	3.29648543
0.80	3.29648543
1.00	3.29648543

Financial Costs		
CURRENT RATIO		
-1.00	1.15708786	0.04731197854
-0.80	1.14663364	0.03784958283
-0.60	1.13617943	0.02838718712
-0.40	1.12572522	0.01892479142
-0.20	1.11527100	0.00946239571
0.00	1.10481679	
0.20	1.09436258	-0.00946239571
0.40	1.08390836	-0.01892479142
0.60	1.07345415	-0.02838718713
0.80	1.06299994	-0.03784958284
1.00	1.05254572	-0.04731197854
Financial Costs		
QUICK RATIO		
-1.00	0.49344215	0.04731197855
-0.80	0.48898393	0.03784958284
-0.60	0.48452571	0.02838718713
-0.40	0.48006749	0.01892479142
-0.20	0.47560928	0.00946239571
0.00	0.47115106	
0.20	0.46669284	-0.00946239571
0.40	0.46223462	-0.01892479142
0.60	0.45777640	-0.02838718712
0.80	0.45331819	-0.03784958283
1.00	0.44885997	-0.04731197854
Financial Costs		
DEBT RATIO		
-1.00	0.76613947	-0.04287491818
-0.80	0.77276592	-0.03459659982
-0.60	0.77950800	-0.02617383126
-0.40	0.78636876	-0.01760279840
-0.20	0.79335137	-0.00887955168
0.00	0.80045908	
0.20	0.80769531	0.00904009567
0.40	0.81506356	0.01824512905
0.60	0.82256749	0.02761965567
0.80	0.83021087	0.03716840037
1.00	0.83799763	0.04689626525
Financial Costs		
DEBT TO EQUITY RATIO		
-1.00	3.27605284	-0.18333541582
-0.80	3.40074837	-0.15225093018
-0.60	3.53531200	-0.11870649105
-0.40	3.68096342	-0.08239805538
-0.20	3.83913192	-0.04296932197
0.00	4.01150351	
0.20	4.20008120	0.04700923159
0.40	4.40726326	0.09865621609
0.60	4.63594569	0.15566287947
0.80	4.88965847	0.21890918394
1.00	5.17274903	0.28947887605

Financial Costs

TIMES INTEREST EARNED

-1.00	0.00000000	-1.000000000000
-0.80	6.65709071	11.52702943500
-0.60	2.82854536	4.32263603810
-0.40	1.55236357	1.92117157250
-0.20	0.91427268	0.72043933968
0.00	0.53141814	
0.20	0.27618179	-0.48029289312
0.40	0.09387010	-0.82335924535
0.60	-0.04286366	-1.08065900950
0.80	-0.14921214	-1.28078104830
1.00	-0.23429093	-1.44087867940

Financial Costs

RETURN ON INVESTMENT

-1.00	0.06565943	1.75820224770
-0.80	0.05757818	1.41872736210
-0.60	0.04935591	1.07332890420
-0.40	0.04098891	0.72185046692
-0.20	0.03247333	0.36413008772
0.00	0.02380515	
0.20	0.01498026	-0.37071362938
0.40	0.00599435	-0.74819097677
0.60	-0.00315701	-1.13261885370
0.80	-0.01247845	-1.52419101530
1.00	-0.02197474	-1.92310848570

Financial Costs

GROSS PROFIT RATIO

-1.00	0.36001819
-0.80	0.36001819
-0.60	0.36001819
-0.40	0.36001819
-0.20	0.36001819
0.00	0.36001819
0.20	0.36001819
0.40	0.36001819
0.60	0.36001819
0.80	0.36001819
1.00	0.36001819

Financial Costs

INVENTORY TURNOVER

-1.00	0.30089999	-0.04517467528
-0.80	0.30364339	-0.03646923741
-0.60	0.30643727	-0.02760359861
-0.40	0.30928305	-0.01857329567
-0.20	0.31218218	-0.00937369807
0.00	0.31513617	
0.20	0.31814660	0.00955278797
0.40	0.32121510	0.01928984776
0.60	0.32434336	0.02921656317
0.80	0.32753316	0.03933852977
1.00	0.33078632	0.04966156546

Financial Costs

RECEIVABLES TURNOVER RATIO

-1.00	1.12309224	0.04731197854
-0.80	1.11294517	0.03784958284
-0.60	1.10279811	0.02838718713
-0.40	1.09265104	0.01892479142
-0.20	1.08250398	0.00946239571
0.00	1.07235691	
0.20	1.06220985	-0.00946239571
0.40	1.05206278	-0.01892479142
0.60	1.04191572	-0.02838718713
0.80	1.03176865	-0.03784958283
1.00	1.02162158	-0.04731197854

Financial Costs

PAYABLES TURNOVER RATIO

-1.00	3.29648543
-0.80	3.29648543
-0.60	3.29648543
-0.40	3.29648543
-0.20	3.29648543
0.00	3.29648543
0.20	3.29648543
0.40	3.29648543
0.60	3.29648543
0.80	3.29648543
1.00	3.29648543

Other Revenues		
CURRENT RATIO		
-1.00	1.09461540	-0.00923355765
-0.80	1.09665568	-0.00738684612
-0.60	1.09869596	-0.00554013459
-0.40	1.10073623	-0.00369342306
-0.20	1.10277651	-0.00184671153
0.00	1.10481679	
0.20	1.10685707	0.00184671153
0.40	1.10889735	0.00369342306
0.60	1.11093762	0.00554013459
0.80	1.11297790	0.00738684612
1.00	1.11501818	0.00923355765
Other Revenues		
QUICK RATIO		
-1.00	0.46680066	-0.00923355764
-0.80	0.46767074	-0.00738684612
-0.60	0.46854082	-0.00554013459
-0.40	0.46941090	-0.00369342306
-0.20	0.47028098	-0.00184671153
0.00	0.47115106	
0.20	0.47202114	0.00184671153
0.40	0.47289122	0.00369342306
0.60	0.47376130	0.00554013459
0.80	0.47463138	0.00738684612
1.00	0.47550146	0.00923355765
Other Revenues		
DEBT RATIO		
-1.00	0.80751877	0.00881954232
-0.80	0.80609689	0.00704321028
-0.60	0.80468000	0.00527312278
-0.40	0.80326809	0.00350924695
-0.20	0.80186113	0.00175155017
0.00	0.80045908	
0.20	0.79906193	-0.00174543573
0.40	0.79766965	-0.00348478899
0.60	0.79628222	-0.00521809150
0.80	0.79489960	-0.00694537481
1.00	0.79352177	-0.00866667019
Other Revenues		
DEBT TO EQUITY RATIO		
-1.00	4.19531169	0.04582027127
-0.80	4.15721475	0.03632334789
-0.60	4.11980348	0.02699735236
-0.40	4.08305955	0.01783771125
-0.20	4.04696525	0.00884001283
0.00	4.01150351	
0.20	3.97665784	-0.00868643641
0.40	3.94241232	-0.01722326403
0.60	3.90875159	-0.02561431498
0.80	3.87566079	-0.03386329164
1.00	3.84312557	-0.04197377203



Other Revenues		
TIMES INTEREST EARNED		
-1.00	0.33625493	-0.36724980830
-0.80	0.37528757	-0.29379984664
-0.60	0.41432022	-0.22034988498
-0.40	0.45335286	-0.14689992332
-0.20	0.49238550	-0.07344996166
0.00	0.53141814	
0.20	0.57045078	0.07344996166
0.40	0.60948343	0.14689992332
0.60	0.64851607	0.22034988498
0.80	0.68754871	0.29379984664
1.00	0.72658135	0.36724980831

Other Revenues		
RETURN ON INVESTMENT		
-1.00	0.01519556	-0.36166924121
-0.80	0.01692961	-0.28882593047
-0.60	0.01865756	-0.21623869420
-0.40	0.02037944	-0.14390618447
-0.20	0.02209530	-0.07182706279
0.00	0.02380515	
0.20	0.02550904	0.07157632374
0.40	0.02720699	0.14290321910
0.60	0.02889903	0.21398198762
0.80	0.03058519	0.28481392179
1.00	0.03226551	0.35540030515

Other Revenues		
GROSS PROFIT RATIO		
-1.00	0.36001819	
-0.80	0.36001819	
-0.60	0.36001819	
-0.40	0.36001819	
-0.20	0.36001819	
0.00	0.36001819	
0.20	0.36001819	
0.40	0.36001819	
0.60	0.36001819	
0.80	0.36001819	
1.00	0.36001819	

Other Revenues		
INVENTORY TURNOVER		
-1.00	0.31807311	0.00931961081
-0.80	0.31748135	0.00744181768
-0.60	0.31689179	0.00557099867
-0.40	0.31630441	0.00370711500
-0.20	0.31571921	0.00185012818
0.00	0.31513617	
0.20	0.31455527	-0.00184330747
0.40	0.31397652	-0.00367983188
0.60	0.31339989	-0.00550961061
0.80	0.31282537	-0.00733268073
1.00	0.31225296	-0.00914907910

Other Revenues

RECEIVABLES TURNOVER RATIO

-1.00	1.06245524	-0.00923355765
-0.80	1.06443558	-0.00738684612
-0.60	1.06641591	-0.00554013459
-0.40	1.06839624	-0.00369342306
-0.20	1.07037658	-0.00184671153
0.00	1.07235691	
0.20	1.07433725	0.00184671153
0.40	1.07631758	0.00369342306
0.60	1.07829791	0.00554013459
0.80	1.08027825	0.00738684612
1.00	1.08225858	0.00923355765

Other Revenues

PAYABLES TURNOVER RATIO

-1.00	3.29648543
-0.80	3.29648543
-0.60	3.29648543
0.40	3.29648543
-0.20	3.29648543
0.00	3.29648543
0.20	3.29648543
0.40	3.29648543
0.60	3.29648543
0.80	3.29648543
1.00	3.29648543

Other Expenses		
CURRENT RATIO		
-1.00	1.13570128	0.02795439636
-0.80	1.12952438	0.02236351709
-0.60	1.12334748	0.01677263782
-0.40	1.11717058	0.01118175854
-0.20	1.11099369	0.00559087927
0.00	1.10481679	
0.20	1.09863989	-0.00559087927
0.40	1.09246300	-0.01118175854
0.60	1.08628610	-0.01677263782
0.80	1.08010920	-0.02236351709
1.00	1.07393230	-0.02795439636
Other Expenses		
QUICK RATIO		
-1.00	0.48432180	0.02795439636
-0.80	0.48168765	0.02236351709
-0.60	0.47905350	0.01677263782
-0.40	0.47641936	0.01118175855
-0.20	0.47378521	0.00559087927
0.00	0.47115106	
0.20	0.46851691	-0.00559087927
0.40	0.46588276	-0.01118175854
0.60	0.46324861	-0.01677263781
0.80	0.46061446	-0.02236351709
1.00	0.45798031	-0.02795439636
Other Expenses		
DEBT RATIO		
-1.00	0.77981919	-0.02578507472
-0.80	0.78386157	-0.02073499043
-0.60	0.78794609	-0.01563227660
-0.40	0.79207339	-0.01047610620
-0.20	0.79624416	-0.00526563477
0.00	0.80045908	
0.20	0.80471887	0.00532167881
0.40	0.80902424	0.01070030118
0.60	0.81337592	0.01613678601
0.80	0.81777467	0.02163207205
1.00	0.82222126	0.02718711849
Other Expenses		
DEBT TO EQUITY RATIO		
-1.00	3.54172180	-0.11710863606
-0.80	3.62666455	-0.09593384521
-0.60	3.71578186	-0.07371840645
-0.40	3.80938923	-0.05038367231
-0.20	3.90783476	-0.02584286539
0.00	4.01150351	
0.20	4.12082248	0.02725137249
0.40	4.23626656	0.05602962927
0.60	4.35836536	0.08646679515
0.80	4.48771137	0.11871056765
1.00	4.62496956	0.15292671381

Other Expenses		
TIMES INTEREST EARNED		
-1.00	1.12227055	1.11184086310
-0.80	1.00410007	0.88947269044
-0.60	0.88592959	0.66710451783
-0.40	0.76775910	0.44473634522
-0.20	0.64958862	0.22236817261
0.00	0.53141814	
0.20	0.41324766	-0.22236817261
0.40	0.29507718	-0.44473634522
0.60	0.17690670	-0.66710451783
0.80	0.05873622	-0.88947269045
1.00	-0.05943426	-1.11184086310
Other Expenses		
RETURN ON INVESTMENT		
-1.00	0.04897641	1.05738688860
-0.80	0.04404654	0.85029449228
-0.60	0.03906530	0.64104387889
-0.40	0.03403187	0.42960113384
-0.20	0.02894544	0.21593162826
0.00	0.02380515	
0.20	0.01861016	-0.21822986580
0.40	0.01335957	-0.43879485688
0.60	0.00805251	-0.66173265468
0.80	0.00268804	-0.88708175572
1.00	-0.00273477	-1.11488149390
Other Expenses		
GROSS PROFIT RATIO		
-1.00	0.36001819	
-0.80	0.36001819	
-0.60	0.36001819	
-0.40	0.36001819	
-0.20	0.36001819	
0.00	0.36001819	
0.20	0.36001819	
0.40	0.36001819	
0.60	0.36001819	
0.80	0.36001819	
1.00	0.36001819	
Other Expenses		
INVENTORY TURNOVER		
-1.00	0.30656629	-0.02719419894
-0.80	0.30824277	-0.02187433013
-0.60	0.30993769	-0.01649595710
-0.40	0.31165136	-0.01105810943
-0.20	0.31338407	-0.00555979513
0.00	0.31513617	
0.20	0.31690796	0.00562231294
0.40	0.31869979	0.01130820415
0.60	0.32051200	0.01705875819
0.80	0.32234493	0.02287508443
1.00	0.32419895	0.02875831777

Other Expenses

RECEIVABLES TURNOVER RATIO

-1.00	1.10233400	0.02795439636
-0.80	1.09633858	0.02236351709
-0.60	1.09034317	0.01677263782
-0.40	1.08434775	0.01118175854
-0.20	1.07835233	0.00559087927
0.00	1.07235691	
0.20	1.06636149	-0.00559087927
0.40	1.06036608	-0.01118175854
0.60	1.05437066	-0.01677263781
0.80	1.04837524	-0.02236351709
1.00	1.04237982	-0.02795439636

Other Expenses

PAYABLES TURNOVER RATIO

-1.00	3.29648543
-0.80	3.29648543
-0.60	3.29648543
-0.40	3.29648543
-0.20	3.29648543
0.00	3.29648543
0.20	3.29648543
0.40	3.29648543
0.60	3.29648543
0.80	3.29648543
1.00	3.29648543

APPENDIX 4

BALANCE SHEET OF  
ÖZKÖKLER A.Ş.

**BALANCE SHEET of OZKOKLER A.S.**  
**31.12.1992 (All the figures are in thousands)**

<b>ASSETS</b>	113,316,636
<b>CURRENT ASSETS</b>	99,639,717
Cash + Bank Accounts .....	: 1,715,963
Marketable Securities .....	: 9,456
Commerical Account Rec. ....	: 39,675,779
Receivables from Group Firms & Partners	: 3,750,000
Other Account Receivables .....	: 6,632,508
Finished Goods .....	: 32,543,166
Raw Materials .....	: 15,312,845
<b>OTHER ASSETS</b>	13,676,919
Land .....	:
Building .....	: 766,299
Machinery .....	: 3,037,002
Furnitures & Fixtures .....	: 4,061,525
Transportation Equipment .....	:
Other .....	:
Accumulated Depreciation .....	: -4,280,231
Investments .....	: 7,255,200
Participations .....	: 1,500,000
Patent .....	:
Prepaid Expenses .....	: 1,204,778
Other Long Term Assets .....	: 132,346
<b>LIABILITIES &amp; OWNERS' EQUITY</b>	113,316,636
<b>CURRENT LIABILITIES</b>	94,049,096
Short Term Bank Loans .....	: 39,327,190
Commerical Account Payables .....	: 52,394,168
Other Account Payables .....	: 2,255,809
Payables to Group Firms & Partners ....	: 71,929
<b>NON CURRENT LIABILITIES</b>	
Long Term Debt .....	:
<b>OWNERS' EQUITY</b>	19,267,540
Capital .....	: 15,000,000
Capital Payable .....	:
Increase in the Value of Assets .....	: 1,835,129
Spare Reserves .....	: 908,795
Net Income .....	: 1,523,616

**INCOME STATEMENT of OZKOKLER A.S.**  
31.12.1992 (All the figures are in thousands)

Sales .....	:	20,669,841
Cost of Goods Sold .....	:	14,177,992
<b>GROSS PROFIT</b>		<b>6,491,849</b>
Management Costs .....	:	372,700
Marketing Costs .....	:	
Financial Costs .....	:	3,475,019
<b>PROFIT FROM OPERATIONS</b>		<b>2,644,130</b>
Other Revenues .....	:	186,512
Other Expenses .....	:	1,307,025
<b>INCOME BEFORE TAX</b>		<b>1,523,617</b>
Income Tax .....	:	
<b>NET PROFIT</b>		<b>1,523,617</b>



APPENDIX 5

BALANCE SHEET OF  
ÖZÇEGAŞ A.Ş.

**BALANCE SHEET of OZCEGAS A.S.**  
**31.12.1992 (All the figures are in thousands)**

<b>ASSETS</b>	77,736,428
<b>CURRENT ASSETS</b>	67,993,560
Cash + Bank Accounts .....	: 587,794
Marketable Securities .....	:
Commerical Account Rec. ....	: 11,093,403
Receivables from Group Firms & Partners .....	: 1,395,339
Other Account Receivables .....	: 6,627,263
Finished Goods .....	: 20,521,475
Raw Materials .....	: 27,768,286
<b>OTHER ASSETS</b>	9,734,041
Land .....	: 115,000
Building .....	: 1,278,954
Machinery .....	: 18,405,741
Furnitures & Fixtures .....	: 912,300
Transportation Equipment .....	:
Other .....	:
Accumulated Depreciation .....	: -14,214,535
Investments .....	: 3,236,581
Participations .....	:
Patent .....	:
Prepaid Expenses .....	: 8,837
Other Long Term Assets .....	:
<b>LIABILITIES &amp; OWNERS' EQUITY</b>	77,736,438
<b>CURRENT LIABILITIES</b>	57,680,384
Short Term Bank Loans .....	: 7,687,803
Commerical Account Payables .....	: 47,486,146
Other Account Payables .....	: 2,506,435
Payables to Group Firms & Partners .....	:
<b>NON CURRENT LIABILITIES</b>	
Long Term Debt .....	:
<b>OWNERS' EQUITY</b>	20,056,054
Capital .....	: 10,000,000
Capital Payable .....	:
Increase in the Value of Assets .....	: 6,564,552
Spare Reserves .....	: 504,781
Net Income .....	: 2,986,721

**INCOME STATEMENT of OZCEGAS A.S.**  
**31.12.1992 (All the figures are in thousands)**

Sales .....	:	26,673,708
Cost of Goods Sold .....	:	16,121,018
<b>GROSS PROFIT</b>		<b>10,552,690</b>
Management Costs .....	:	308,522
Marketing Costs .....	:	
Financial Costs .....	:	5,016,110
<b>PROFIT FROM OPERATIONS</b>		<b>5,228,058</b>
Other Revenues .....	:	1,470,644
Other Expenses .....	:	3,707,979
<b>INCOME BEFORE TAX</b>		<b>2,986,721</b>
Income Tax .....	:	
<b>NET PROFIT</b>		<b>2,986,721</b>

APPENDIX 6

CONSOLIDATED BALANCE SHEET OF  
ÖZKÖKLER A.Ş. AND ÖZÇEĞAŞ A.Ş.

CONSOLIDATED BALANCE SHEET of OZKOKLER A.S. and OZCEGAS A.S. ( 31.12.1992 (All the figures are in thousands)

	OZKOKLER	OZCEGAS	CONSOLIDAT
<b>ASSETS</b>	113,316,636	77,736,428	189,553,0
<b>CURRENT ASSETS</b>	99,639,717	67,993,560	167,633,2
Cash + Bank Accounts ... :	1,715,963	587,794	2,303,7
Marketable Securities .. :	9,456		9,4
Commerical Account Rec. :	39,675,779	11,093,403	50,769,1
Receivables from			
Group Firms & Partners :	3,750,000	1,395,339	5,145,3
Other Account Receivables :	6,632,845	6,627,263	13,259,7
Finished Goods .....	32,543,166	20,521,475	53,064,6
Raw Materials .....	15,312,845	27,768,286	43,081,1
<b>OTHER ASSETS</b>	13,676,919	9,742,878	21,919,7
Land .....		115,000	115,0
Building .....	766,299	1,278,954	2,045,2
Machinery .....	3,037,002	18,405,741	21,442,7
Furnitures & Fixtures .. :	4,061,525	912,300	4,973,8
Transportation Equipment :			
Other .....			
Accumulated Depreciation :	-4,280,231	-14,214,535	-18,494,7
Investments .....	7,255,200	3,236,581	10,491,7
Participations .....	1,500,000		
Patent .....			
Prepaid Expenses .....	1,204,778	8,837	1,213,6
Other Long Term Assets .. :	132,346		132,3

CONSOLIDATED BALANCE SHEET of OZKOKLER A.S. and OZCEGAS A.S. ( 31.12.1992 (All the figures are in thousands)

	OZKOKLER	OZCEGAS	CONSOLIDAT
<b>LIABILITIES &amp; O.E.</b>	113,316,636	77,736,438	189,553,0
<b>CURRENT LIABILITIES</b>	94,049,096	57,680,344	151,729,4
Short Term Bank Loans ... :	39,327,190	7,687,803	47,014,9
Commerical Account Paybl. :	52,394,168	47,486,146	99,880,2
Other Account Payables :	2,255,809	2,506,435	4,762,3
Payables to Group			
Firms & Partners ... :	71,929		71,9
 <b>NON CURRENT LIABILITIES</b>			
Long Term Debt .....			
 <b>OWNERS' EQUITY</b>	19,267,540	20,056,054	37,823,5
Capital .....	15,000,000	10,000,000	23,500,0
Capital Payable .....			
Increase in the			
Value of Assets :	1,835,129	6,564,552	8,399,6
Spare Reserves .....	908,795	504,781	1,413,5
Net Income .....	1,523,616	2,986,721	4,510,3

**CONSOLIDATED INCOME STATEMENT of OZKOKLER A.S. and OZCEGAS A.S.**  
**31.12.1992 (All the figures are in thousands)**

	<u>OZKOKLER</u>	<u>OZCEGAS</u>	<u>CONSOLIDAT</u>
Sales .....	20,669,841	26,673,708	47,343,5
Cost of Goods Sold .....	14,177,992	16,121,018	30,299,0
<b>GROSS PROFIT</b>	<b>6,491,849</b>	<b>10,552,690</b>	<b>17,044,5</b>
Management Costs .....	372,700	308,522	681,2
Marketing Costs .....			
Financial Costs .....	3,475,019	5,016,110	8,491,1
<b>PROFIT FROM OPERATIONS</b>	<b>2,644,130</b>	<b>5,228,058</b>	<b>7,872,1</b>
Other Revenues .....	186,512	1,470,644	1,657,1
Other Expenses .....	1,307,025	3,707,979	5,017,0
<b>INCOME BEFORE TAX</b>	<b>1,523,617</b>	<b>2,988,722</b>	<b>4,510,3</b>
Income Tax .....			
<b>NET PROFIT</b>	<b>1,523,617</b>	<b>2,986,721</b>	<b>4,510,3</b>

APPENDIX 7

FINANCIAL RATIOS OF THE CONSOLIDATED  
STATEMENTS OF  
ÖZKÖKLER A.Ş. AND ÖZÇEĞAŞ A.Ş.



