CAPITAL MARKET RESEARCH IN ACCOUNTING:
EVIDENCE FROM THE TEHRAN STOCK EXCHANGE

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ABSTRACT

The major purpose of this study is to classify and analyse capital market research conducted in the Tehran Stock Exchange Market (TSEM). Similar to Namazi and Nazemi’s (2005) review of Finance Studies on the TSEM in 1991–2003, we review, classify and analyse the significant Accounting Studies related to the TSEM. Consequently, by both employing content analysis and archival methodology and considering academic accounting courses and programs established by the Ministry of Science, Research and Technology (MSRT), the studies are classified into four main topics: financial accounting, auditing, managerial accounting and other subjects. The significant results reported in each of the above groups of studies are presented. It is concluded that, in recent years, the amount of research conducted and the research techniques utilised concerning TSEM-related accounting issues have rapidly improved in various significant aspects of the capital market; yet, much more in-depth research must be carried out.

Keywords: Capital market research, Tehran Stock Exchange Market, financial accounting, auditing, and managerial accounting

INTRODUCTION

A review of historical capital markets studies in accounting can provide a relevant classification system for accounting research findings and their implications. It also discloses the important roles that accounting techniques play in capital markets. Furthermore, it provides an excellent reference by which researchers and financial professionals can review their perceptions and become interested in new topics. Therefore, we collect and review major studies that have been performed on the Tehran Stock Exchange Market (TSEM). Namazi and
Nażemi (2005) concentrated on TSEM *finance* studies, but we concentrate on major *accounting* research, including financial accounting, auditing, managerial accounting and other accounting topics, and summarise the major conclusions that can be drawn from these studies.

**REVIEW OF THE LITERATURE**

Numerous reviews of market research have been conducted. For example, Lev and Ohlson reviewed accounting market research in the US during the period 1960–1980. They categorised relevant studies into four groups: (i) the information content of accounting information, (ii) the effects of differences in information disclosure and changes in accounting methods on decision making processes, (iii) the effects of making accounting rules on capital markets, and (iv) the impacts of accounting market research on other fields. They found that accounting data have useful and timely content for investors. Although the results are consistent with the hypothesis that accounting numbers are useful, the informational content of accounting information other than values reported in financial statements is uncertain. They also found that functional fixation of investors is unavoidable. They also showed that, for extreme cases (such as oil and gas industries, replacement costs and segmental reporting), regulation carries clear consequences. Consequently, they had suggested that finance theories such as the Capital Asset Pricing Model (CAPM) and Efficient Market Hypothesis (EMH) to be revised.

Kothari (2001) also reviewed capital market research in accounting based on an economic framework (i.e., supply and demand for information). He investigated the relationship between financial statements and the role of capital markets during the 1985–2000 period. His major finding was that the main objectives of capital market research in accounting are valuation, fundamental analysis, EMH testing, and the role of accounting numbers in contracting and regulating. Fundamental analysis, efficient market and value relevance were found to be the topics most frequently investigated by accounting researchers.

Holthausen and Watts (2001) reviewed the value relevance of information and its effects on standard setting. Based on accounting theories, the value relevance of accounting variables and equity valuation has limited implications for the standard setters. They reviewed results in three categories: (i) the incremental association of accounting variables and stock returns, (ii) marginal information content, and (iii) the relationship between accounting variables and equity valuation parameters.
Barth et al. (2001) criticised Holthausen and Watts (2001) and argued that value relevance studies offer informational content for the standard setters. They argued that Holthausen and Watts’ (2001) work is not a comprehensive review of value relevance studies in accounting.

Shackelford and Shevlin (2001) reviewed the empirical tax accounting studies in the US and found that three categories of studies were being performed in this domain: (i) coordinating tax and non-tax issues, (ii) the effect of tax on asset prices, and (iii) international and interstate taxation.

Healy and Palepu (2001) investigated discretionary information disclosure by managers. They argued that the demand for financial reporting and disclosure is the result of information asymmetry and agency conflicts between managers and investors. They also showed that earnings, book values and other required information possess informational content. Financial analysts also have provided new valuable information for predictions. Other results were as follows:

i. Auditing reports are perceived to increase the validity of the financial reports, but empirical results are rare;
ii. Accounting decision making can be influenced by compensation and lending contracts, and political costs are also important in this process;
iii. The discretionary information provided by management is considered valid information by investors.