CONSOLIDATED OZKOKLER-OZCEGAS

RATIO ANALYSIS

CURRENT RATIO .....	:	1.1048168
QUICK RATIO .....	:	0.4711511
DEBT RATIO .....	:	0.8004591
DEBT TO EQUITY RATIO .....	:	4.0115035
TIMES INTEREST EARNED .....	:	0.5314181
RETURN ON INVESTMENT .....	:	0.0238052
GROSS PROFIT RATIO .....	:	0.3600182
INVENTORY TURNOVER .....	:	0.3151362
RECEIVABLES TURNOVER .....	:	1.0723569
PAYABLES TURNOVER RATIO .....	:	3.2964854

## APPENDIX 8

### FINANCIAL RATIOS OF THE CONSTRUCTION SECTOR OF 1991

THE CONSTRUCTION SECTOR 1991

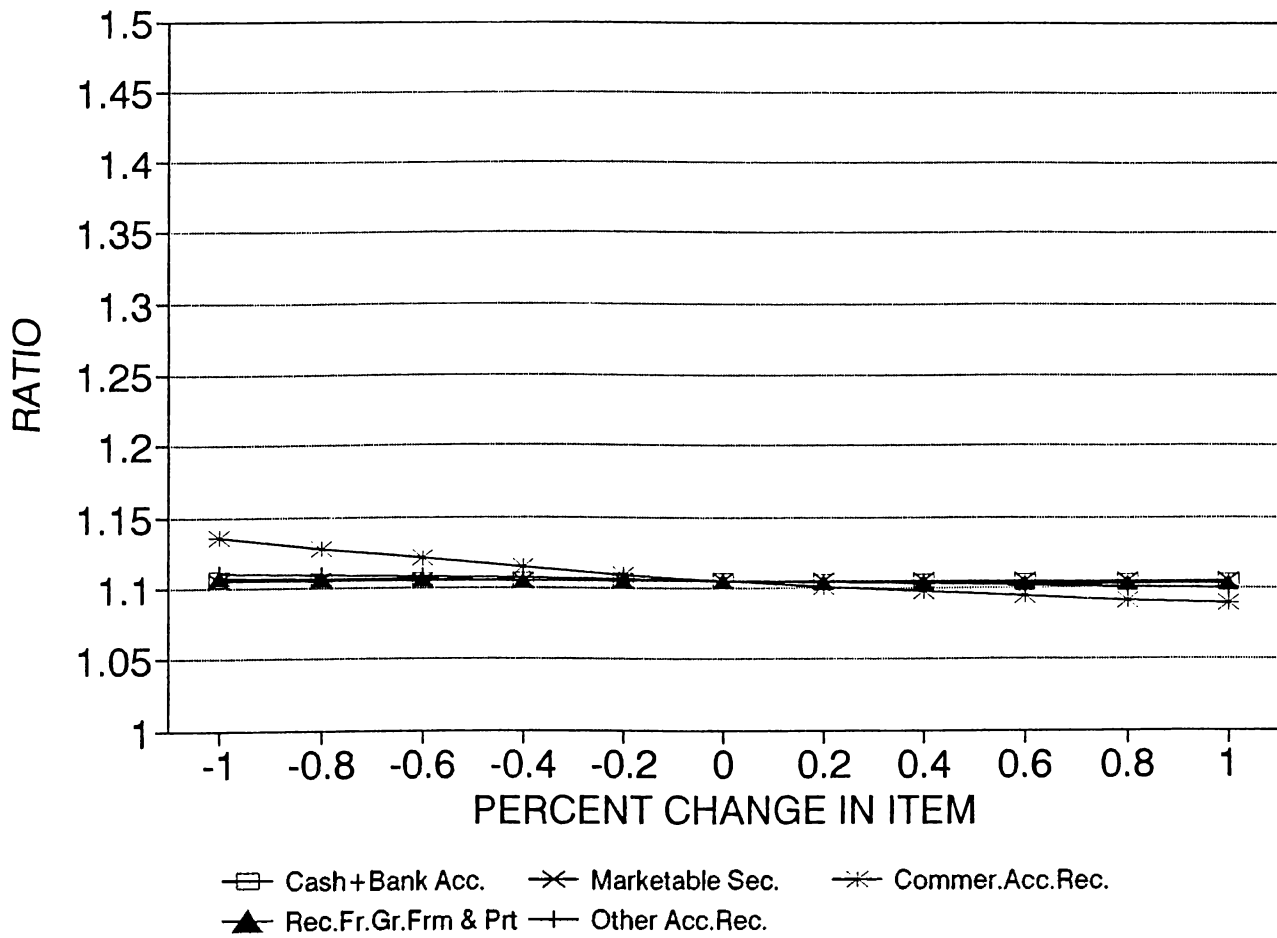
RATIO ANALYSIS

CURRENT RATIO .....	:	0.9478259
QUICK RATIO .....	:	0.8940800
DEBT RATIO .....	:	0.8839401
DEBT TO EQUITY RATIO .....	:	6.1288258
TIMES INTEREST EARNED .....	:	2.4702169
RETURN ON INVESTMENT .....	:	0.0102389
GROSS PROFIT RATIO .....	:	0.0713992
INVENTORY TURNOVER .....	:	3.7545935
RECEIVABLES TURNOVER .....	:	3.5826780
PAYABLES TURNOVER RATIO .....	:	3.6787031

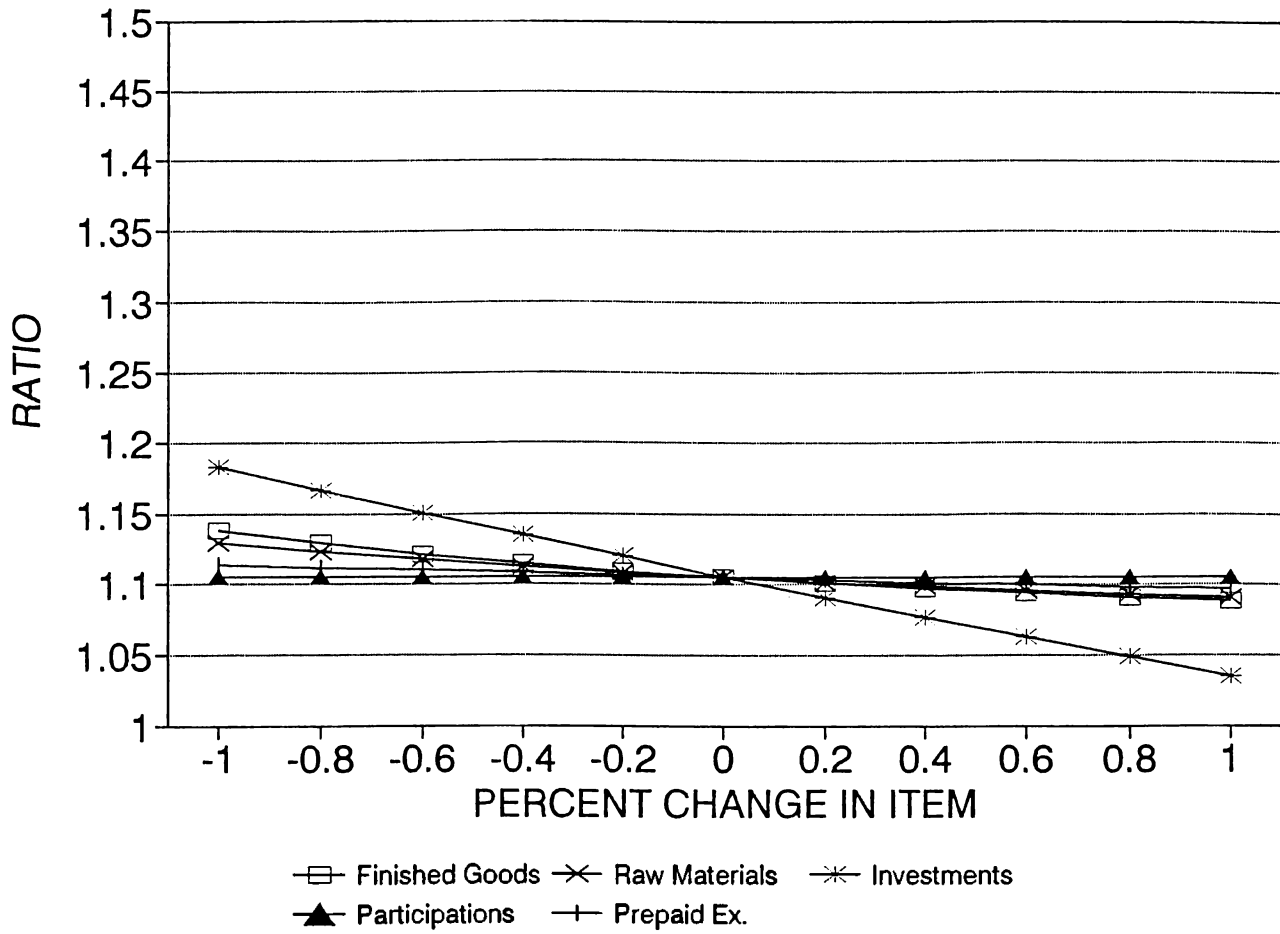
## APPENDIX 9

### GRAPHICAL PRESENTATION OF THE SENSITIVITY ANALYSIS RESULTS

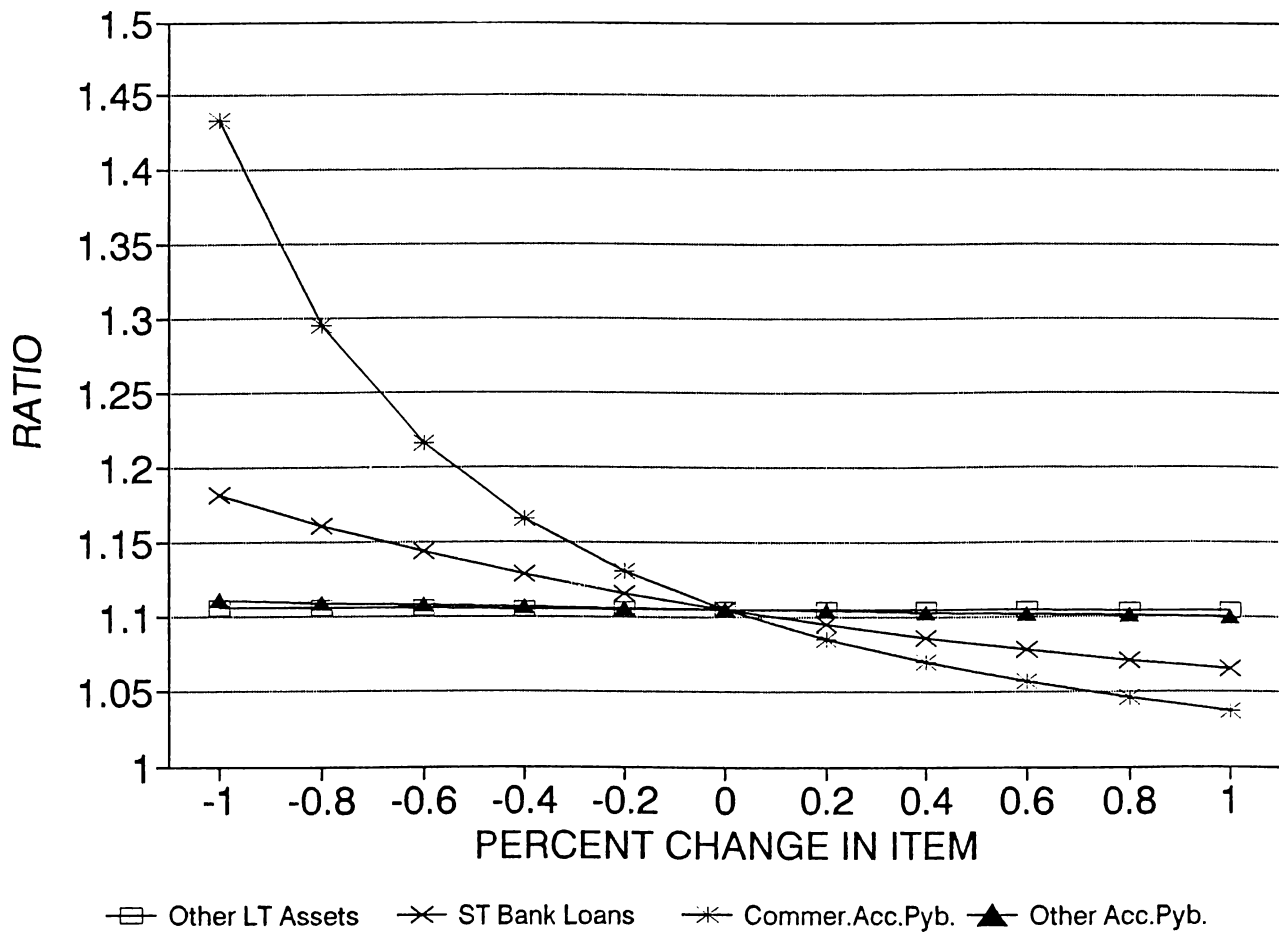
CURRENT RATIO  
GRAPH # 1



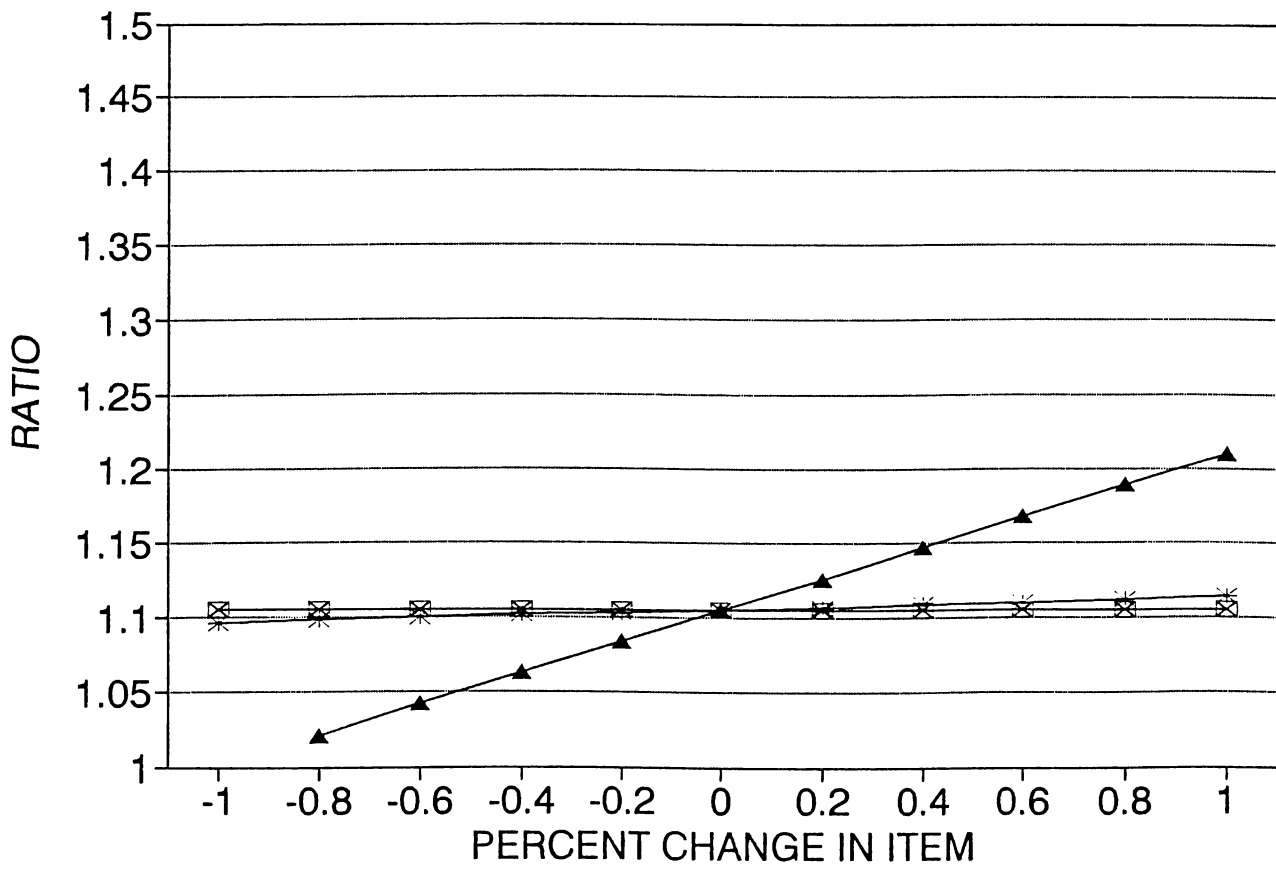
CURRENT RATIO  
GRAPH # 2



CURRENT RATIO  
GRAPH # 3



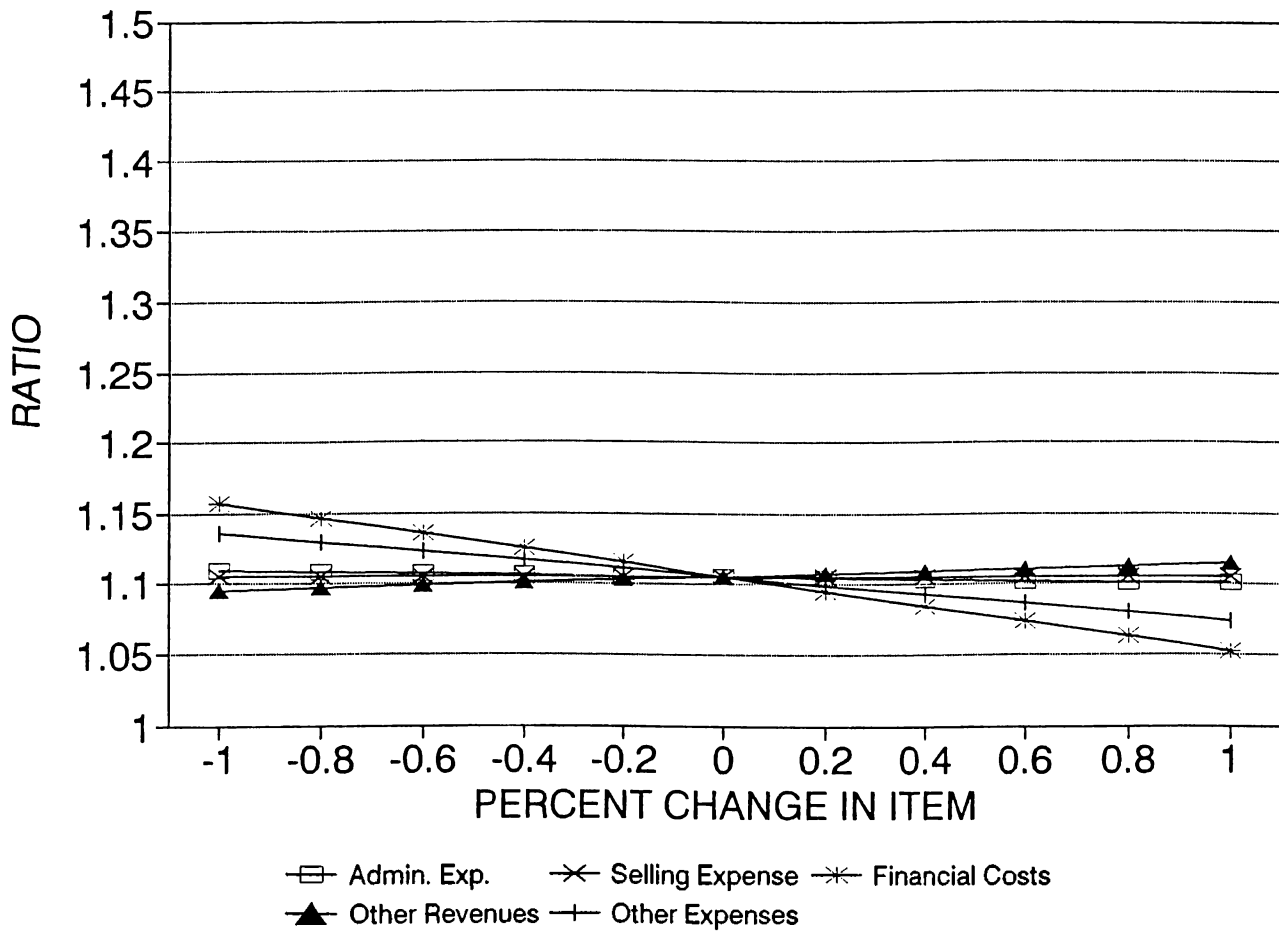
CURRENT RATIO  
GRAPH # 4



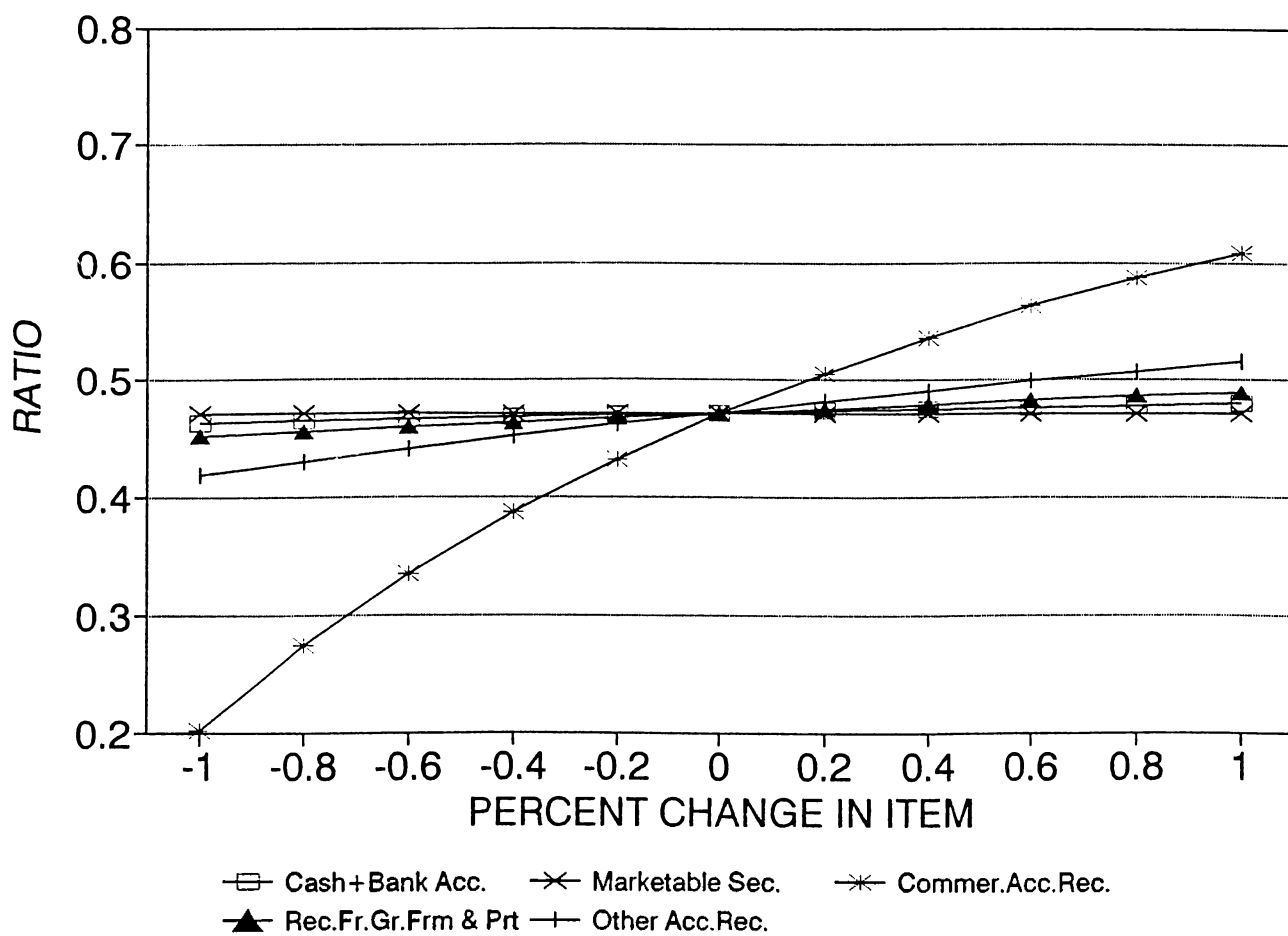
Pbl.to Grp.Frm.& Pr  
 \* LT Debt  
 x Spare Reserves  
 ▲ Gross Profit