Fields et al. (2001) investigated factors affecting accounting choices. They argued that agency costs, information asymmetry and outside information are important. They showed that only 10% of the articles in the top three accounting journals were related to accounting choices. In addition, the designated empirical research contained some problems that have caused researchers to replicate prior studies instead of developing new ideas. Therefore, the progress of this line of research has been very slow.

RESEARCH METHODOLOGY

This study employs content analysis and an archival methodology (Smith, 2003). We chose the methodology used by Kothari (2001) and modified it based on our national classification of accounting areas. This framework was selected because it is matched with the national and international accounting classifications (Noravesh, 2004).
The time period of 1991–2003 was investigated to obtain enough information related to our topic. Multiple data sources were employed. First, we gathered 205 empirical theses from the Iranian Information and Documentation Center (Irandoc), which maintains a large collection of dissertations. Second, we augmented our information base by reviewing the databases of the accounting research centre of the Audit Organisation of Iran and major Iranian accounting journals and magazines (including Accounting and Auditing Review, Accountant Magazine, Auditor Magazine, The Journal of Financial Research, Bourse Magazine, Economic News, Today Message, Planning and Budgeting Magazine, Journal of Humanities and Social Science of Shiraz University, Economy and Management, and some other academic journals published by Iranian universities). Because we found no comprehensive database of accounting research classification, we chose different databases and compared them to ensure that we obtained the most relevant studies. In addition, we have also used the database of the Shiraz Library of Regional and Science and Technology, which is a comprehensive international database. Finally, after controlling for overlaps between the studies cited in different databases, we found 405 studies for classification and analysis. Table 1 provides general information about these databases and journal articles.

Table 1
Classification of articles and theses.

<table>
<thead>
<tr>
<th>Number</th>
<th>Resource</th>
<th>Frequency of Articles and Theses</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Iranian Center (Irandoc)</td>
<td>205</td>
<td>50.6</td>
</tr>
<tr>
<td>2</td>
<td>Audit Organization Research Center</td>
<td>49</td>
<td>12.1</td>
</tr>
<tr>
<td>3</td>
<td>Accounting Journals</td>
<td>68</td>
<td>16.8</td>
</tr>
<tr>
<td>4</td>
<td>Shiraz Regional Library of Science and Technology</td>
<td>83</td>
<td>20.5</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>405</td>
<td>100.0</td>
</tr>
</tbody>
</table>

We collected studies from the 1991–2003 period because TSEM was reactivated in 1991 and accounting studies increased significantly in number thereafter. Furthermore, it was during this period that the number of entities listed in the TSEM increased through the establishment of local stock exchanges, which improved the availability of financial information.

To classify and investigate the main conclusions of these 405 studies, we chose a content analysis and a substantive analysis framework (Smith, 2003). Thus, we attempted to classify these studies based on their areas of focus and
their major contributions. This classification, however, is relative and may be changed based on individual judgments.

CLASSIFICATION OF THE STUDIES

Following Namazi and Nazemi (2005), we chose a descriptive framework for the content analysis that encompasses a description of the contents of the articles and classification based upon the topics studied, not on its classification in an ideal situation. Table 2 shows the frequency of accounting and finance studies on the TSEM. Four major topics of study were identified:

i. Financial Accounting;
ii. Auditing;
iii. Managerial Accounting; and
iv. Other Accounting Topics.

Table 2

<table>
<thead>
<tr>
<th></th>
<th>Frequency of the major topics considered in TSEM.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
</tr>
<tr>
<td>1</td>
<td>231</td>
</tr>
<tr>
<td>2</td>
<td>58</td>
</tr>
<tr>
<td>3</td>
<td>22</td>
</tr>
<tr>
<td>4</td>
<td>17</td>
</tr>
<tr>
<td>5</td>
<td>77</td>
</tr>
<tr>
<td>Total</td>
<td>405</td>
</tr>
</tbody>
</table>

The preceding classification system was selected because it is based on the Ministry of Science, Research and Technology (MSRT) academic programs in accounting, and it is expected that the majority of the studies conducted on the TSEM are carried out by the accounting programs of Iranian universities and research centres (Noravesh, 2004).