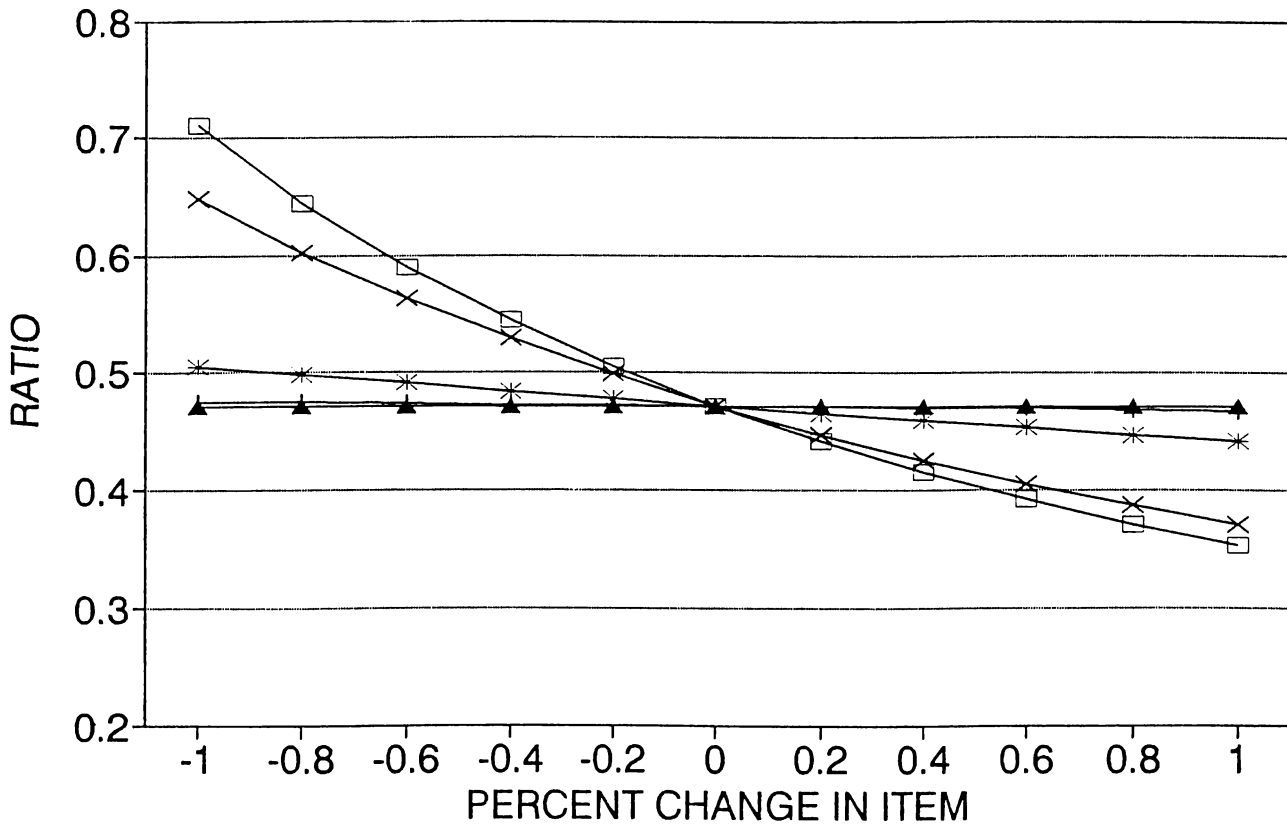
CURRENT RATIO  
GRAPH # 5



### QUICK RATIO GRAPH # 1

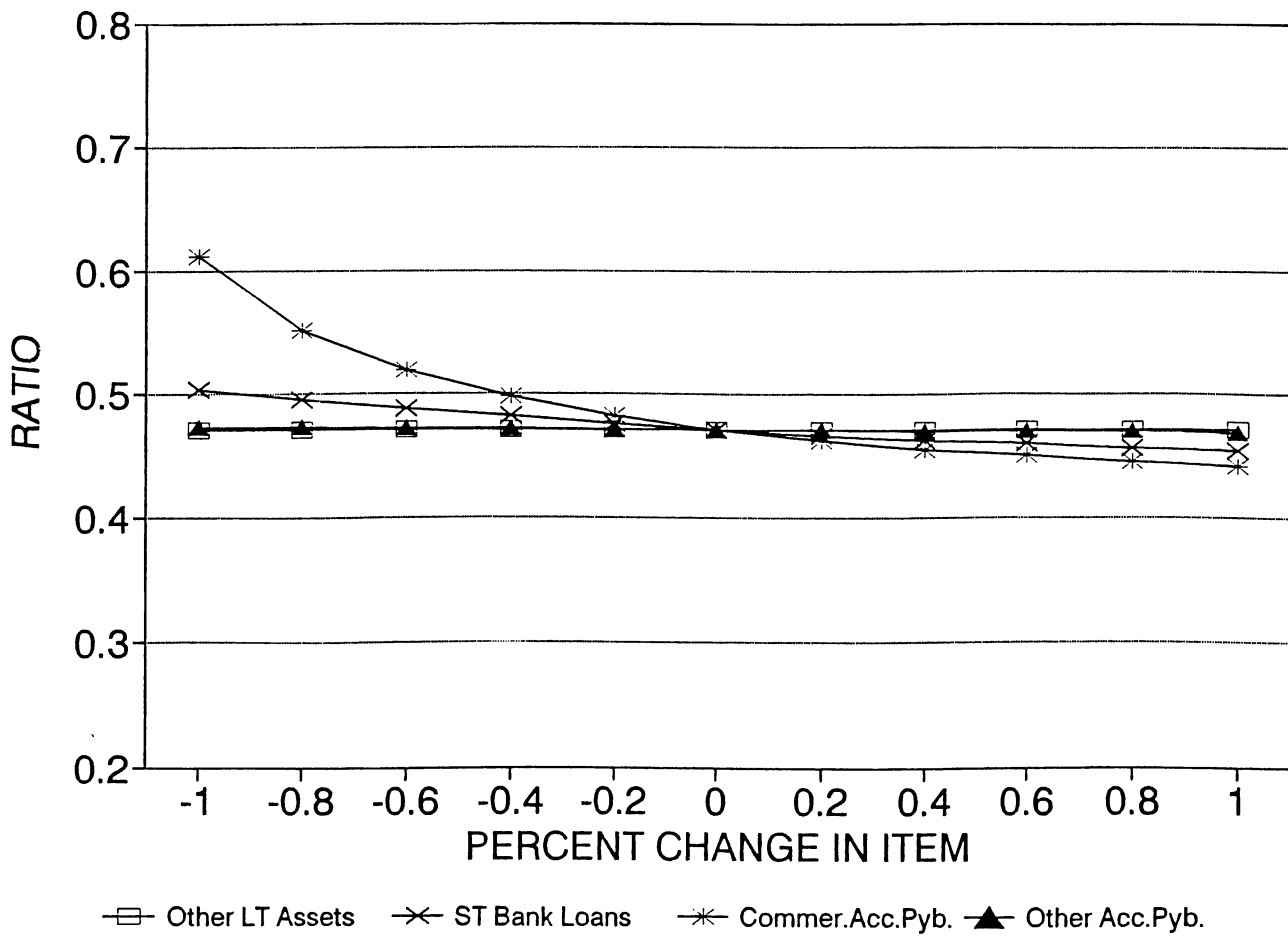


QUICK RATIO  
GRAPH # 2

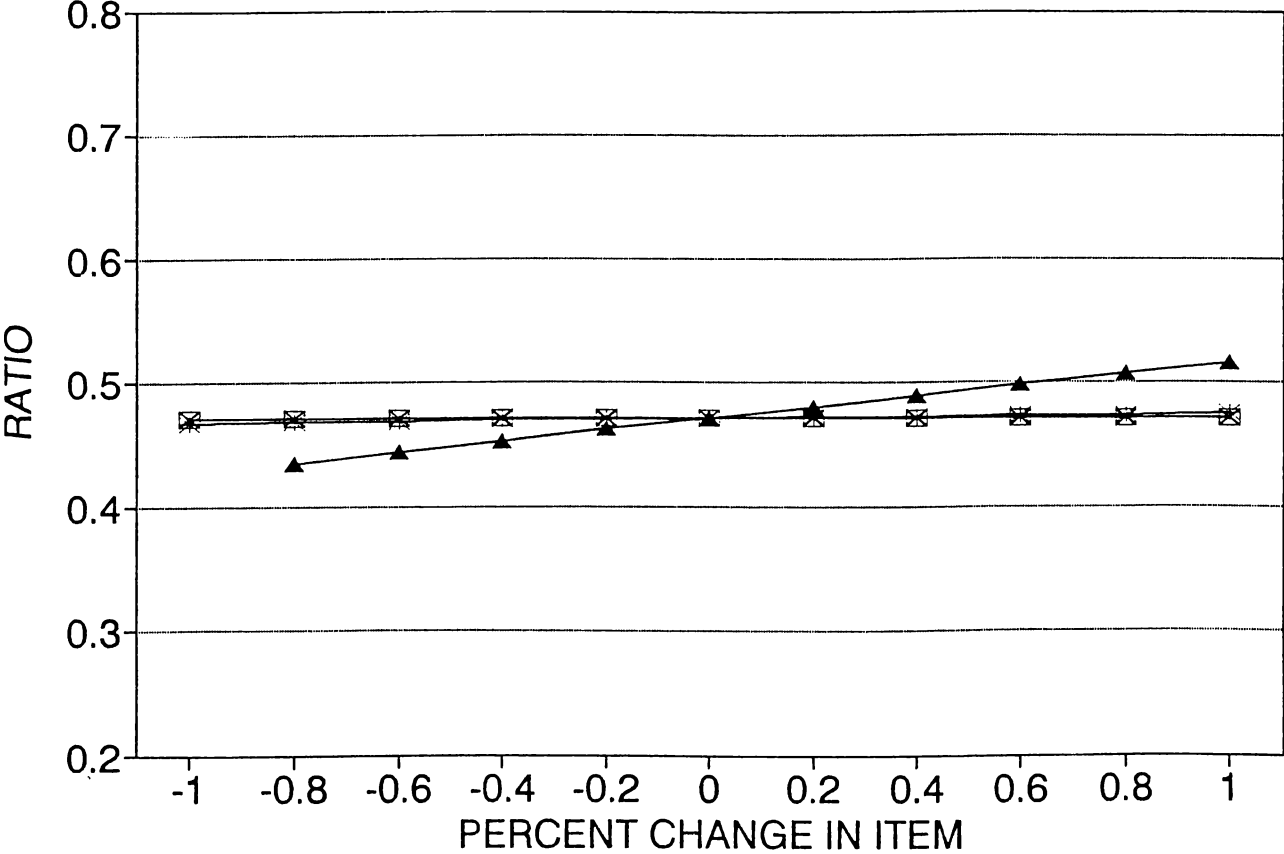


□ Finished Goods    × Raw Materials    \* Investments  
 ▲ Participations    + Prepaid Ex.

QUICK RATIO  
GRAPH # 3

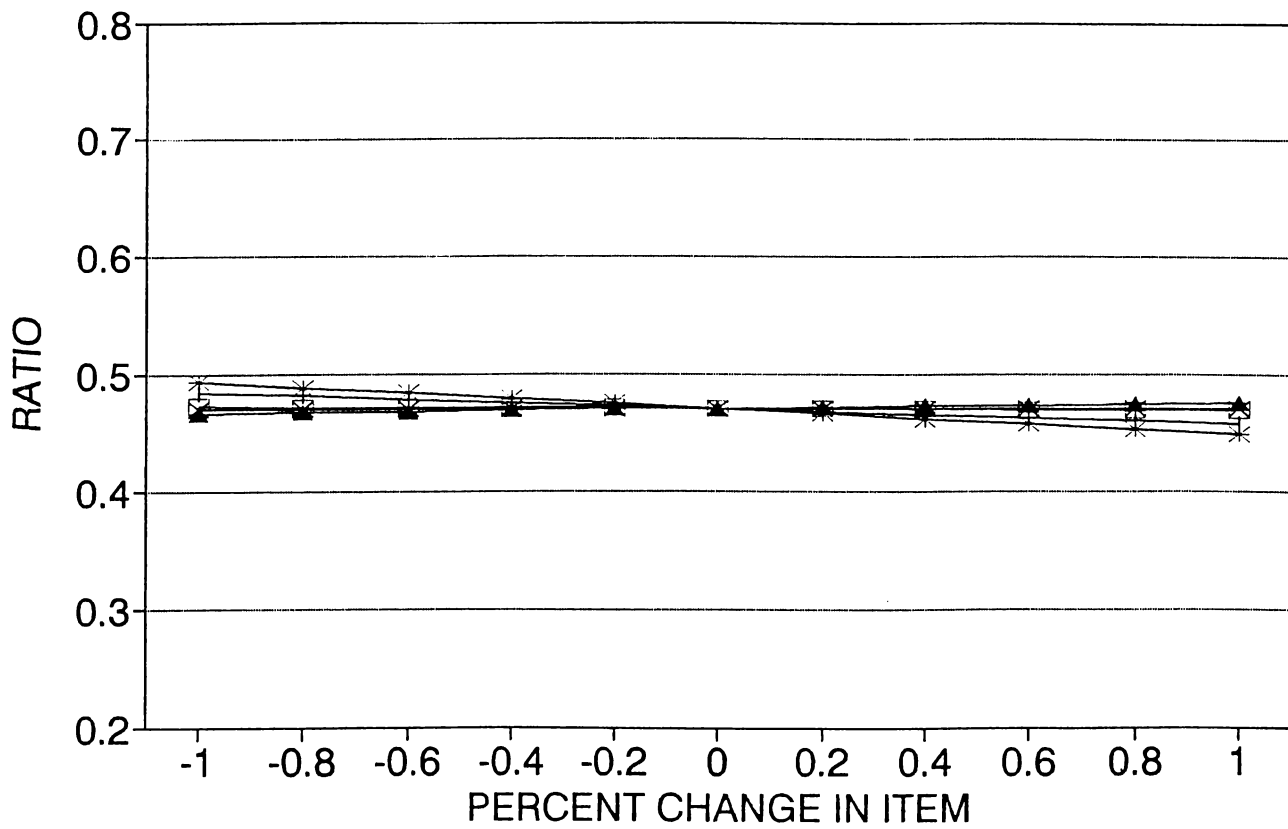


QUICK RATIO  
GRAPH # 4



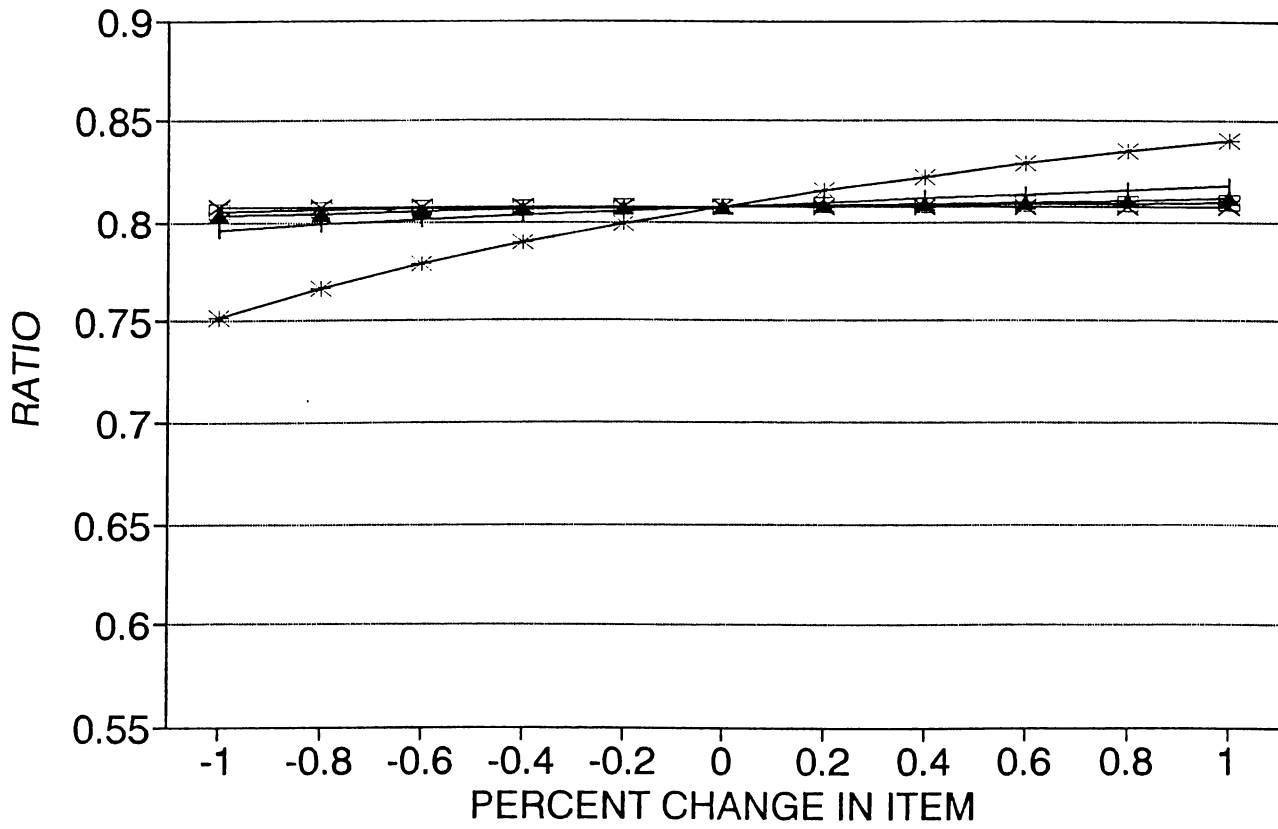
Pbl.to Grp.Frm.& Pr
  LT Debt
  Spare Reserves
  Gross Profit

### QUICK RATIO GRAPH # 5



Administ. Cost    Selling Expense    Financial Cost  
Other Revenues    Other Expenses

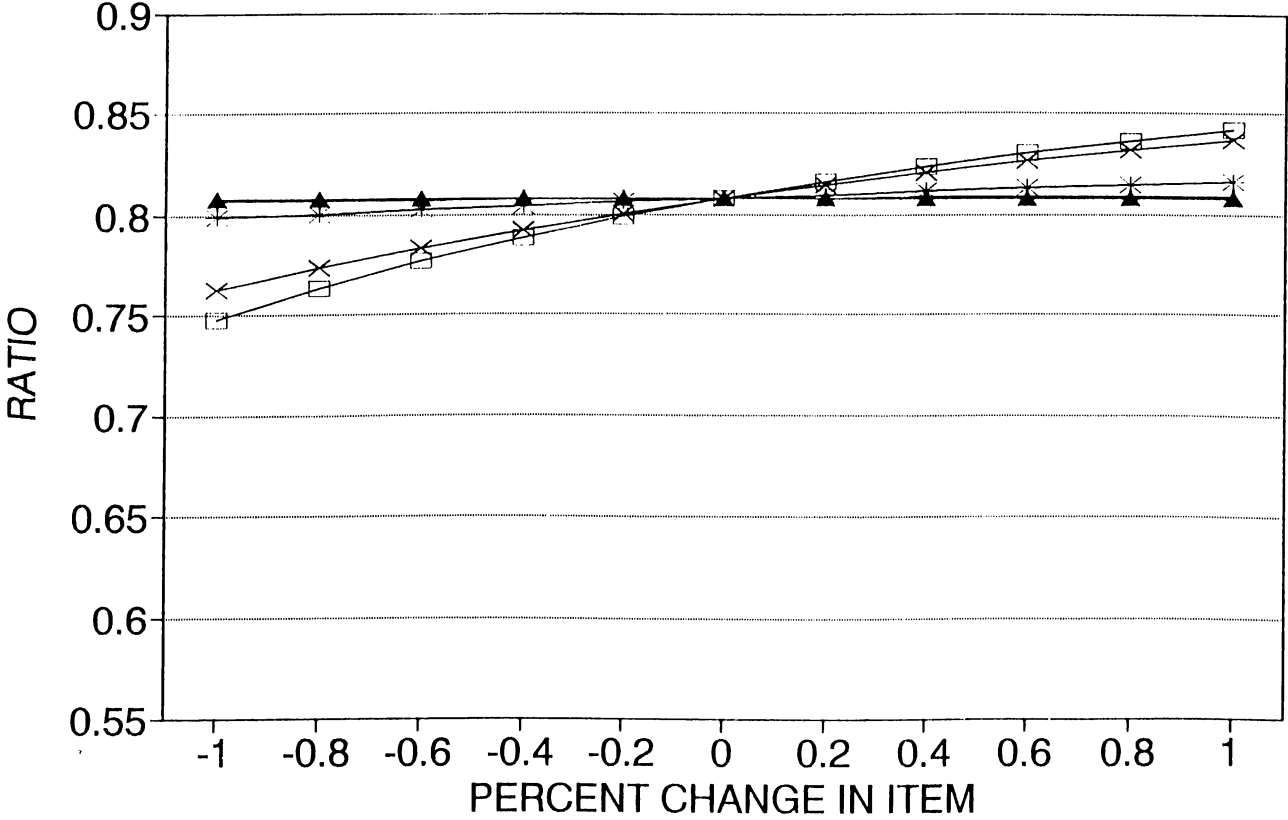
DEBT RATIO  
GRAPH # 1



Cash+Bank Acc.   
x
 Marketable Sec.   
x
 Commer.Acc.Rec.

▲
 Rec.Fr.Gr.Frm & Prt   
+
 Other Acc.Rec.

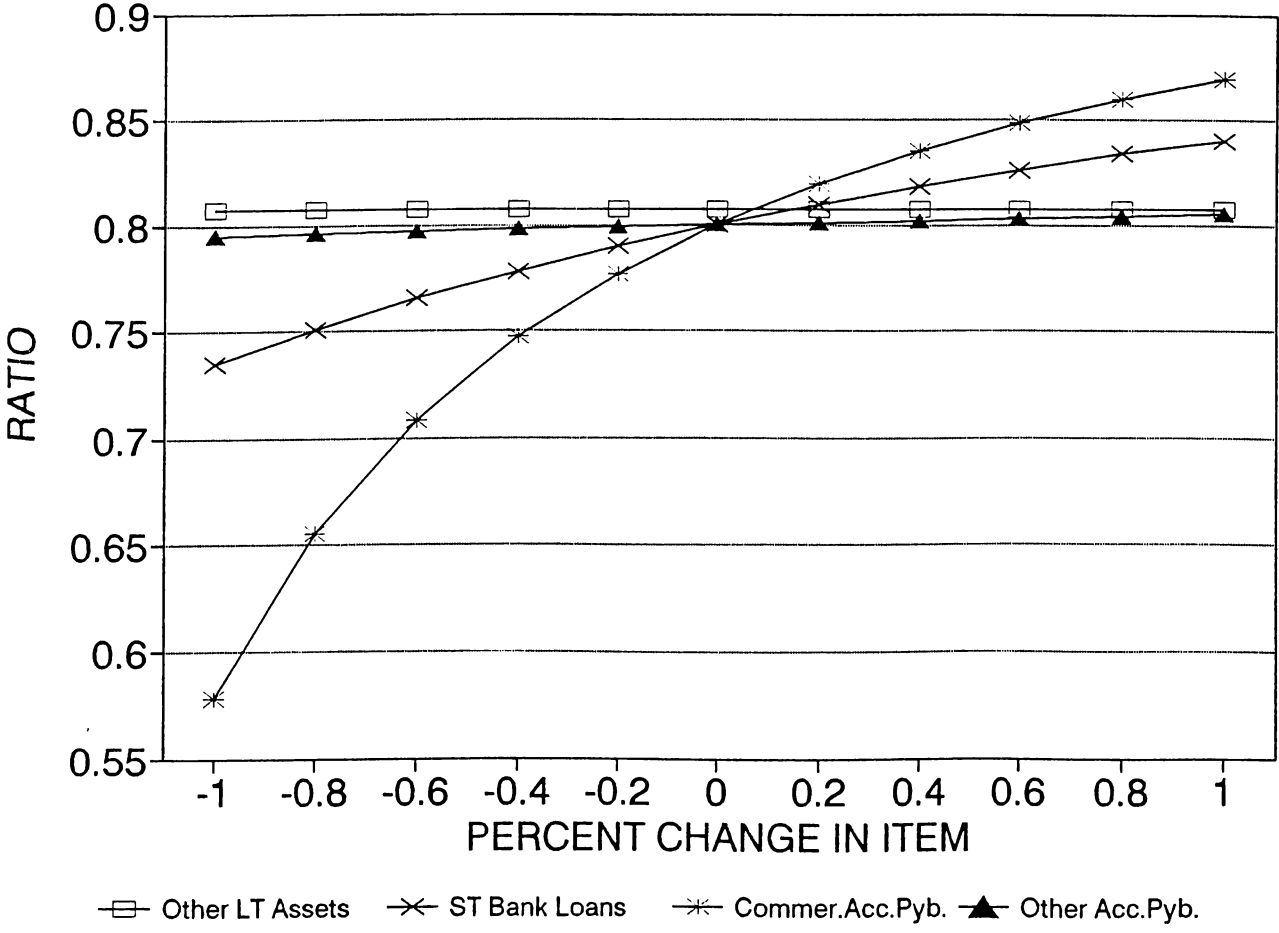
DEBT RATIO  
GRAPH # 2



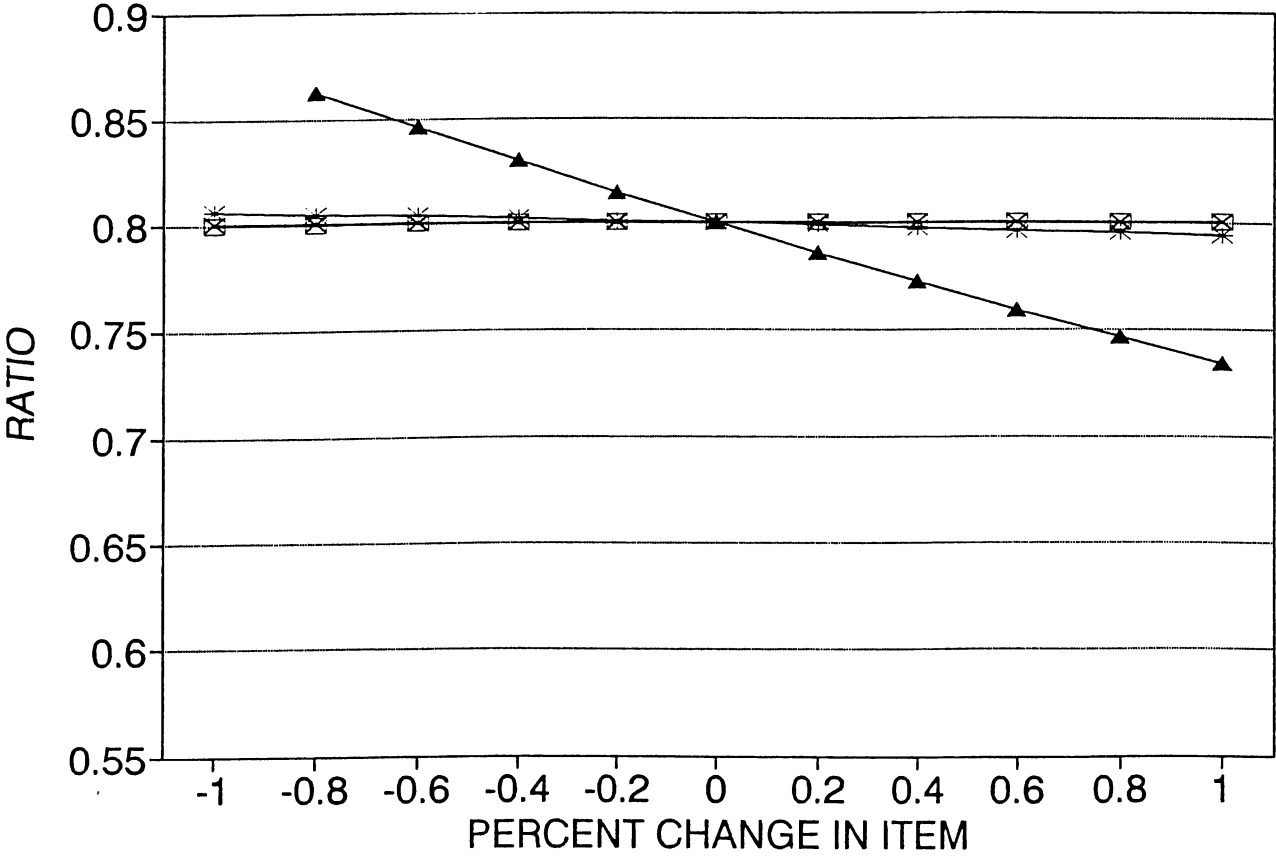
Finished Goods  
 Raw Materials  
 Investments  
 Participations  
 Prepaid Ex.



DEBT RATIO  
GRAPH # 3

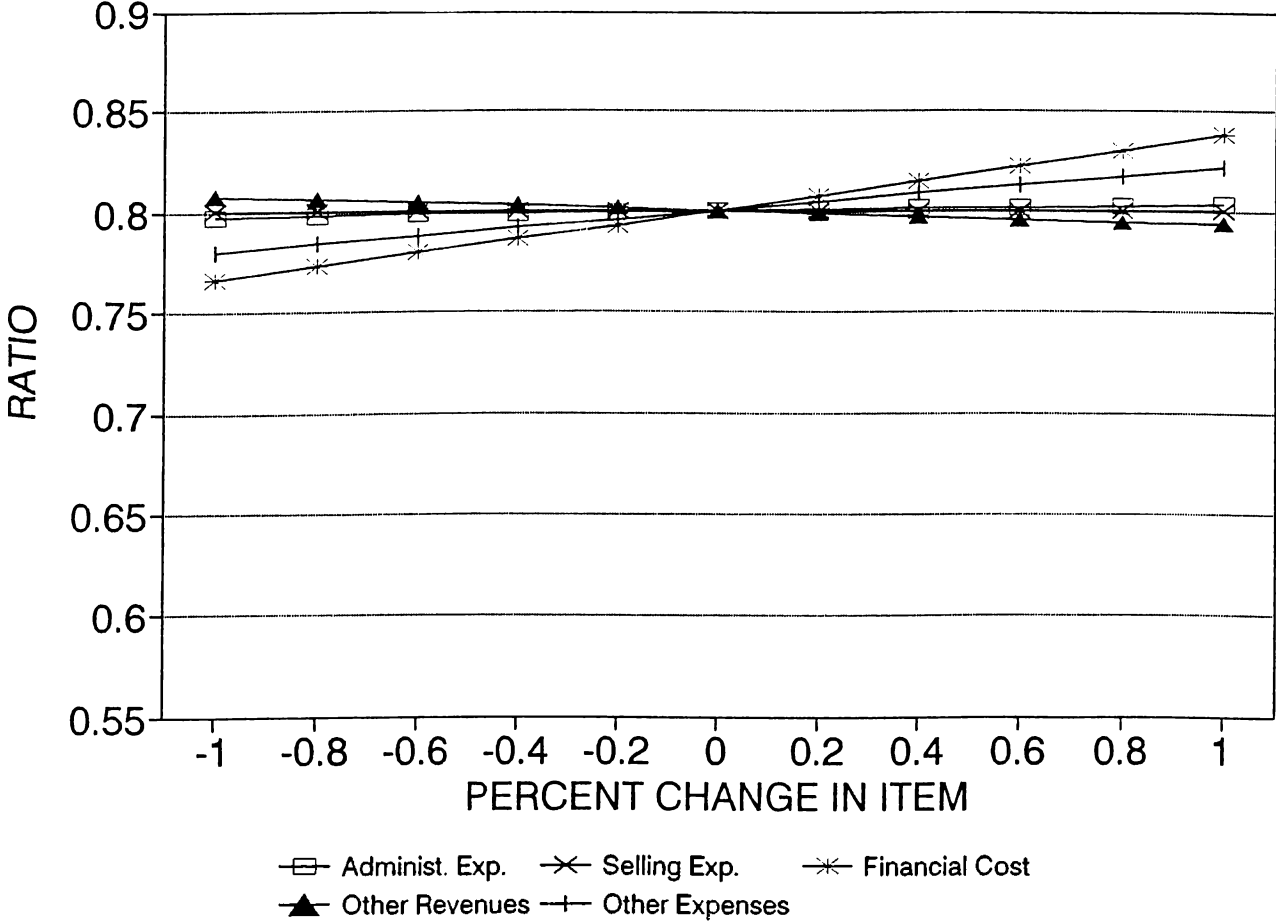


DEBT RATIO  
GRAPH # 4

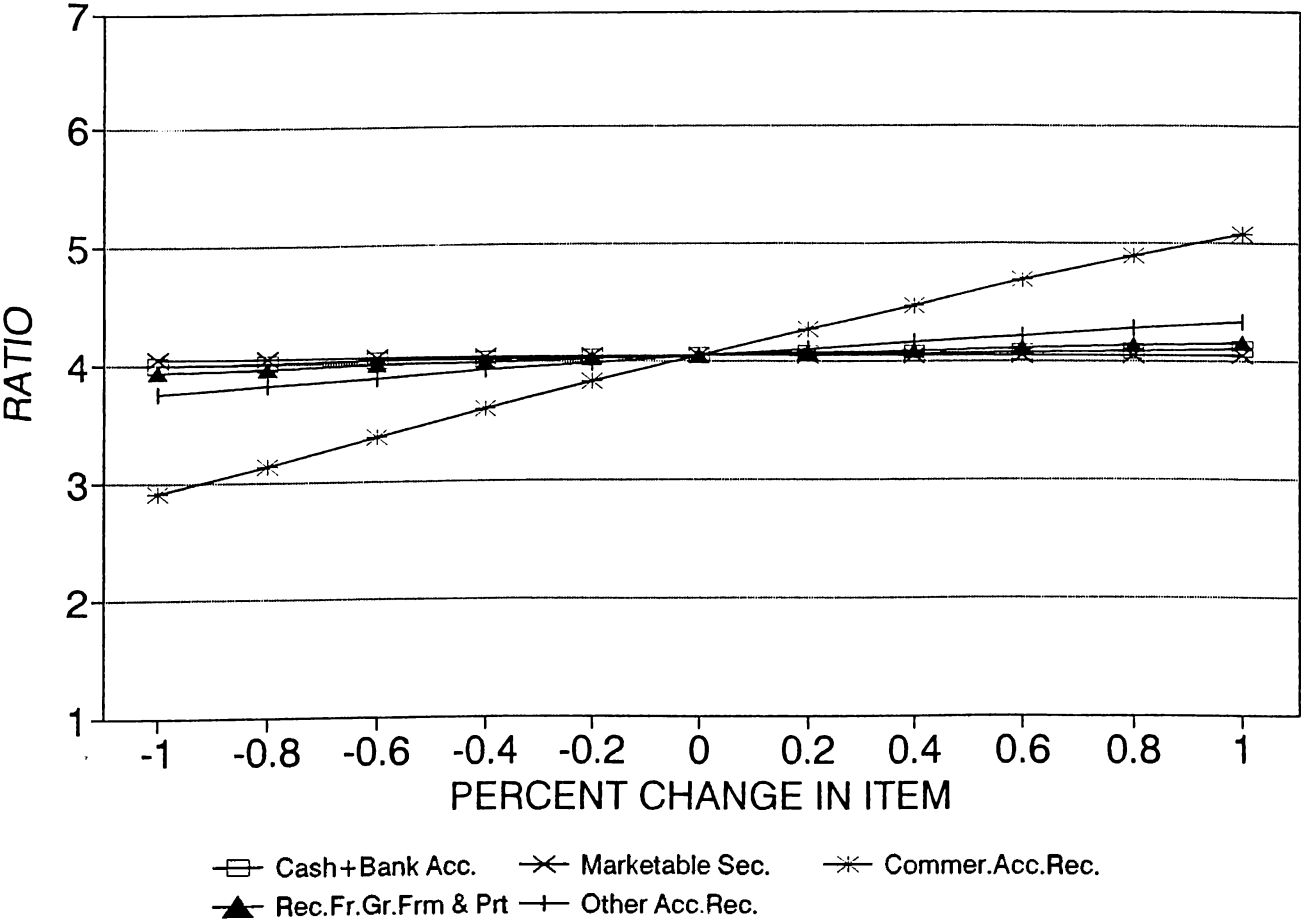


□ Pbl.to Grp.Frm.& Pr    ✕ LT Debt    \* Spare Reserves    ▲ Gross Profit

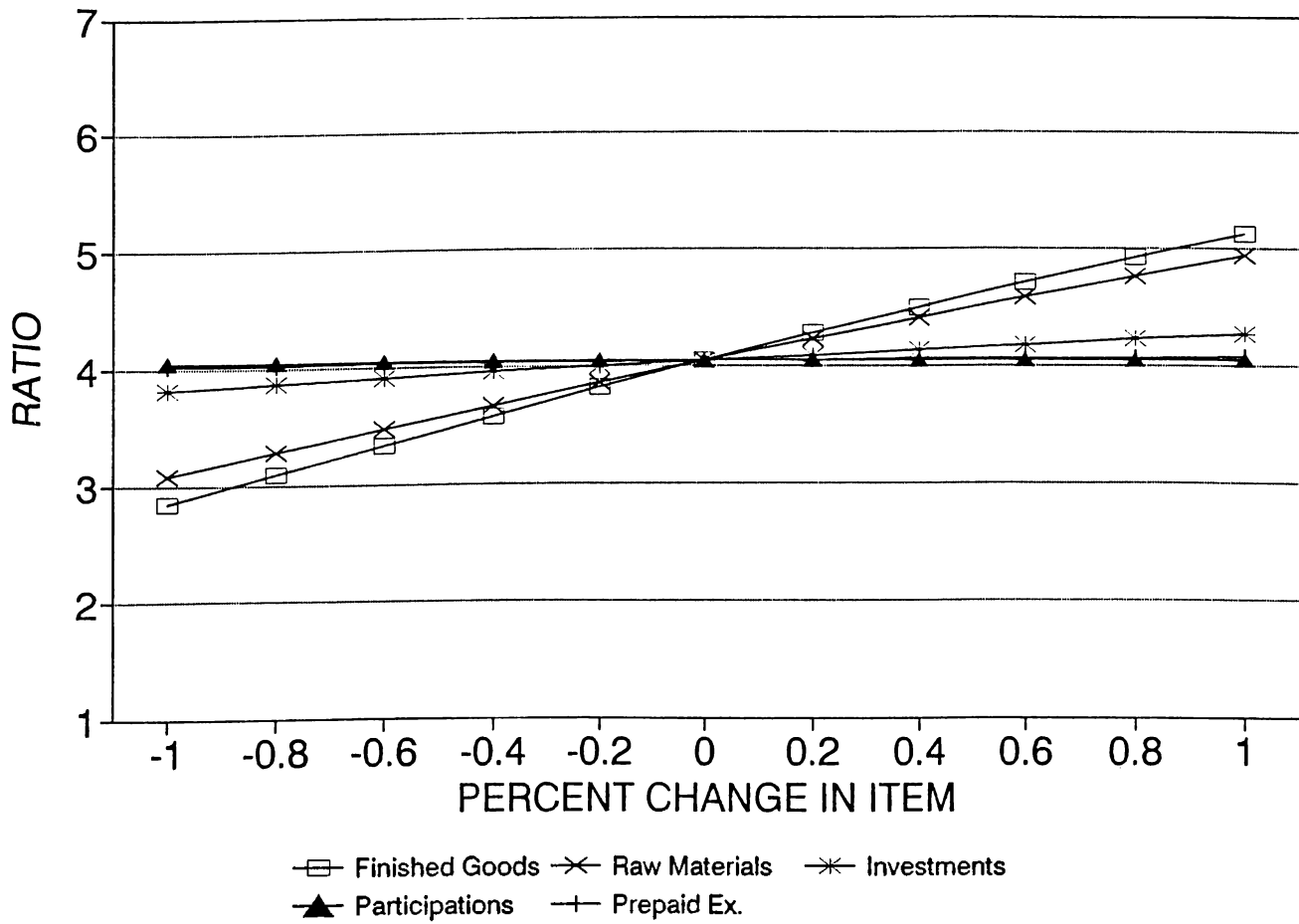
DEBT RATIO  
GRAPH # 5



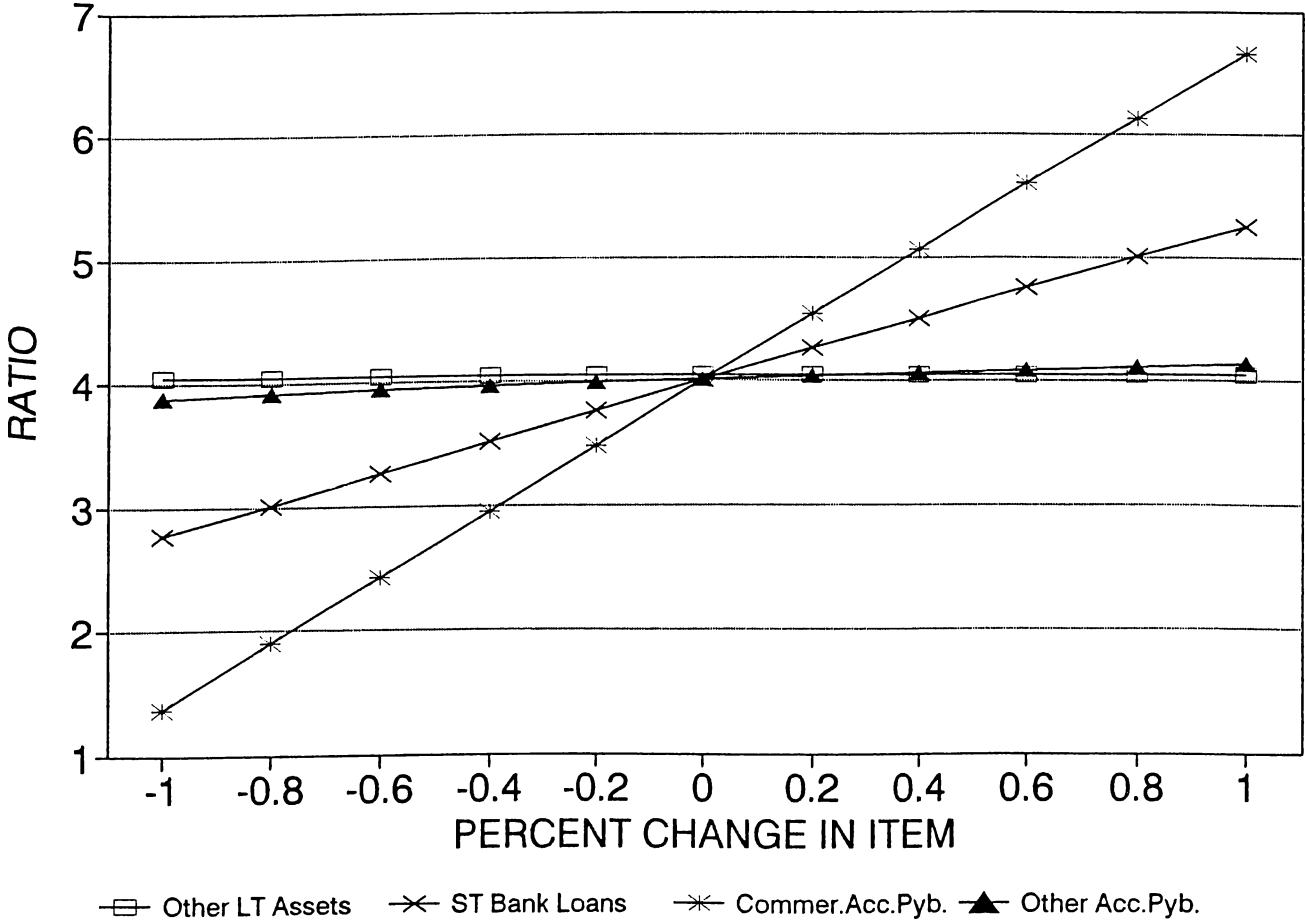
### DEBT TO EQUITY RATIO GRAPH # 1



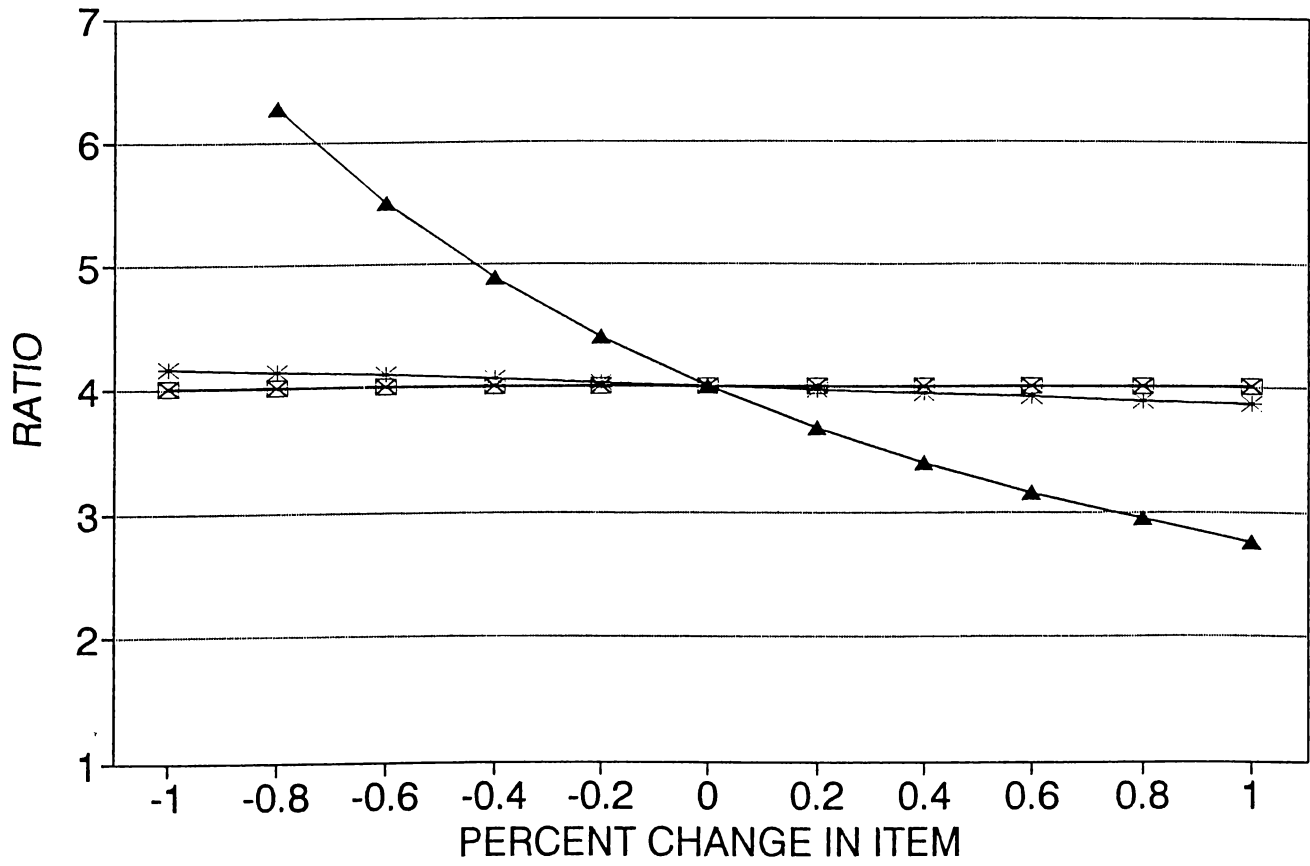
DEBT TO EQUITY RATIO  
GRAPH # 2



DEBT TO EQUITY RATIO  
GRAPH # 3

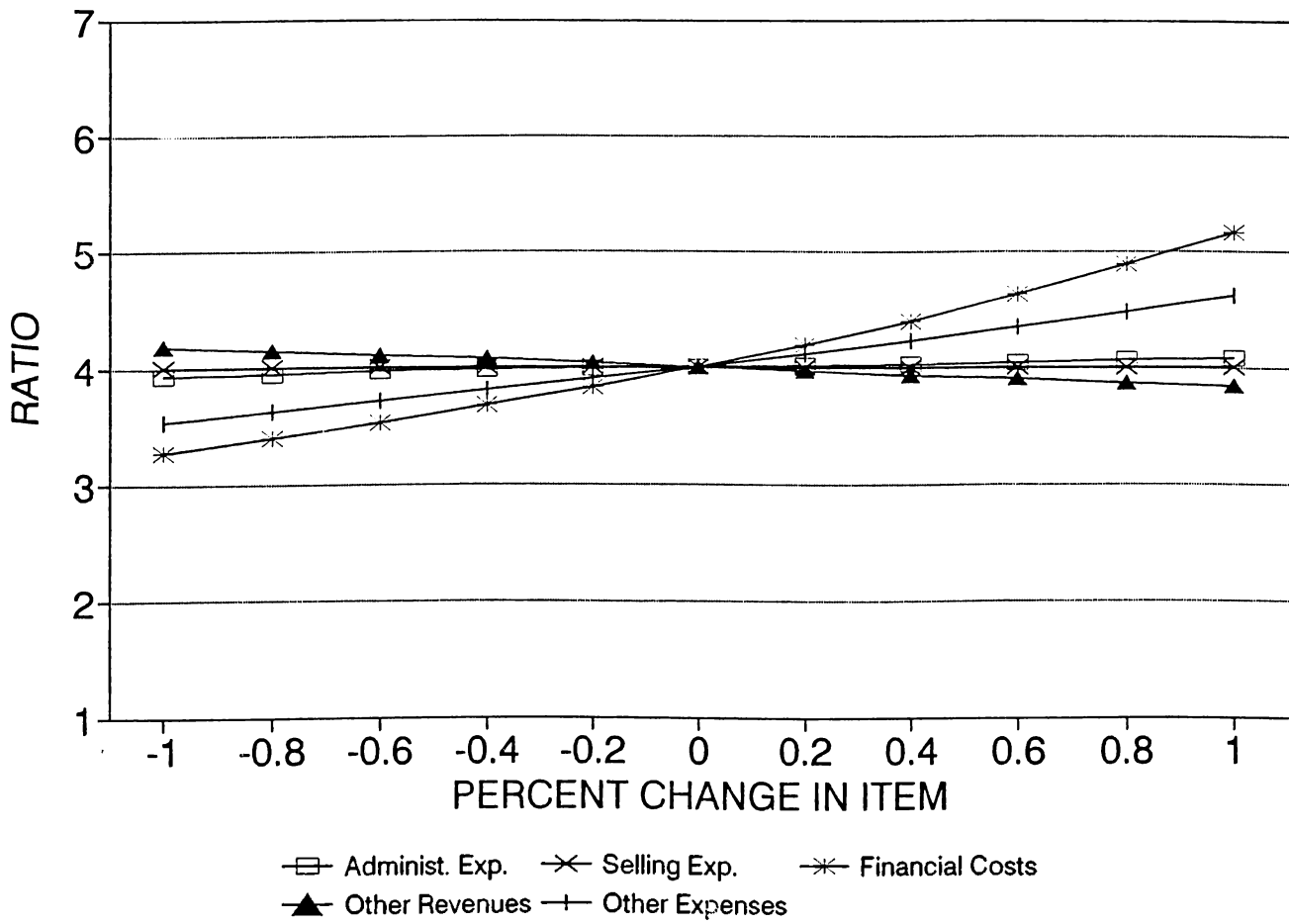


DEBT TO EQUITY RATIO  
GRAPH # 4



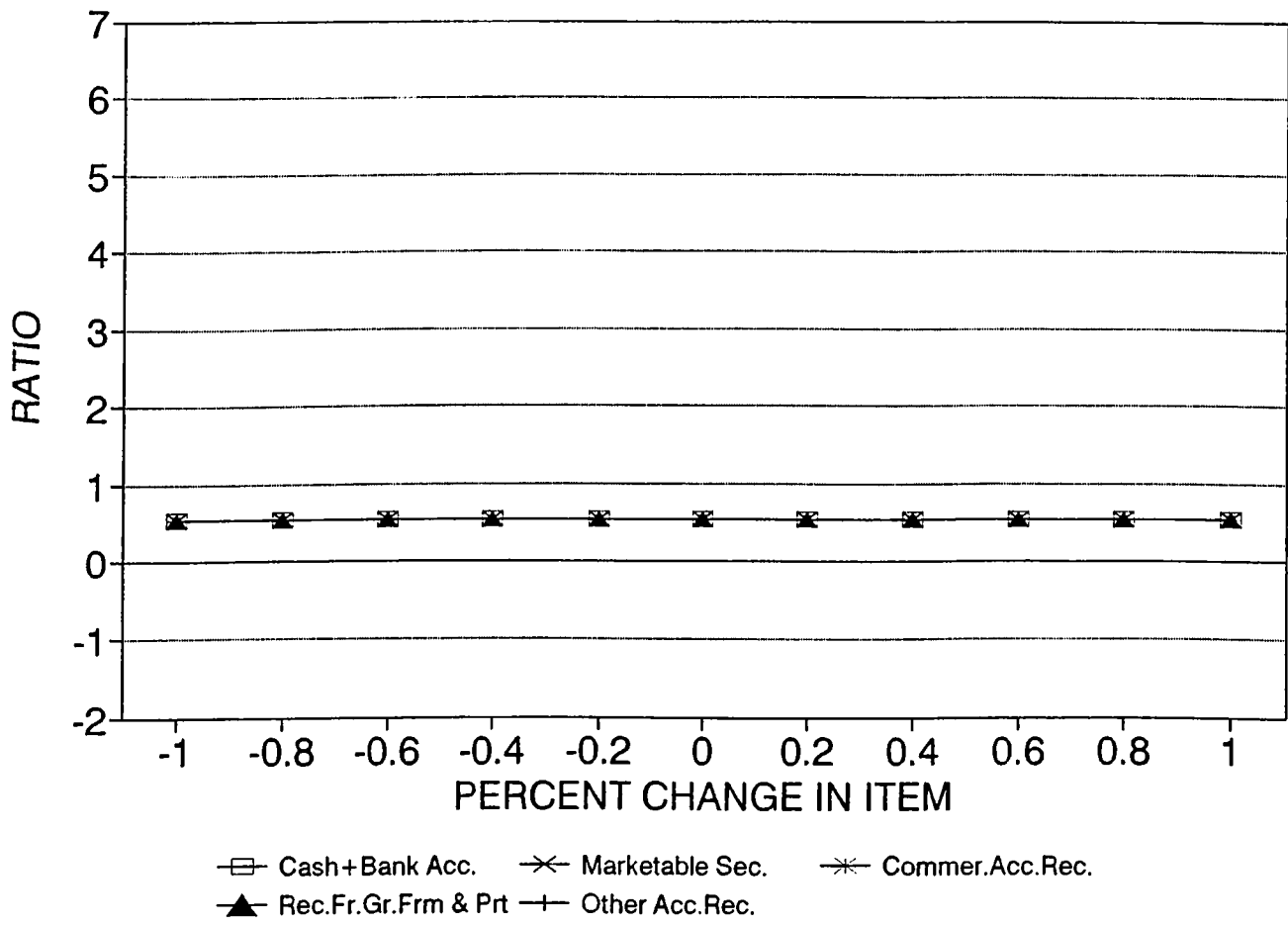
Pbl.to Grp.Frm.& Pr
  LT Debt
  Spare Reserves
  Gross Profit

DEBT TO EQUITY RATIO  
GRAPH # 5

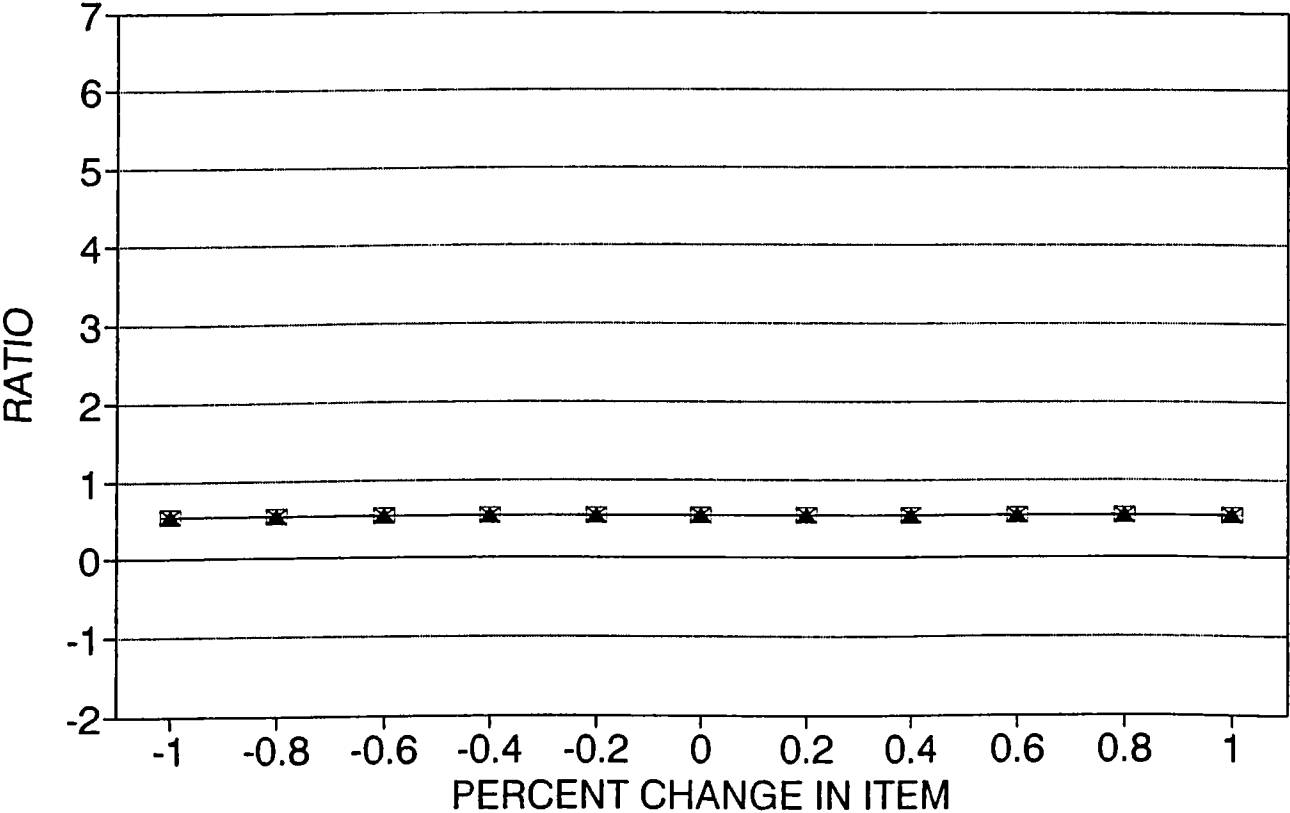




### TIMES INTEREST EARNED GRAPH # 1

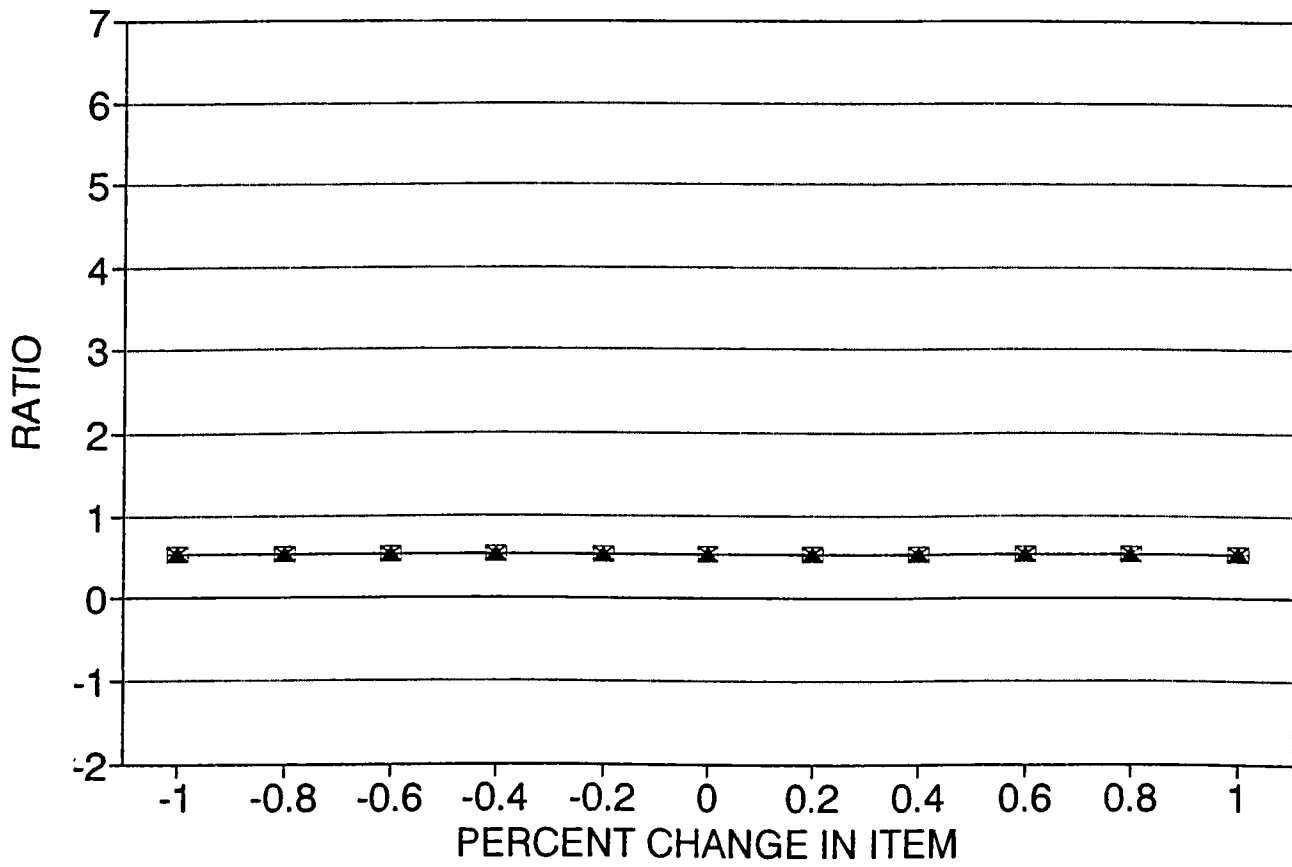


TIMES INTEREST EARNED  
GRAPH # 2



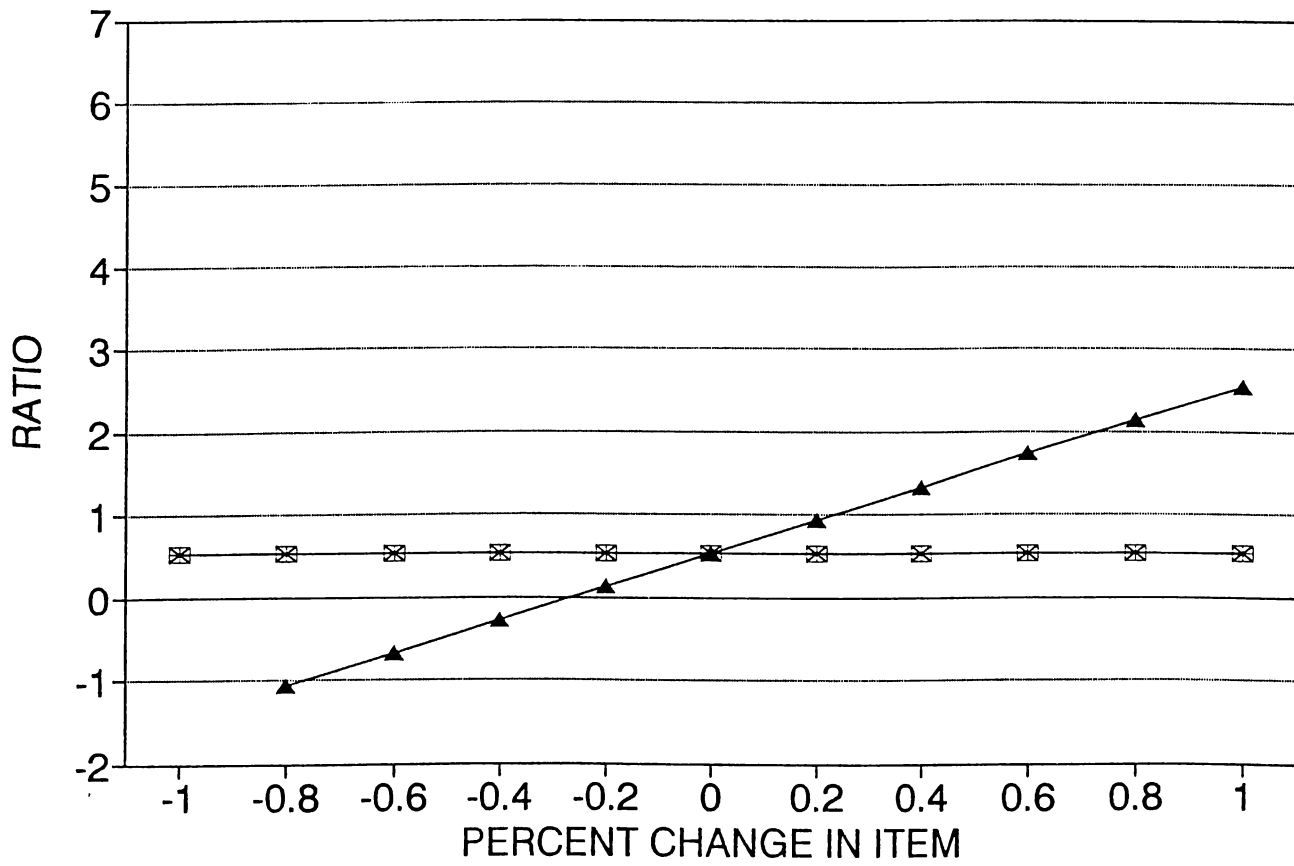
Finished Goods    Raw Materials    Investments  
Participations    Prepaid Ex.

TIMES INTEREST EARNED  
GRAPH # 3



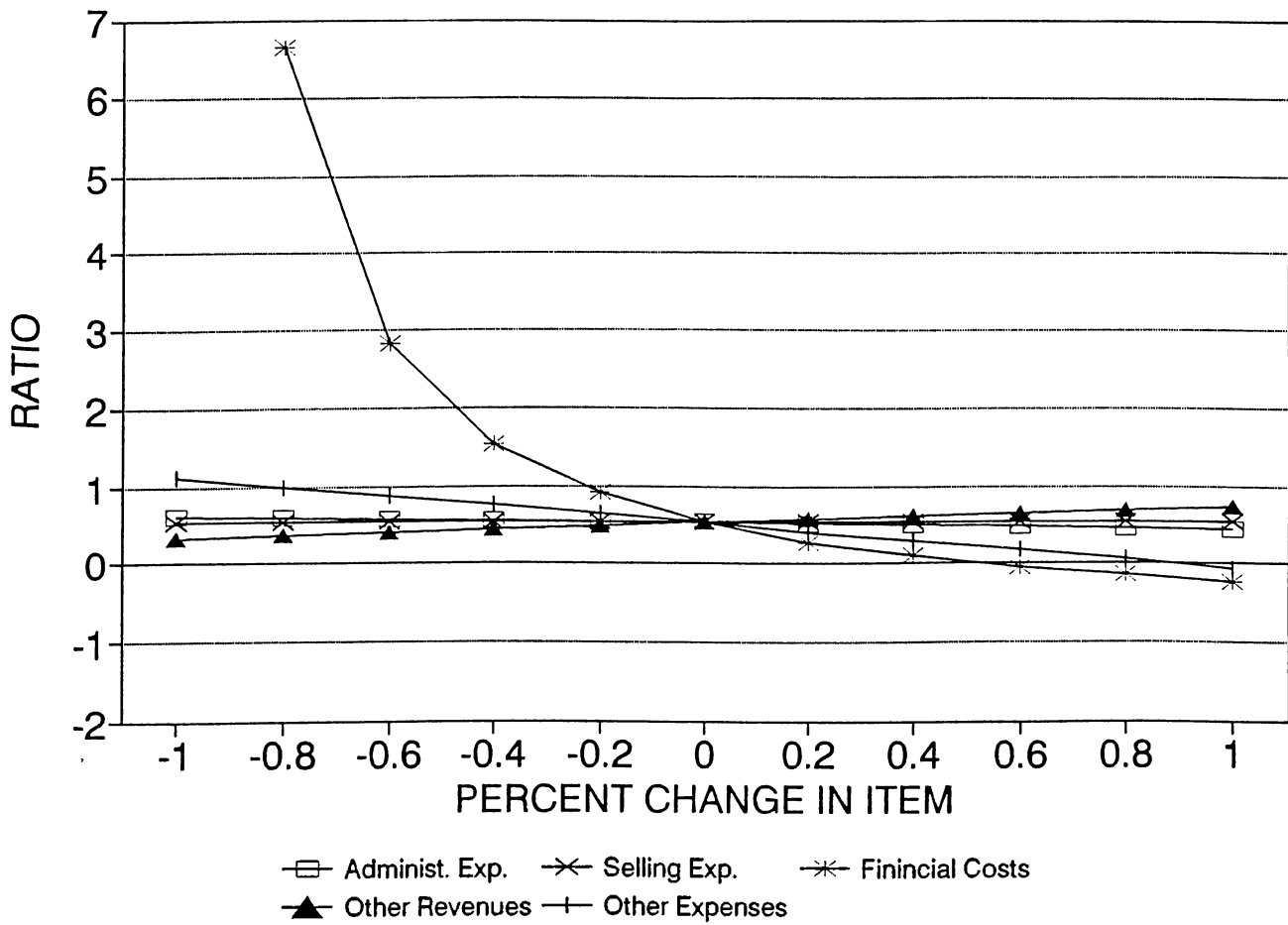
Other LT Assets    ST Bank Loans    Commer. Acc. Pyb.    Other Acc. Pyb.

TIMES INTEREST EARNED  
GRAPH # 4

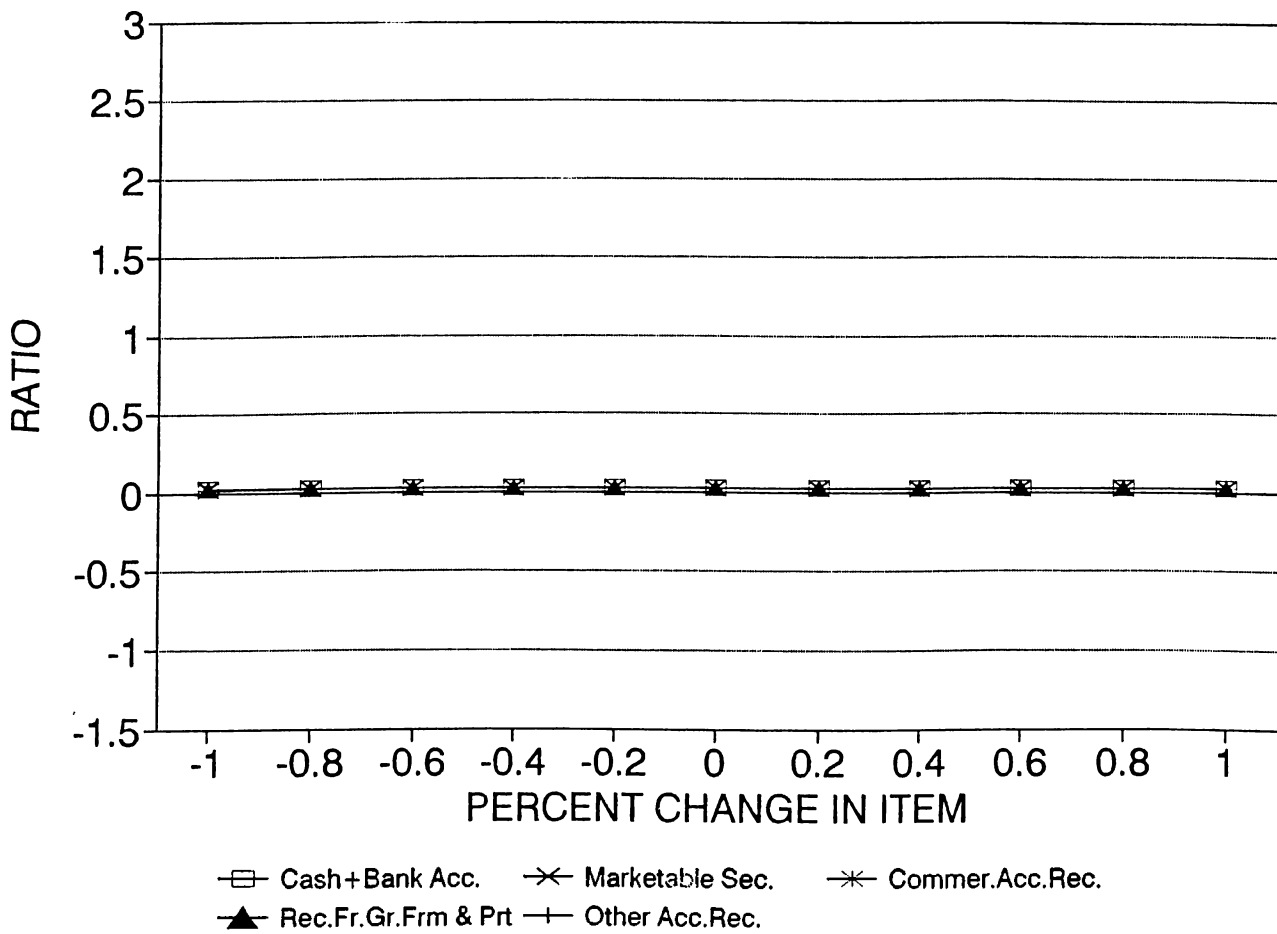


Pbl.to Grp.Frm.& Pr
  LT Debt
  Spare Reserves
  Gross Profit

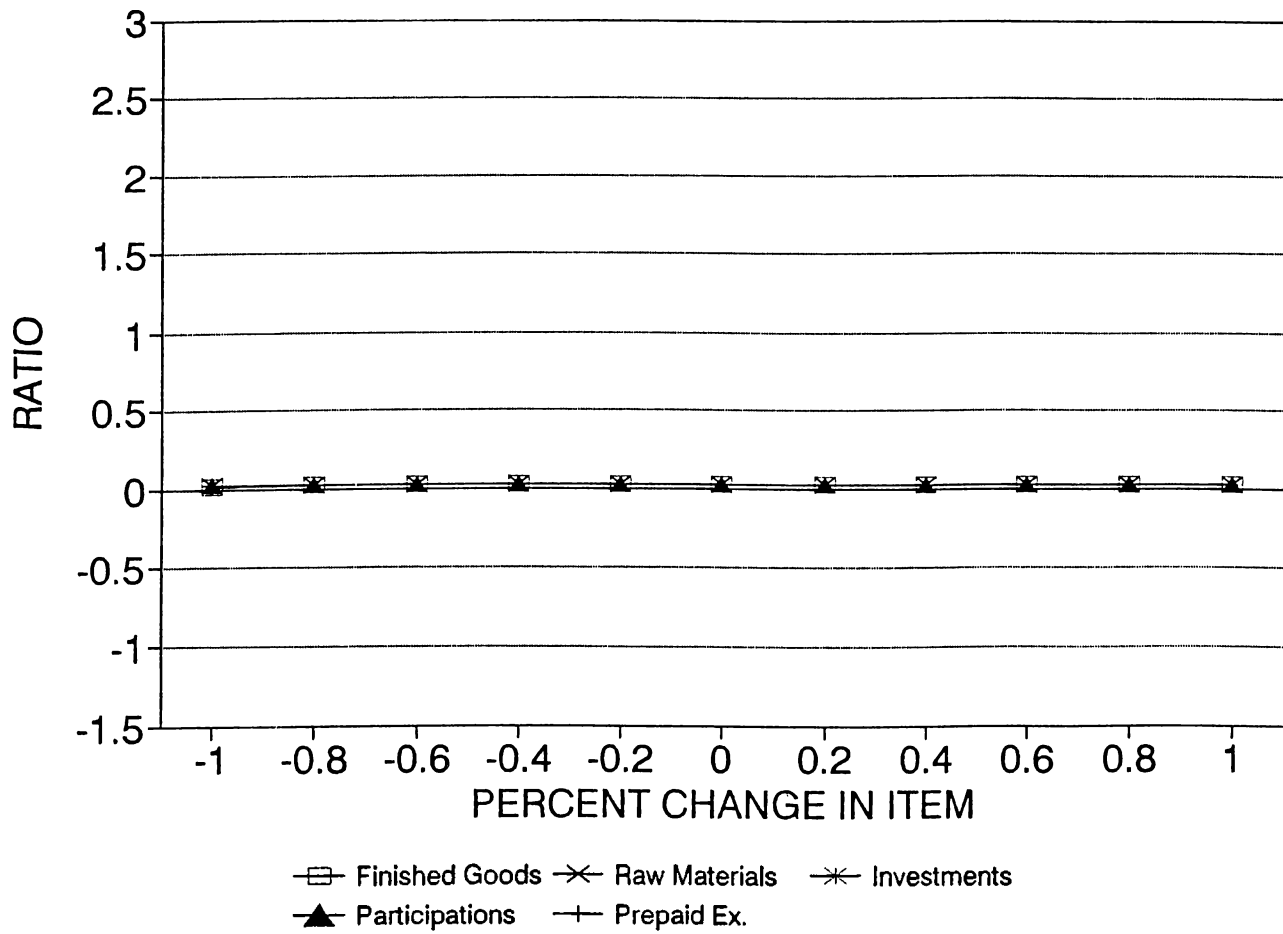
TIMES INTEREST EARNED  
GRAPH # 5



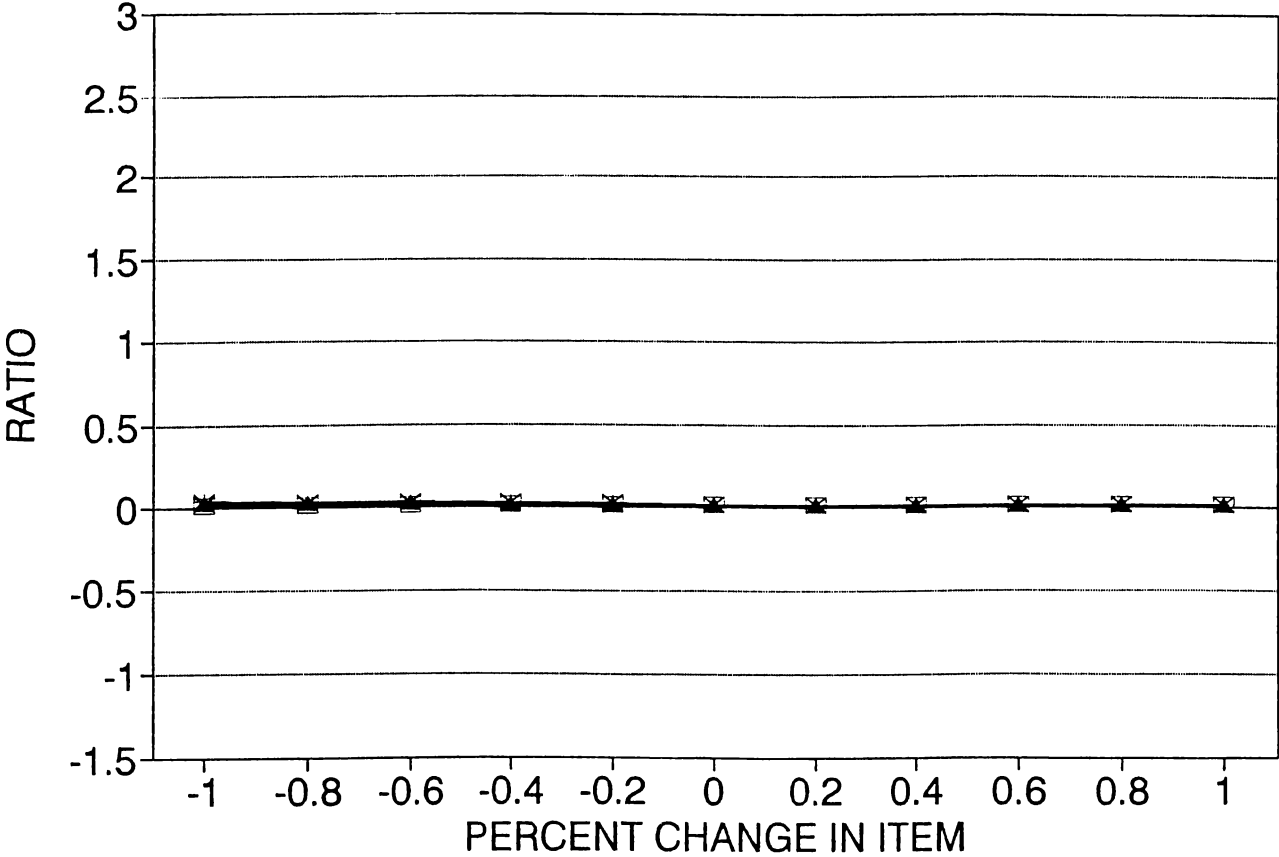
ROI  
GRAPH # 1



ROI  
GRAPH # 2



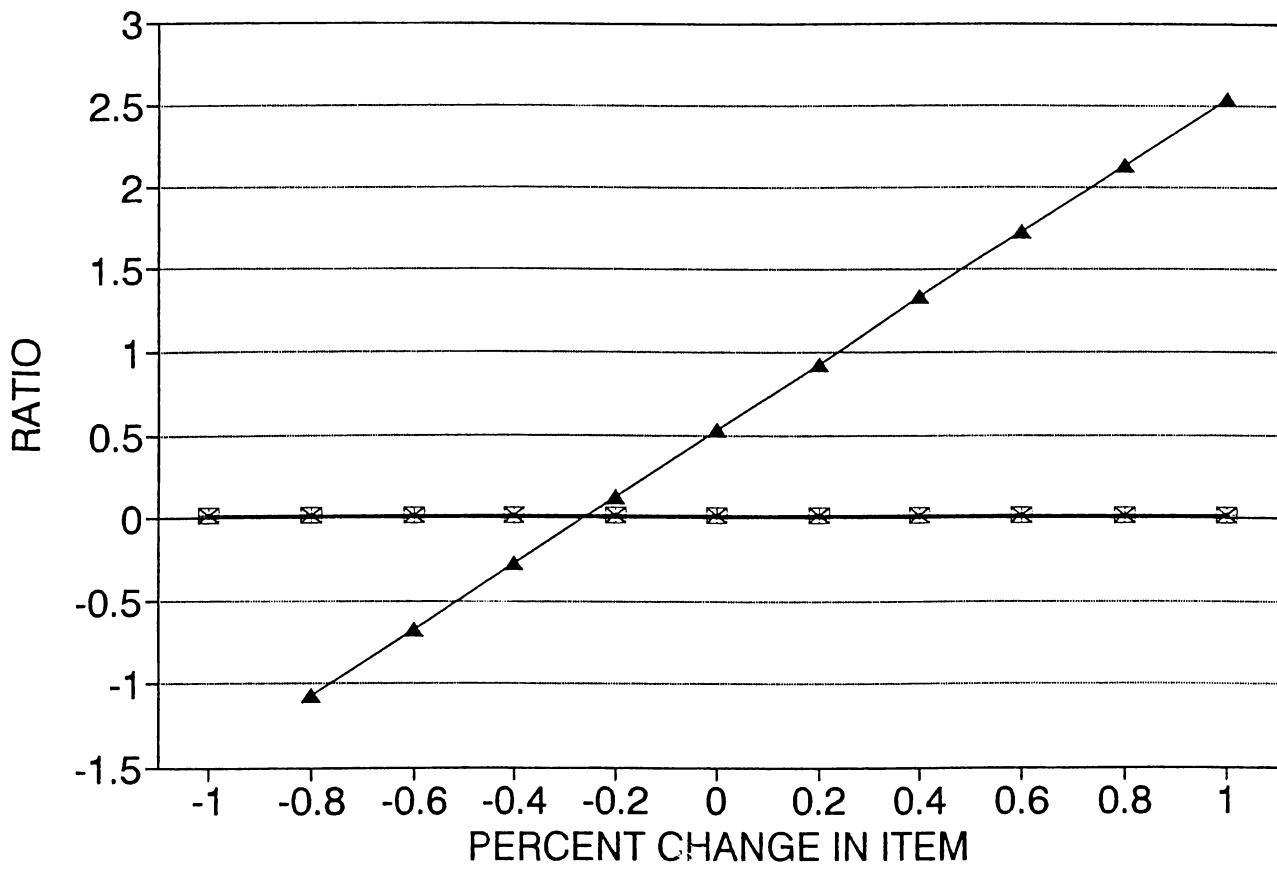
ROI  
GRAPH # 3



Other LT Assets    ST Bank Loans    Commer.Acc.Pyb.    Other Acc.Pyb.

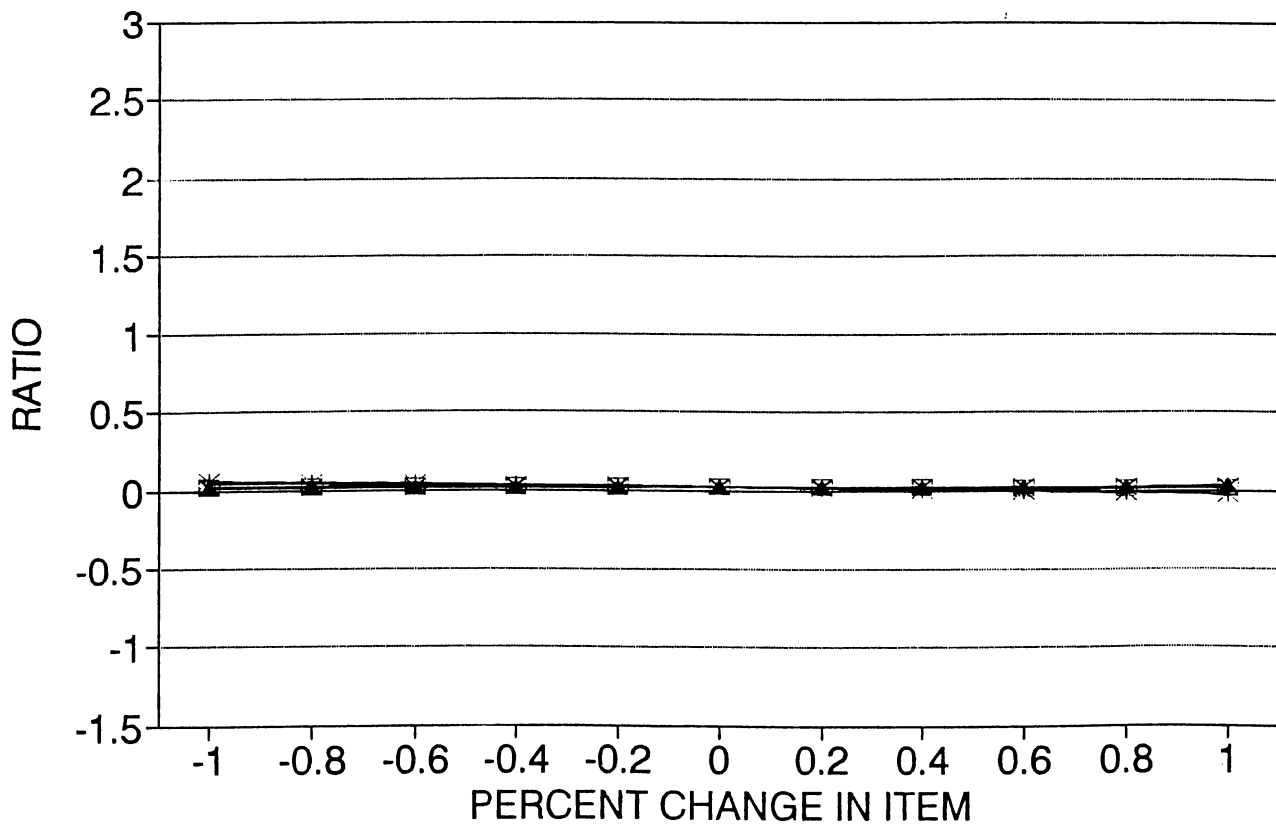


ROI  
GRAPH # 4



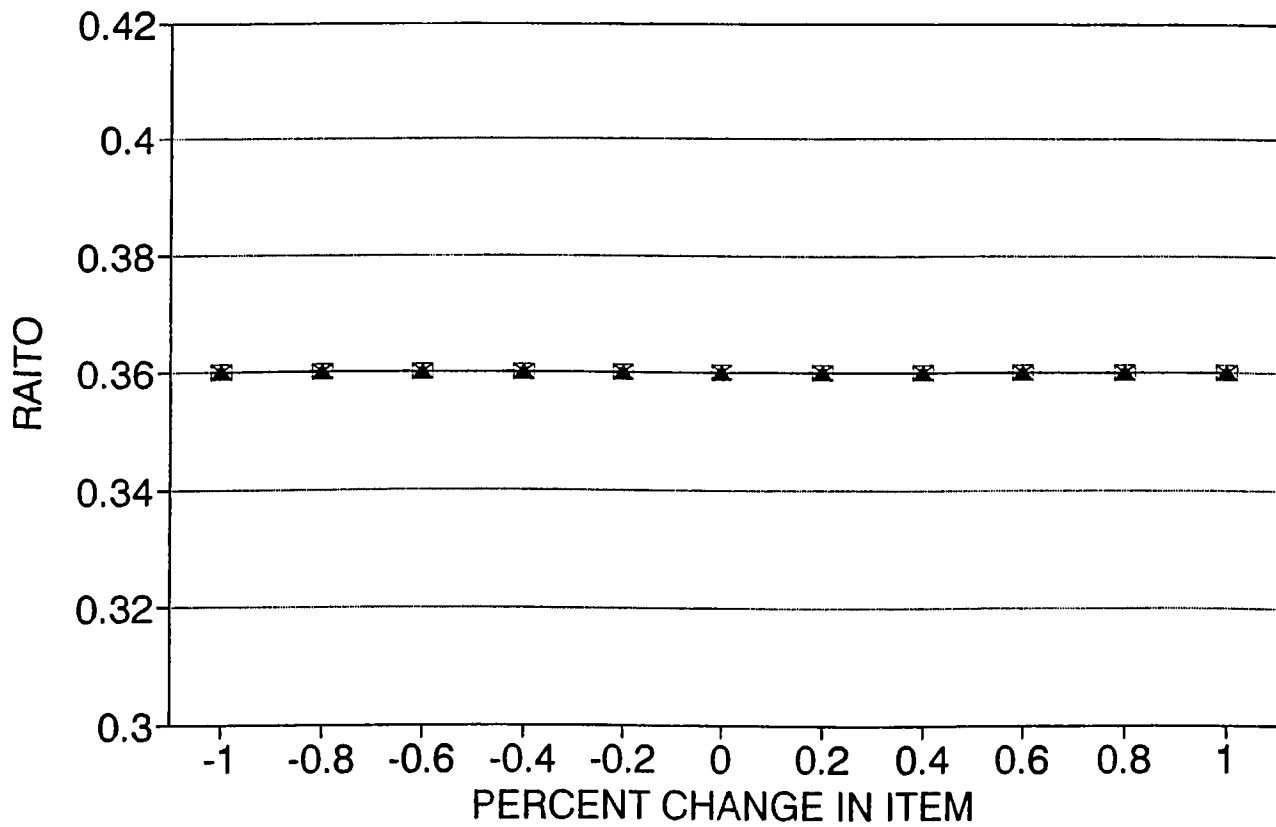
□ Pbl.to Grp.Frm.& Pr    × LT Debt    \* Spare Reserves    ▲ Gross Profit

ROI  
GRAPH # 5



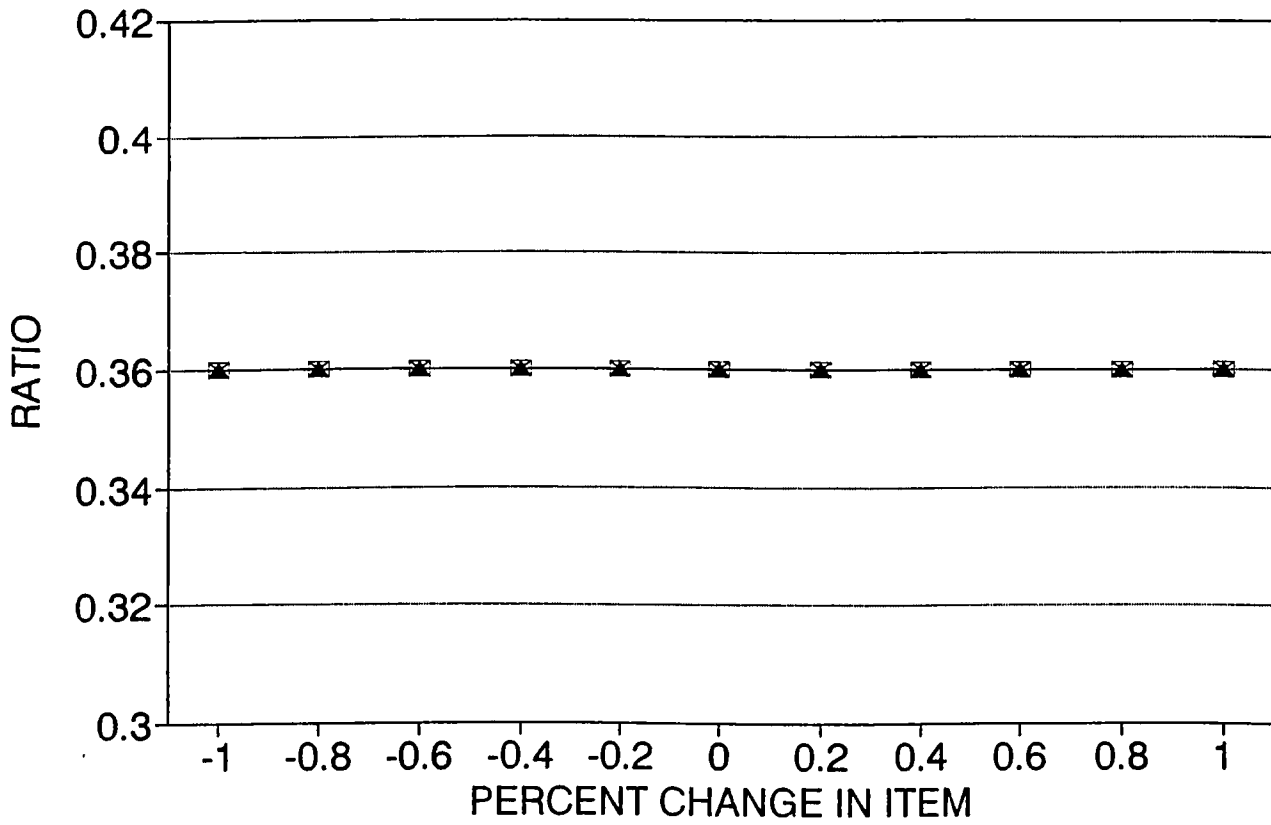
Administ. Exp.    Selling Exp.    Financial Costs  
Other Revenues    Other Expenses

### GROSS PROFIT RATIO GRAPH # 1



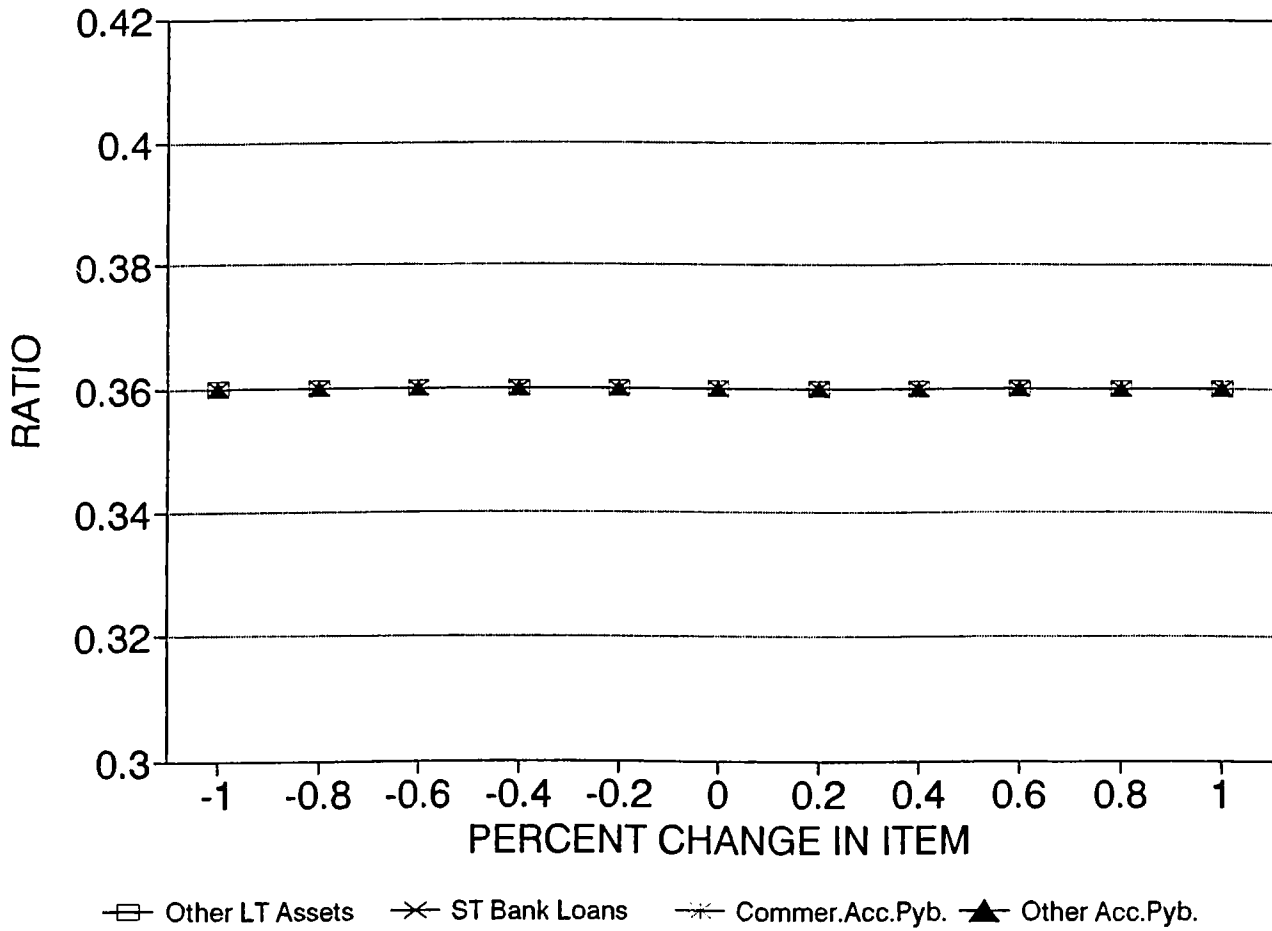
—□— Cash+Bank Acc.    —×— Marketable Sec.    —\*— Commer.Acc.Rec.  
—▲— Rec.Fr.Gr.Frm & Prt    —+— Other Acc.Rec.

GROSS PROFIT RATIO  
GRAPH # 2

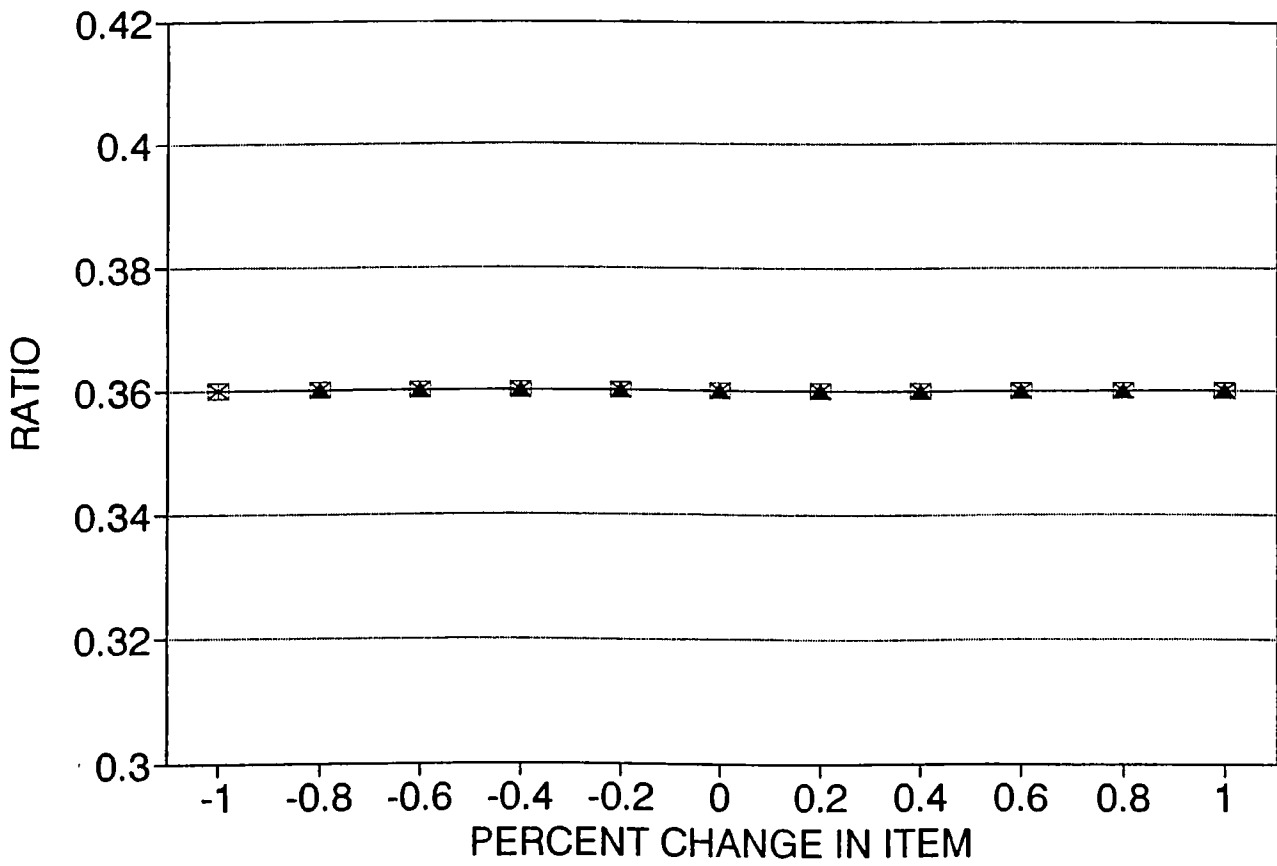


Finished Goods    Raw Materials    Investments  
Participations    Prepaid Ex.

GROSS PROFIT RATIO  
GRAPH # 3

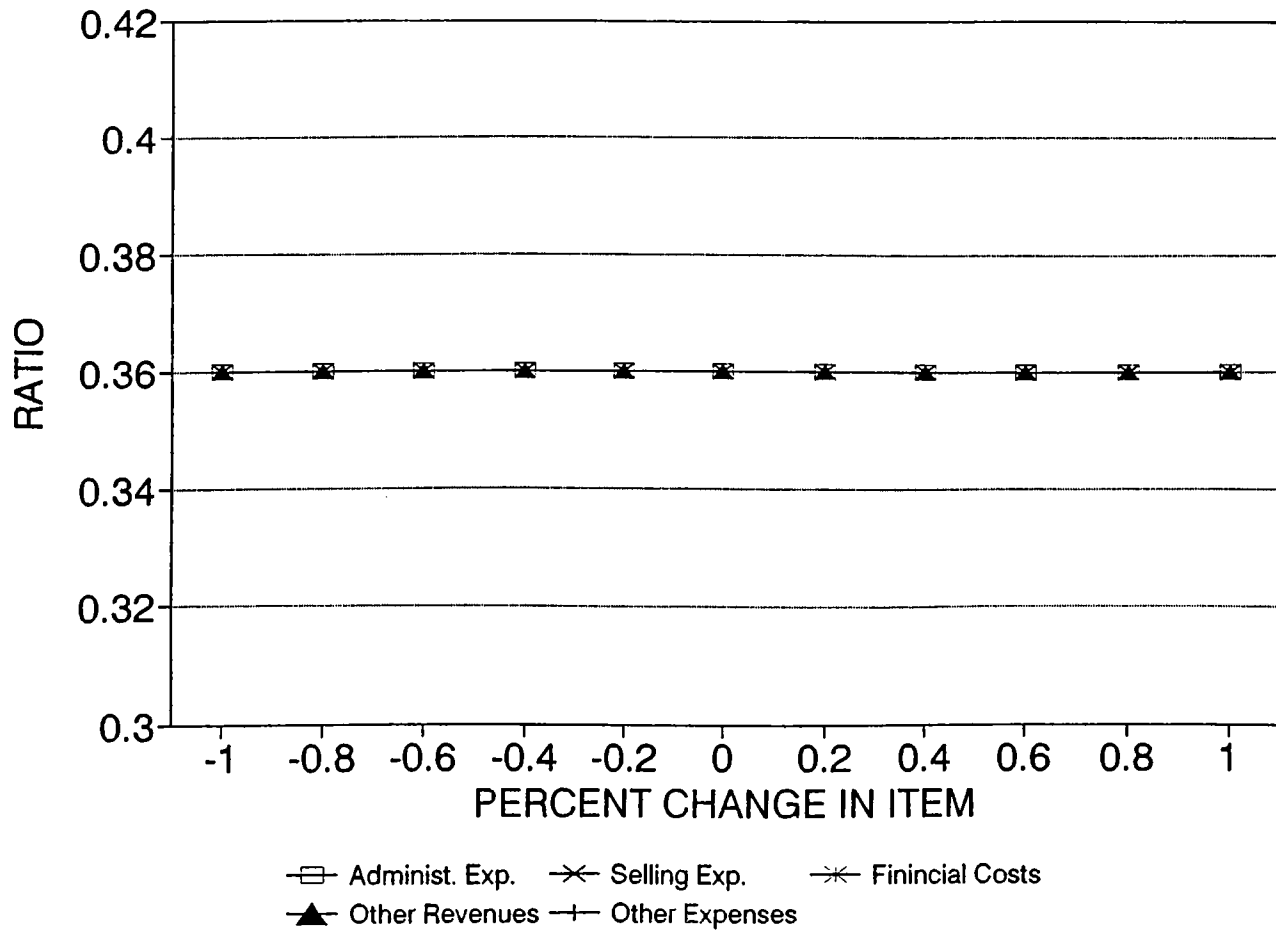


GROSS PROFIT RATIO  
GRAPH # 4

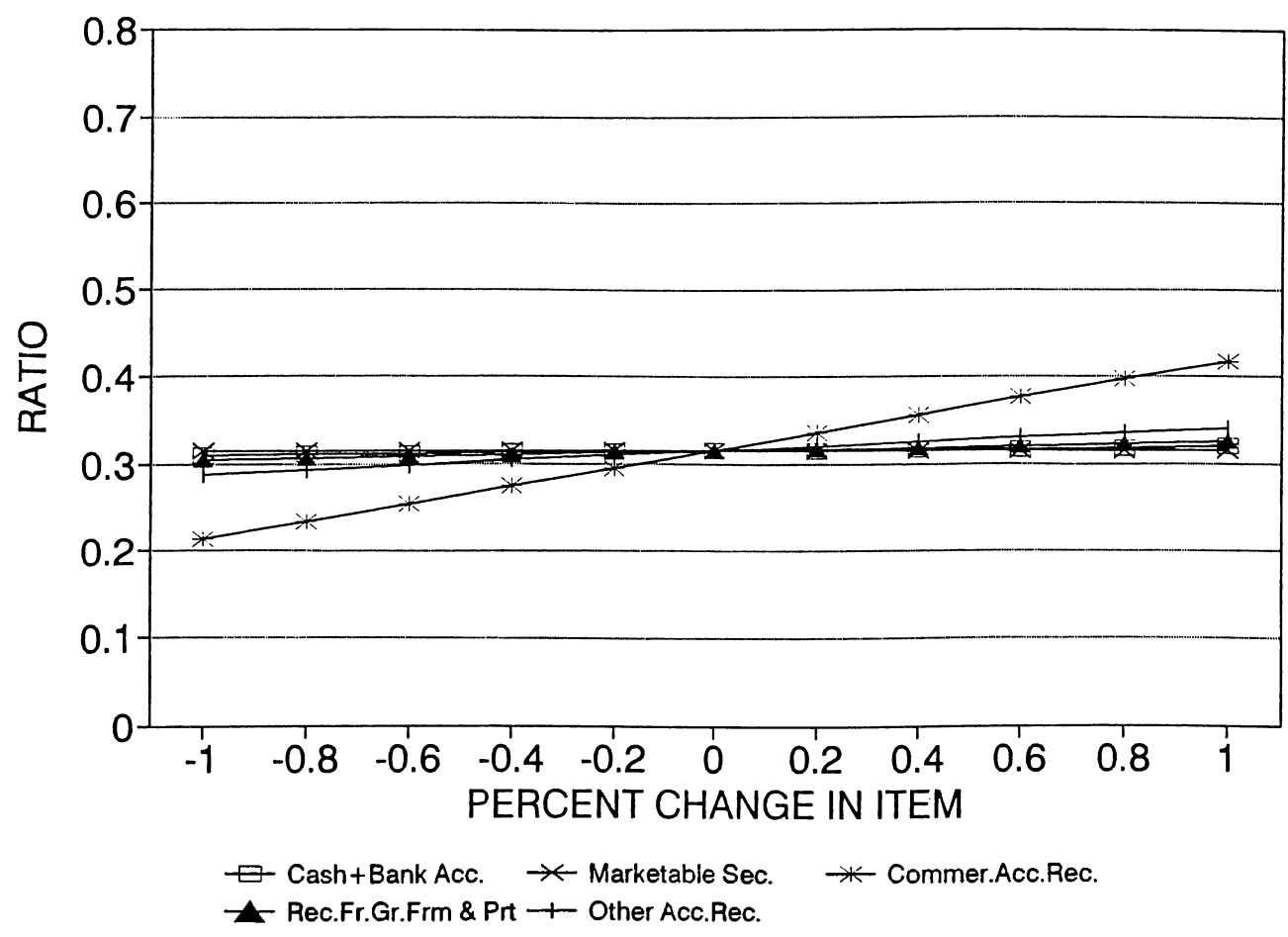


▣ Pbl.to Grp.Frm.& Pr    ✕ LT Debt    \* Spare Reserves    ▲ Gross Profit

GROSS PROFIT RATIO  
GRAPH # 5

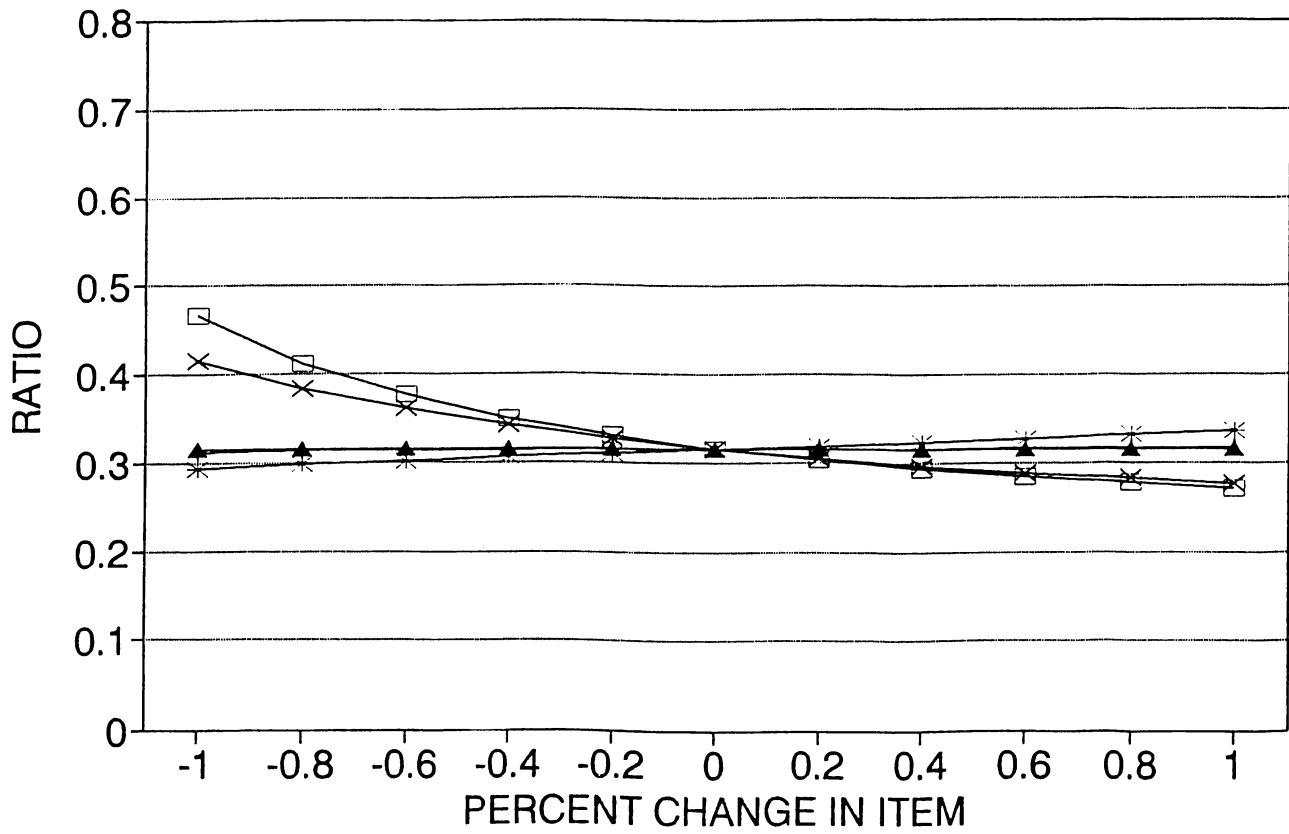


## INVENTORY TURNOVER GRAPH # 1



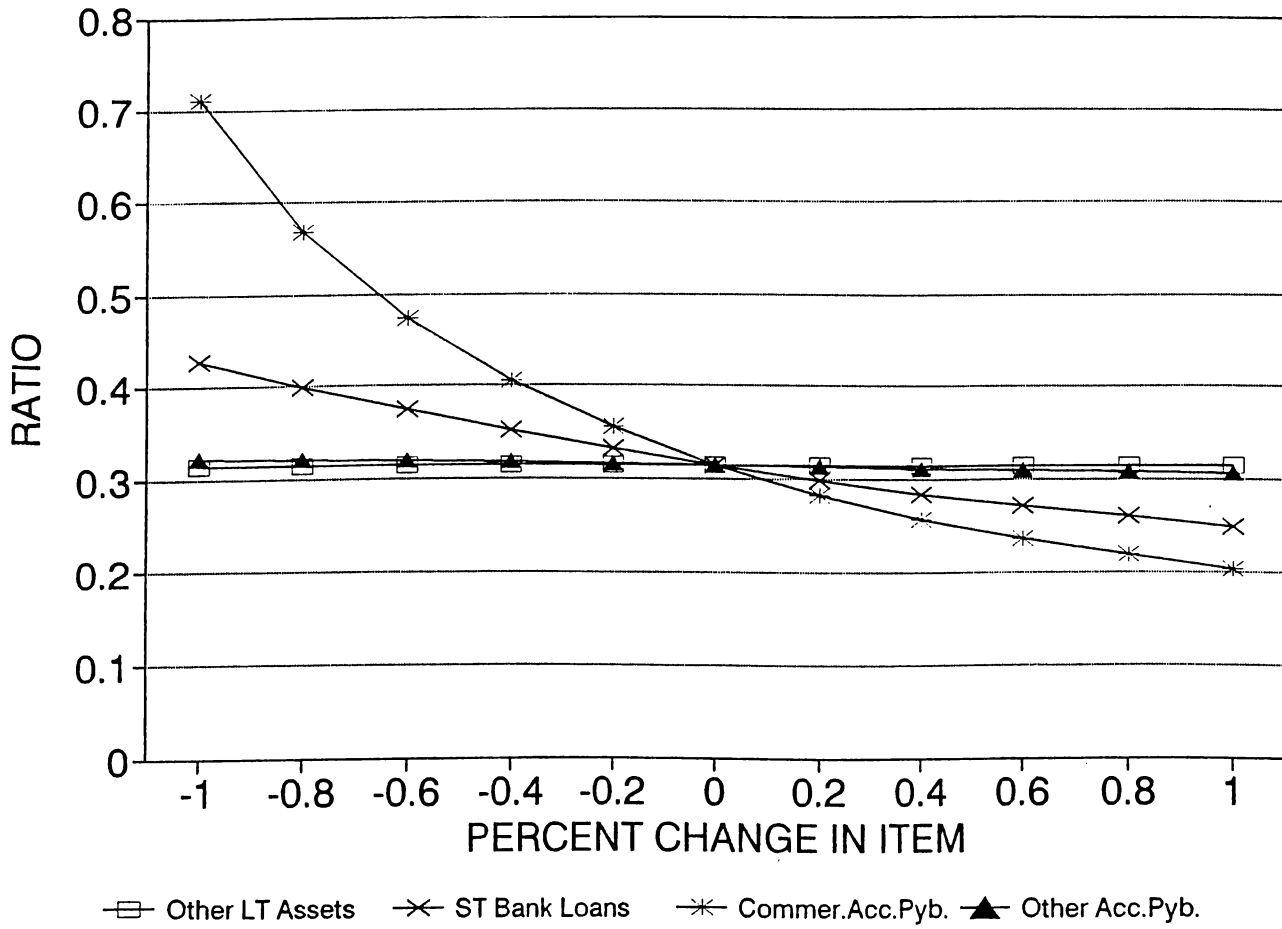


## INVENTORY TURNOVER GRAPH # 2

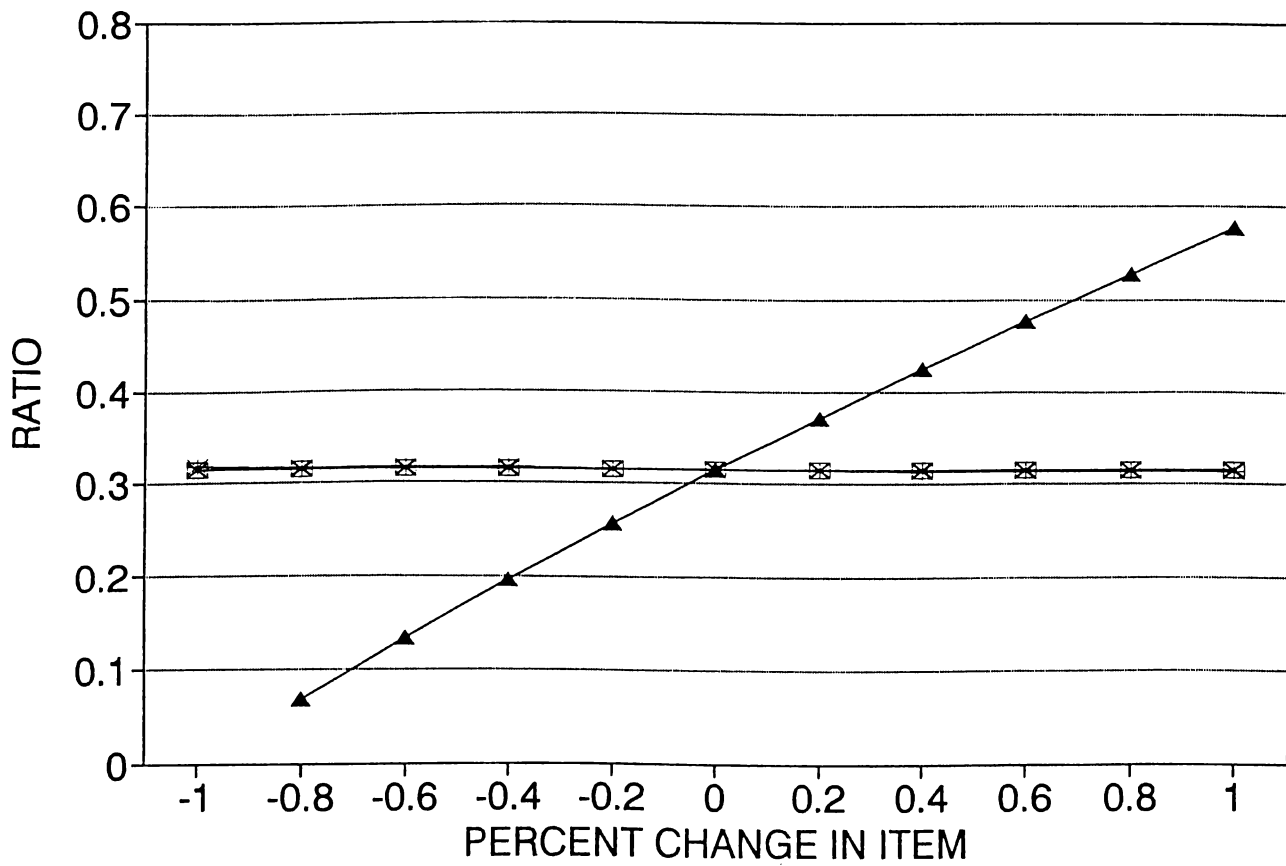


—□— Finished Goods
—×— Raw Materials
—\*— Investments  
—▲— Participations
—+— Prepaid Ex.

INVENTORY TURNOVER  
GRAPH # 3

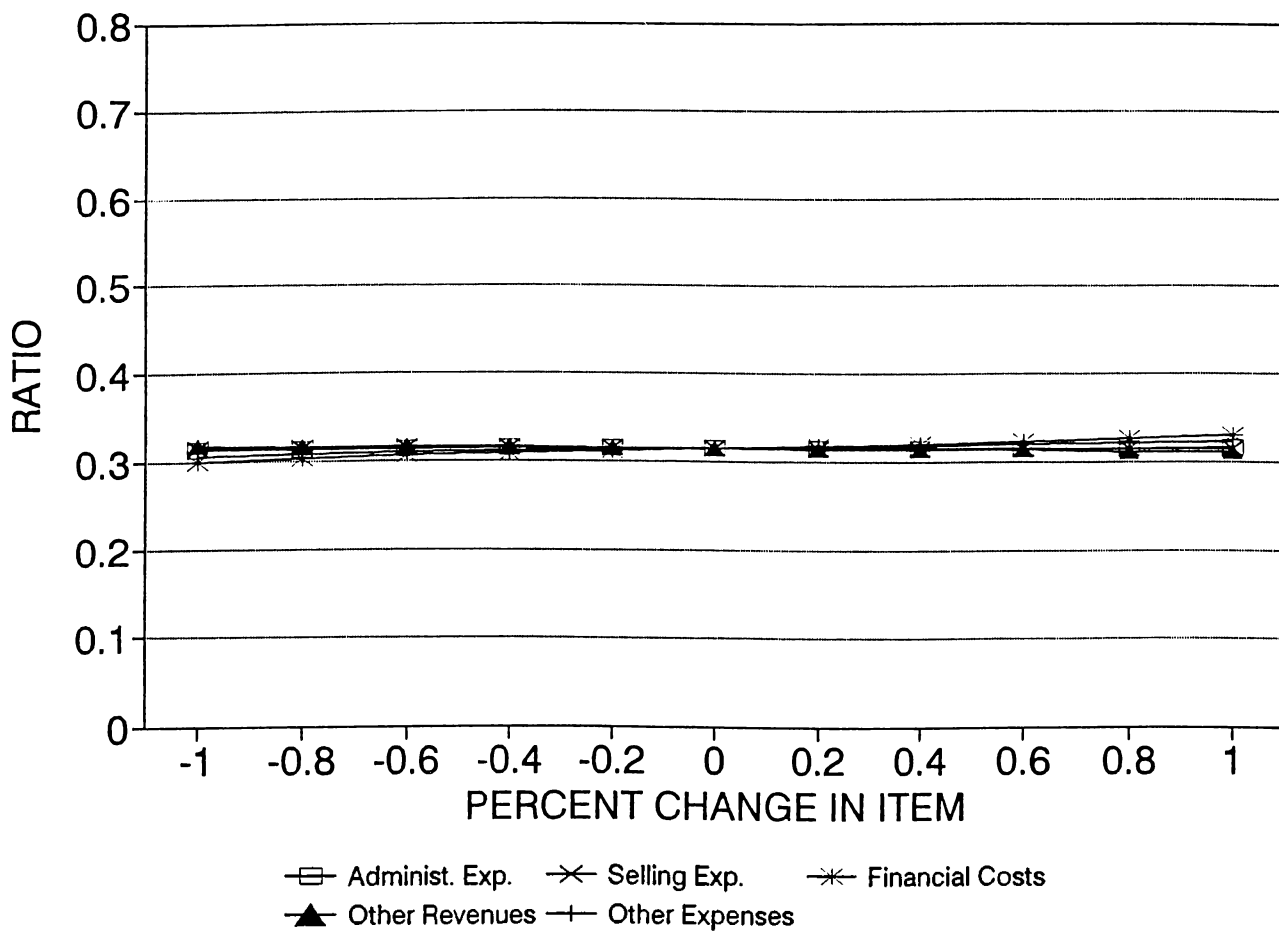


INVENTORY TURNOVER  
GRAPH # 4

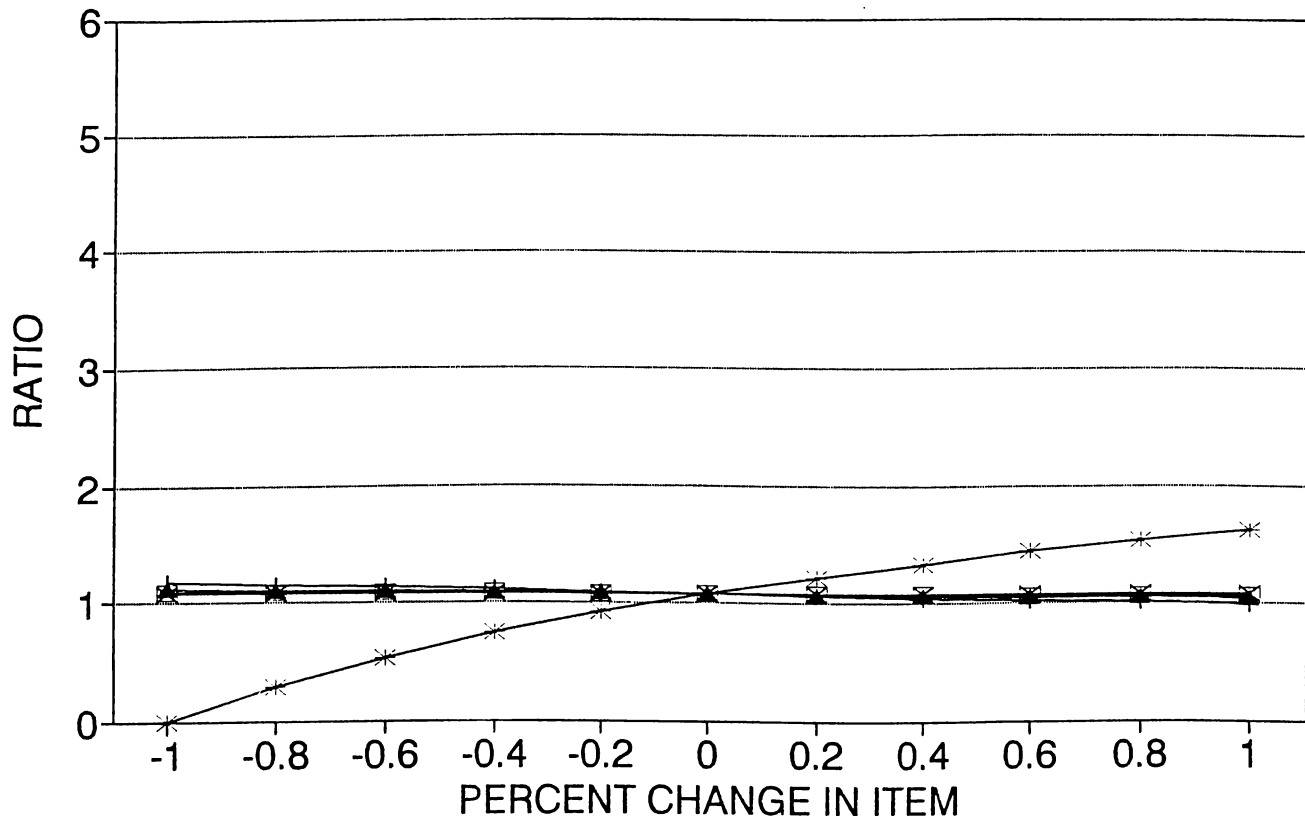


Pbl.to Grp.Frm.& Pr
  LT Debt
  Spare Reserves
  Gross Profit

### INVENTORY TURNOVER GRAPH # 5

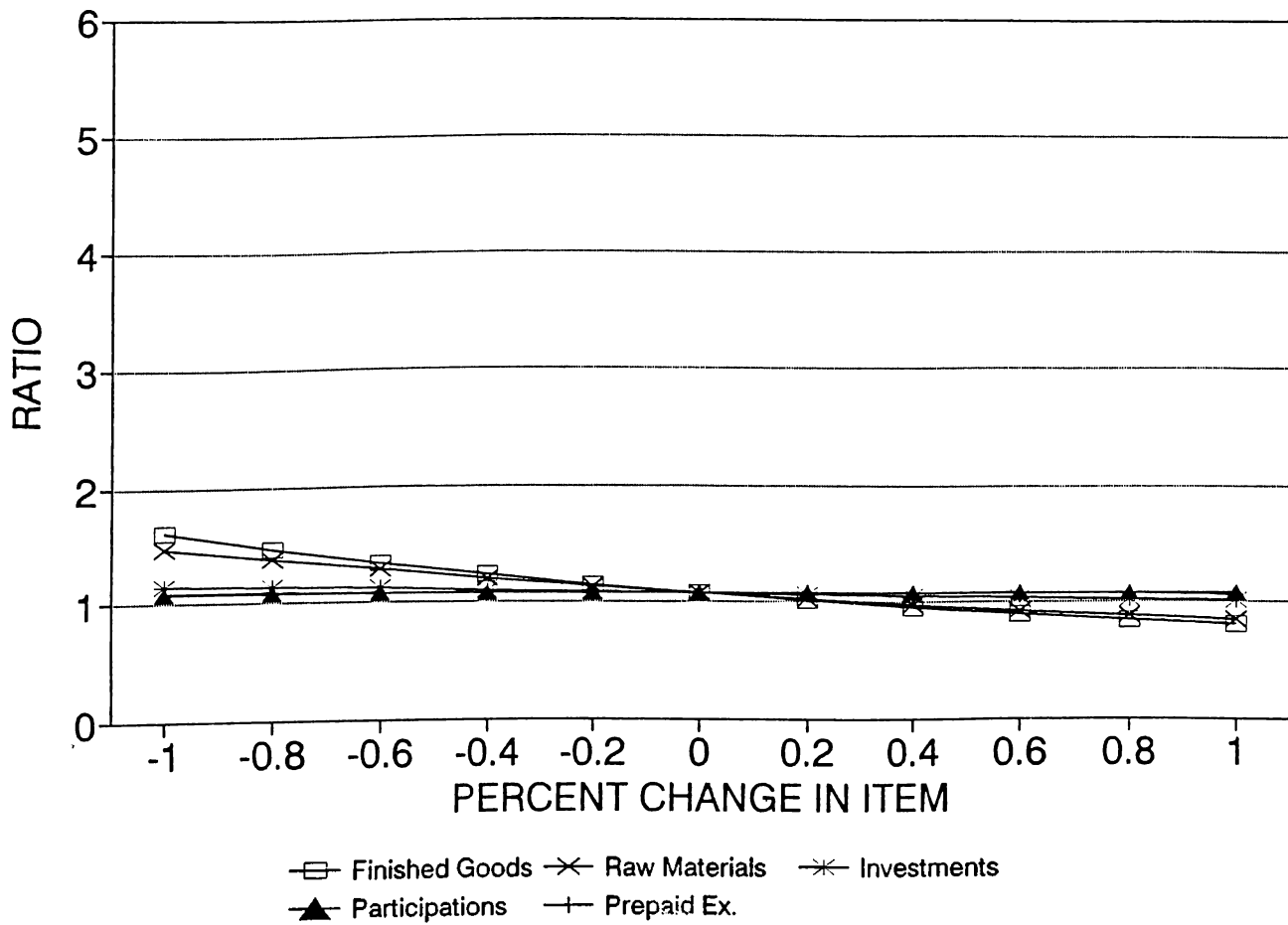


## RECEIVABLES TURNOVER GRAPH # 1

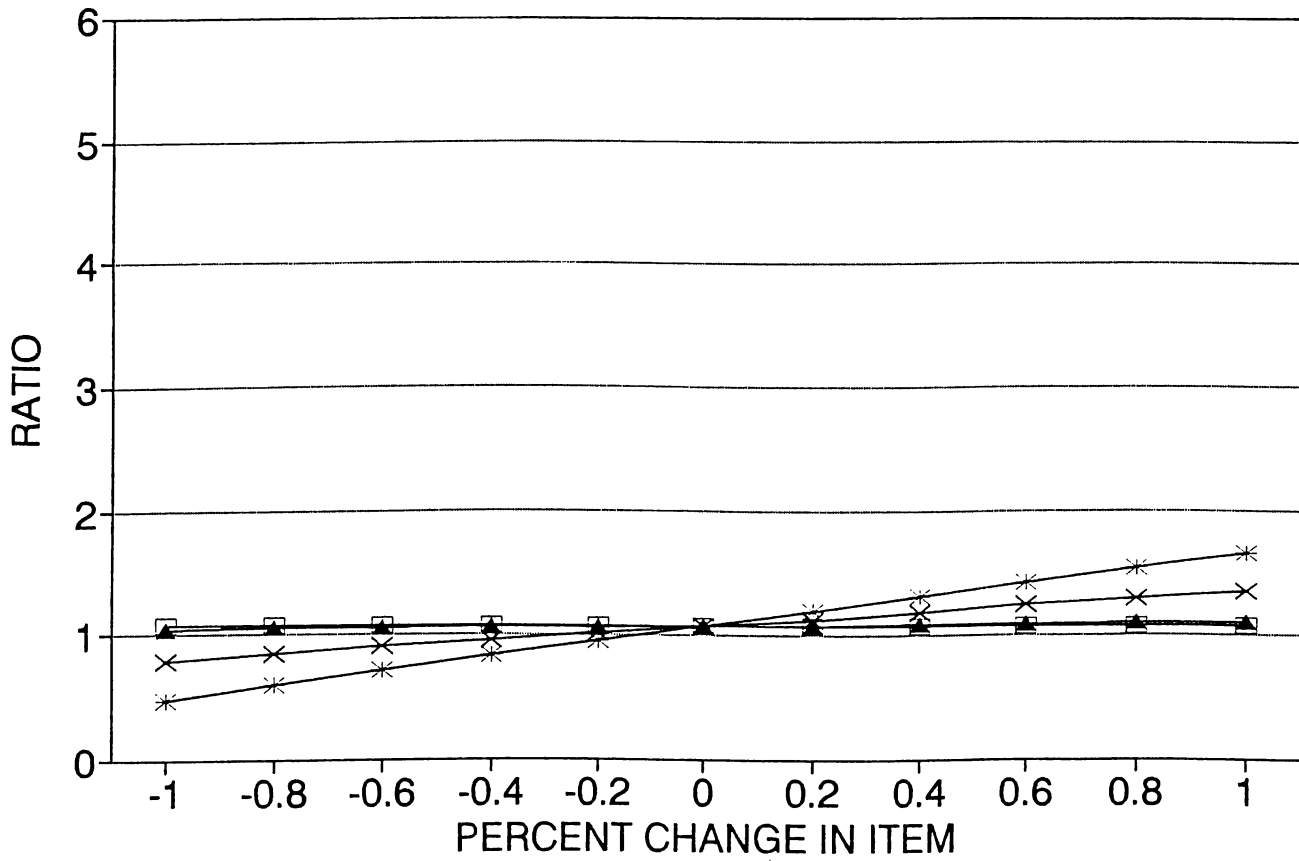


Cash+Bank Acc.   
  Marketable Sec.   
  Commer. Acc. Rec.  
 Rec. Fr. Gr. Frm & Prt   
  Other Acc. Rec.

## RECEIVABLES TURNOVER GRAPH # 2

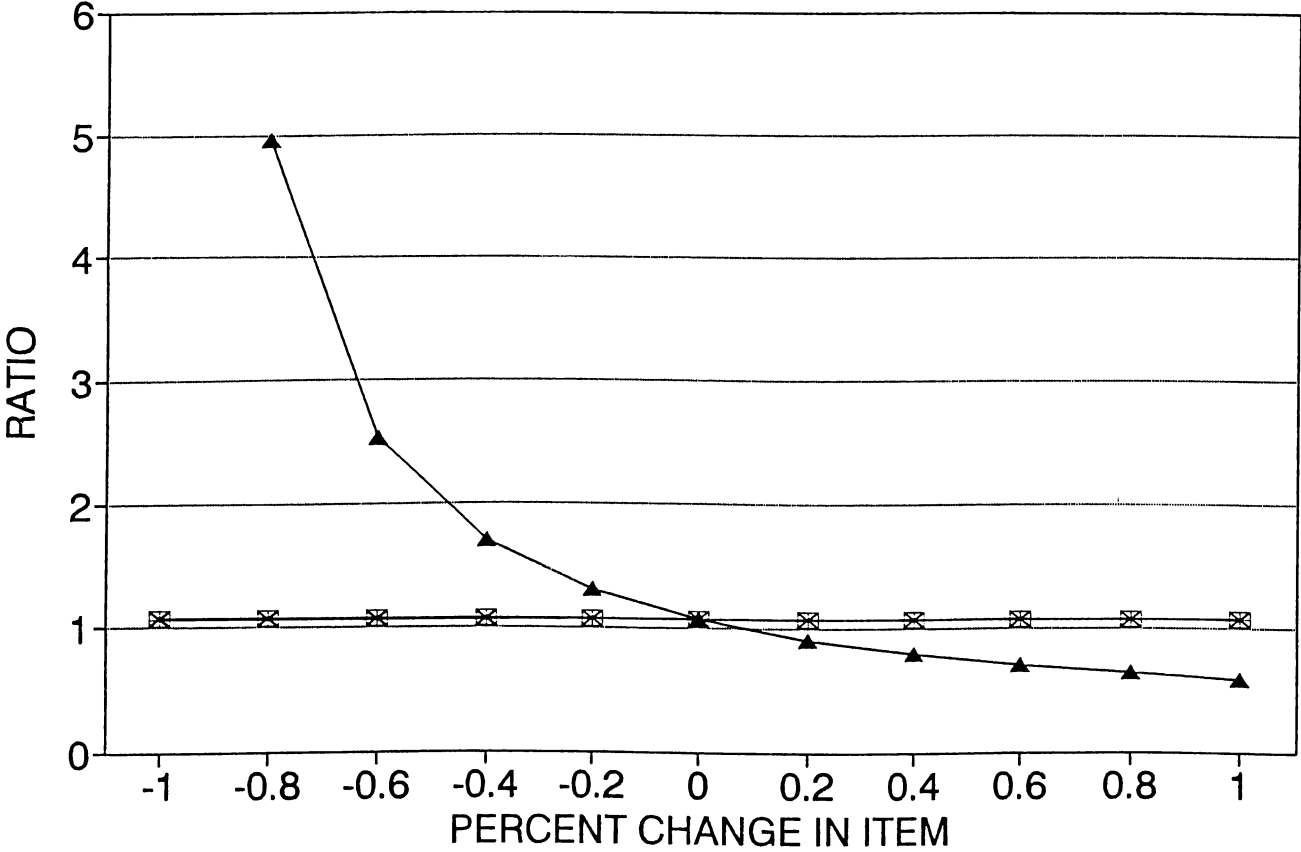


### RECEIVABLES TURNOVER GRAPH # 3



Other LT Assets   
  ST Bank Loans   
  Commer. Acc. Pyb.   
  Other Acc. Pyb.

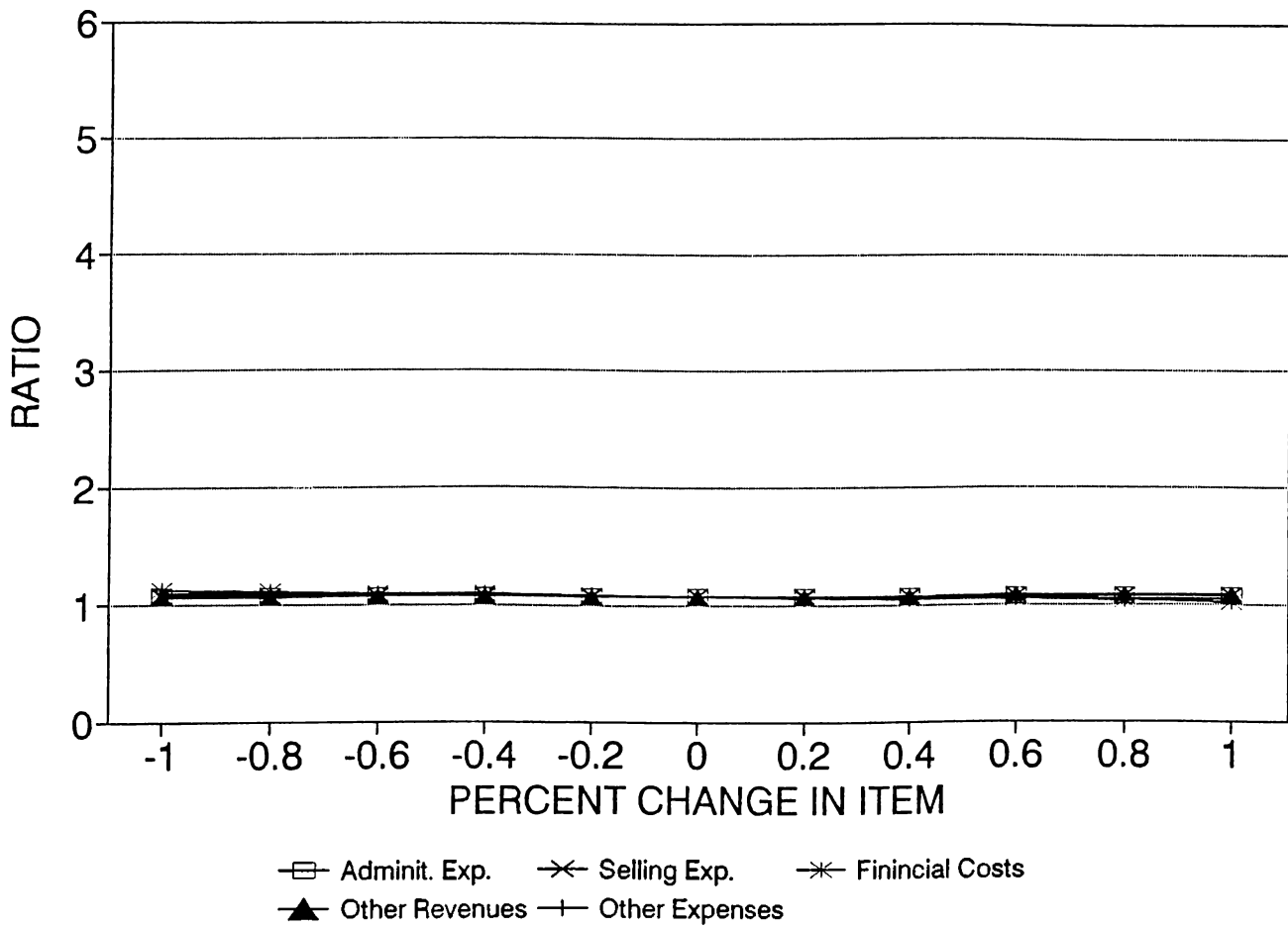
### RECEIVABLES TURNOVER GRAPH # 4



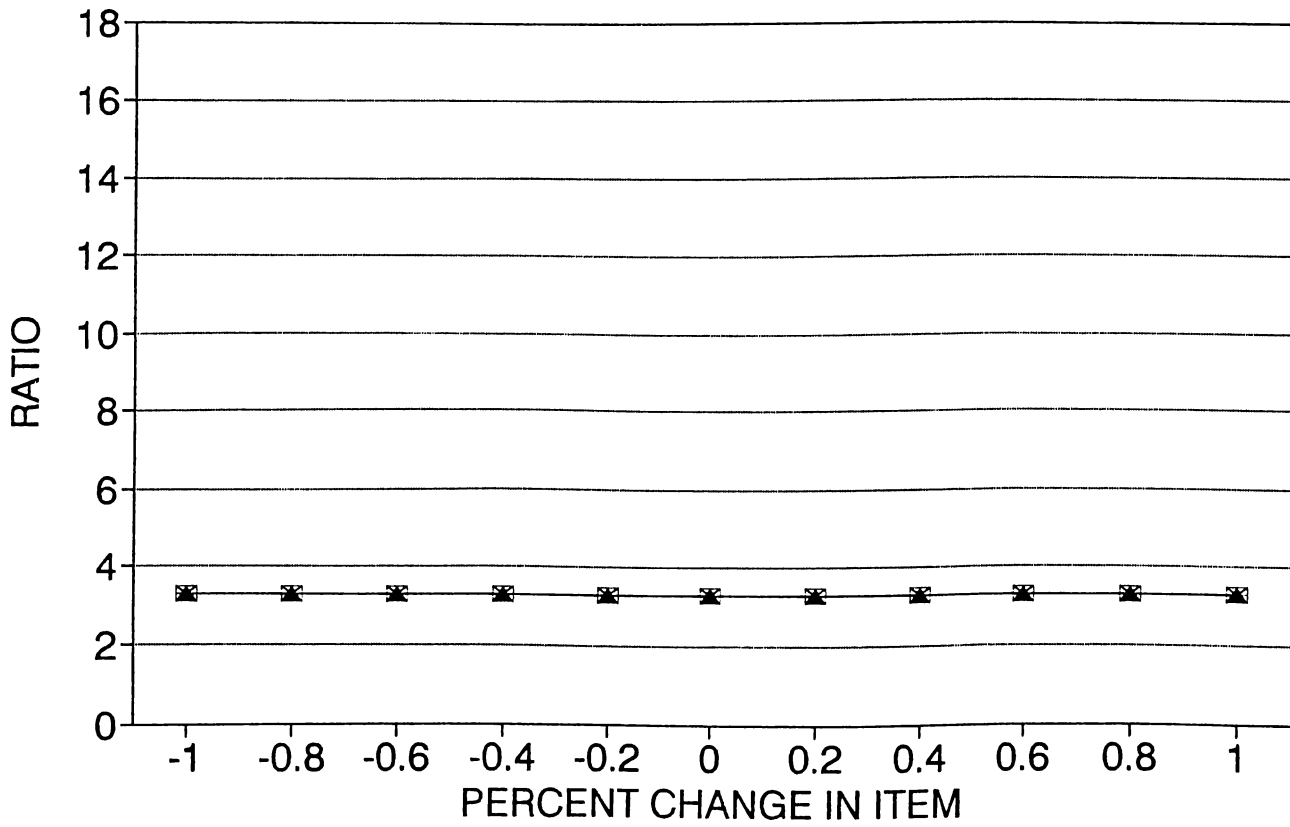
Pbl.to Grp.Frm.& Pr  
  LT Debt  
  Spare Reserves  
  Gross Profit



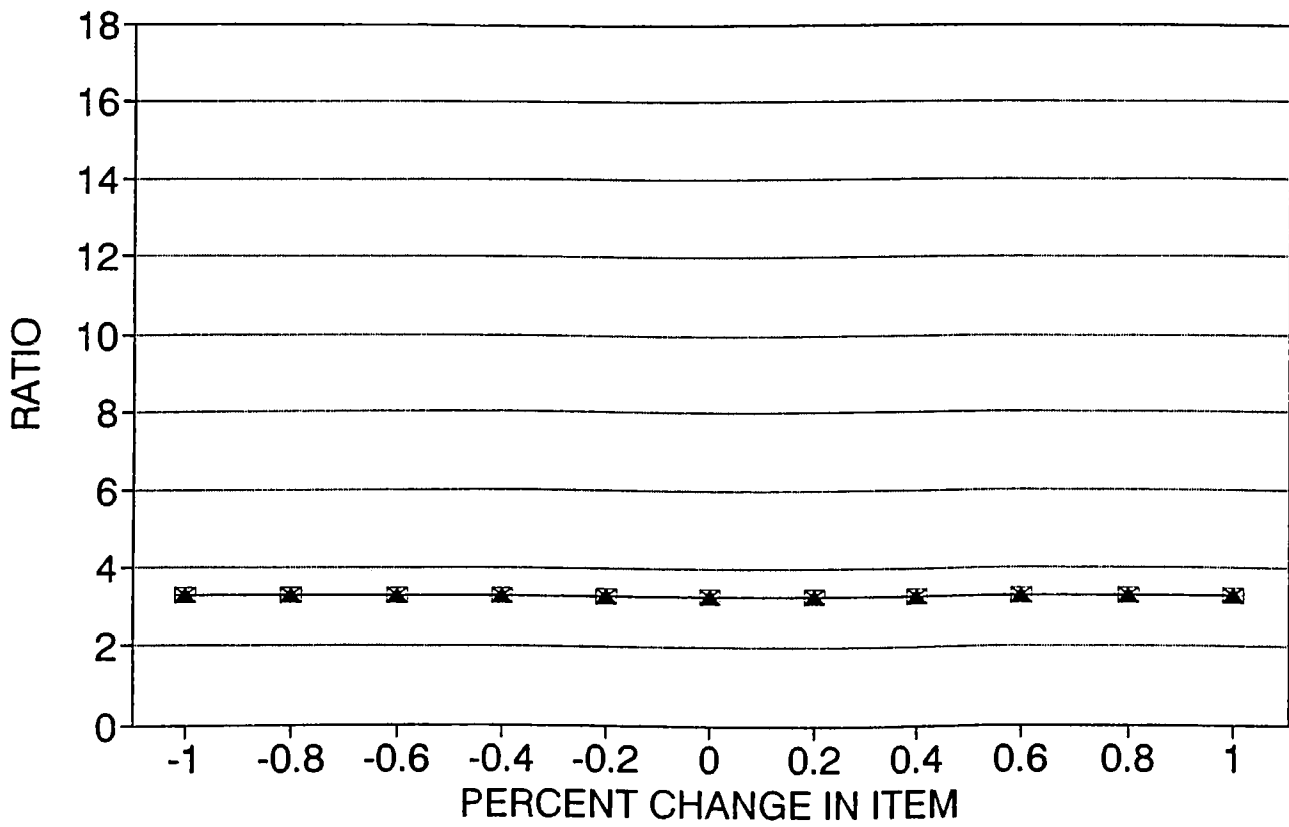
### RECEIVABLES TURNOVER GRAPH # 5



### PAYABLES TURNOVER GRAPH # 1

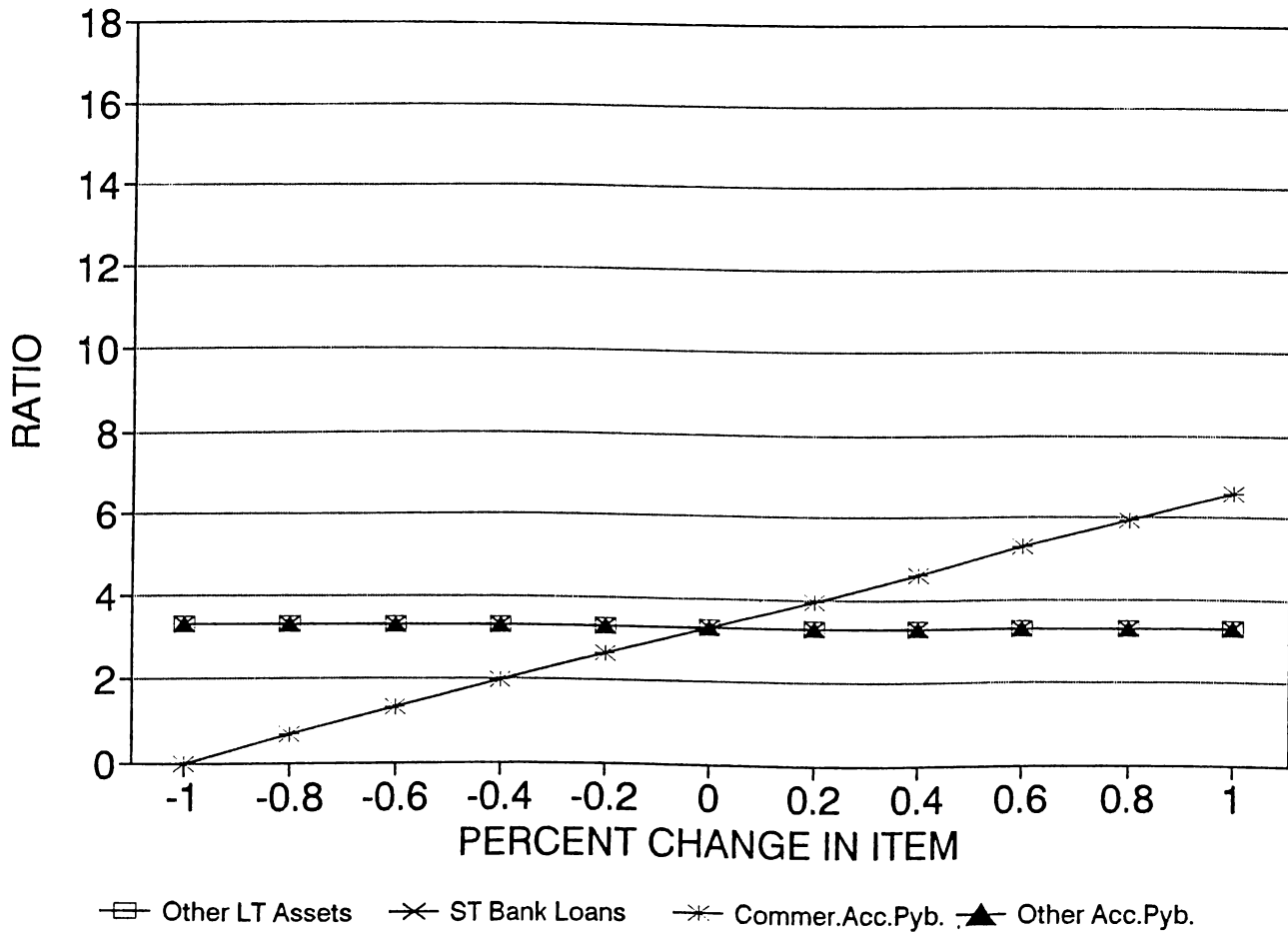


### PAYABLES TURNOVER GRAPH # 2

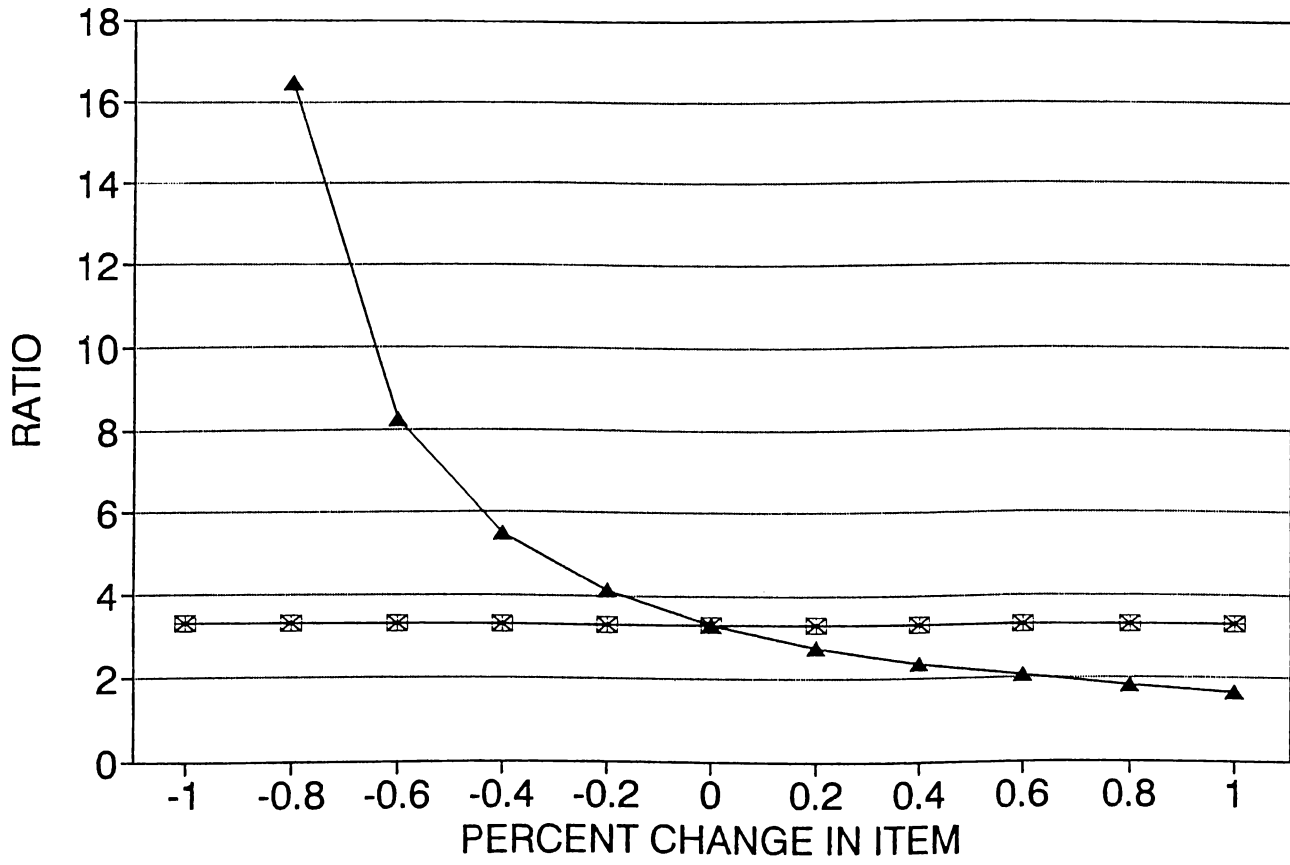


—□— Finished Goods    —×— Raw Materials    —\*— Investments  
—▲— Participations    —+— Prepaid Ex.

PAYABLES TURNOVER  
GRAPH # 3

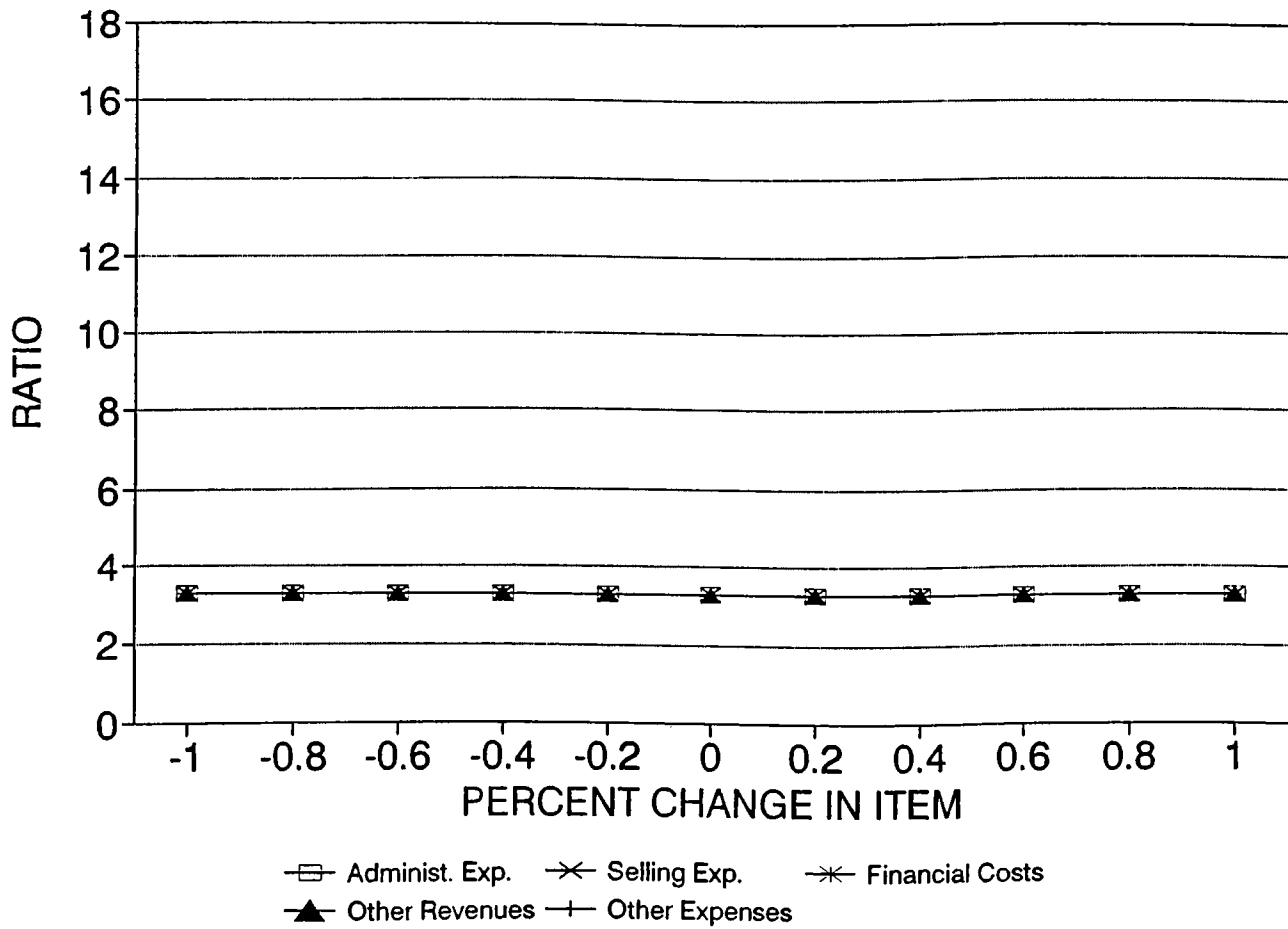


PAYABLES TURNOVER  
GRAPH # 4



Pbl.to Grp.Frm.& Pr
  LT Debt
  Spare Reserves
  Gross Profit

### PAYABLES TURNOVER GRAPH # 5



## APPENDIX 10

### BALANCE SHEET BEFORE AND AFTER ADJUSTMENT ACCORDING TO THE ANALYSIS RESULTS

**THE RESULTED BALANCE SHEET AFTER THE ADJUSTMENT  
ACCORDING TO THE SENSITIVITY ANALYSIS RESULTS**

	Original Figures	Original Figures By Percentage	Adjusted Figures
<b>ASSETS</b>	189,553,074	100.00	100.68
<b>CURRENT ASSETS</b>	167,633,277	88.44	89.12
Cash + Bank Accounts ...	2,303,757	1.22	1.22
Marketable Securities ..	9,456	0.00	0.00
Commerical Account Rec. Receivables from	50,769,182	26.78	52.82
Group Firms & Partners	5,145,339	2.71	2.71
Other Account Receivables	13,259,771	7.00	7.00
Finished Goods .....	53,064,641	27.99	14.00
Raw Materials .....	43,081,131	22.73	11.36
<b>OTHER ASSETS</b>	21,919,797	11.56	11.56
Land .....	115,000	0.06	0.06
Building .....	2,045,253	1.08	1.08
Machinery .....	21,442,743	11.31	11.31
Furnitures & Fixtures ..	4,973,825	2.62	2.62
Transportation Equipment Other .....			
Accumulated Depreciation	(18,494,766)	(9.76)	(9.76 )
Investments .....	10,491,781	5.54	5.54
Participations .....			
Patent .....			
Prepaid Expenses .....	1,213,615	0.64	0.64
Other Long Term Assets ..	132,346	0.07	0.07
<b>LIABILITIES &amp; O.E.</b>	189,553,074	100.00	100.68
<b>CURRENT LIABILITIES</b>	151,729,480	80.05	75.09
Short Term Bank Loans ...	47,014,993	24.80	19.84
Commerical Account Paybl.	99,880,245	52.69	42.69
Other Account Payables	4,762,313	2.51	2.51
Payables to Group Firms & Partners ...	71,929	0.04	0.04
<b>NON CURRENT LIABILITIES</b>	0	0.00	0.00
Long Term Debt .....			
<b>OWNERS' EQUITY</b>	37,823,594	19.95	25.59
Capital .....	23,500,000	12.40	12.40
Capital Payable .....			
Increase in the Value of Assets	8,399,681	4.43	4.43
Spare Reserves .....	1,413,576	0.75	0.75
Net Income .....	4,510,337	2.38	8.02



**THE RESULTED INCOME STATEMENT AFTER THE ADJUSTMENT  
ACCORDING TO THE SENSITIVITY ANALYSIS RESULTS**

	Original Figures	Original Figures By Percentage	Adjusted Figures
Sales .....	47,343,549	24.98	32.47
Cost of Goods Sold .....	30,299,010	15.98	19.18
<b>GROSS PROFIT</b>	<b>17,044,539</b>	<b>8.99</b>	<b>10.99</b>
Management Costs .....	681,222	0.36	0.36
Marketing Costs .....			
Financial Costs .....	8,491,129	4.48	3.14
<b>PROFIT FROM OPERATIONS</b>	<b>7,872,188</b>	<b>4.15</b>	<b>7.15</b>
Other Revenues .....	1,657,156	0.87	0.87
Other Expenses .....	5,019,007	2.65	2.65
<b>INCOME BEFORE TAX</b>	<b>4,510,337</b>	<b>2.38</b>	<b>5.38</b>
Income Tax .....			
<b>NET PROFIT</b>	<b>4,510,337</b>	<b>2.38</b>	<b>5.38</b>

## APPENDIX 11

### RATIOS OF THE ADJUSTED BALANCE SHEET

ADJUSTED

RATIO ANALYSIS

CURRENT RATIO .....	:	1.1868673
QUICK RATIO .....	:	0.8490943
DEBT RATIO .....	:	0.7458031
DEBT TO EQUITY RATIO .....	:	3.2700348
TIMES INTEREST EARNED .....	:	2.5509554
RETURN ON INVESTMENT .....	:	0.0795669
GROSS PROFIT RATIO .....	:	0.4093009
INVENTORY TURNOVER .....	:	0.7563091
RECEIVABLES TURNOVER .....	:	1.6267324
PAYABLES TURNOVER RATIO .....	:	2.7471324

ADJUSTED

RATIO ANALYSIS

CURRENT RATIO .....	:	1.1941929
QUICK RATIO .....	:	0.7140384
DEBT RATIO .....	:	0.7417506
DEBT TO EQUITY RATIO .....	:	3.2700348
TIMES INTEREST EARNED .....	:	2.5509554
RETURN ON INVESTMENT .....	:	0.0791346
GROSS PROFIT RATIO .....	:	0.4093009
INVENTORY TURNOVER .....	:	0.5320388
RECEIVABLES TURNOVER .....	:	1.3144441
PAYABLES TURNOVER RATIO .....	:	2.7471324