These findings are briefly presented as follows:

Financial Accounting

Based on our classification, approximately 15% of all TSEM studies during the selected time period were related to financial accounting and specifically investigated balance sheet and income statement items. We further divided these studies into two sub-groups based on their frequency and content. In the first section, we present the “decision making and
Mohammad Namazi and Amin Nazemi

financial reporting" topics. We then will review "other subjects" in the second section. Table 3 presents a summary of the classifications of studies in this group.

Table 3
**Subjects and classification of capital market research in TSEM (1991–2003).**

<table>
<thead>
<tr>
<th>Financial Accounting</th>
<th>Auditing</th>
<th>Managerial Accounting</th>
<th>Other Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Decision Makings and Financial Reporting</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information System</td>
<td>Audit reports (64%)</td>
<td>Cost accounting (29%)</td>
<td>Other subjects (58%)</td>
</tr>
<tr>
<td>(18%) *</td>
<td>Audit attitudes (14%)</td>
<td>Other subjects (29%)</td>
<td>Impact of economic indicators (18%)</td>
</tr>
<tr>
<td>Information Production</td>
<td>Operating auditing (5%)</td>
<td>Productivity (18%)</td>
<td>Privatisation (17%)</td>
</tr>
<tr>
<td>(12%)</td>
<td>Legal inspectors (5%)</td>
<td>Management accounting (18%)</td>
<td>Stock Exchange rules (7%)</td>
</tr>
<tr>
<td>Decision Makers</td>
<td>Market for auditors (4%)</td>
<td>Obstacles (18%)</td>
<td></td>
</tr>
<tr>
<td>(6%)</td>
<td>Managerial letter (4%)</td>
<td>Management information technology (6%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Audit risk (4%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other Subjects</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inflation reporting</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>(14%)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Declaration of dividend</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>(12%)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Taxation</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>(9%)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Consolidated financial statements</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>(7%)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Liquidity</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>(7%)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Accounting standards</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(4%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Development reserves</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(4%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inventory valuation</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>(3%)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Intangible assets</td>
<td></td>
<td></td>
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<tr>
<td>(2%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advertisement costs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

* Frequency of studies
Part 1: Decision making and financial reporting

According to the Iranian Accounting Standards, the major objective of financial statements is to present summarised and classified information about the financial position, financial performance and financial flexibility of an entity that is provided to many users to help them make better economic decisions (Accounting Standards, 2007). Therefore, the usefulness of a particular piece of information for decision making is a significant criterion for its presentation. In effect, given the results of a content analysis, it became necessary to classify relevant studies into three categories: information systems, information providers and decision makers.

(a) Information systems

Sahrapour (1993) and Ahmadi (1998) investigated the implications and difficulties of exploiting accounting information systems in the TSEM. Keshavarznejad (1996) studied provision of information to users for decision making purposes. She showed that external users of financial information demand timely information about the actual and expected results, and the lack of this demanded information, along with the inaccuracy and irregularity of information provided to users, are the major problems of Iranian entities’ information systems. She suggests that recourse to different means of presenting the required information to external users is the key solution to these problems. Saffarian (2004) reviewed the policies and requirements for disclosures in the TSEM and compared these requirements with other selected stock exchanges' requirements. He maintains that a framework for disclosing information in the TSEM is necessary to harmonise the Iranian information disclosure policies with global international standards.

(b) Information production

A major characteristic of efficient markets is the assimilation of suitable and sufficient financial and non-financial information for decision making. The standard-setters and regulatory agencies, like the FASB and the SEC in the US, the Audit Organisation and Tehran Stock Exchange Committee in Iran and other organisations, attempt to promulgate rules and standards required for disclosure. For example, Iranian Accounting Standard No. 22, entitled Interim Reporting, requires selected entities to prepare interim financial statements. Some TSEM studies have focused on this issue.

that both interim reports exert a significant effect on stock price changes and that entities that publish their interim reports maintain relatively persistent price changes.

Yarmohammadi (2001) investigated major factors that affect timely interim reporting of the TSEM entities. She found that: (i) the firm size, profitability and complexity of activities based on the product type do not affect timely interim reporting; (ii) frequency of stock transactions is positively affected by timely reporting; and (iii) centralised capital structures and the existence of efficient cost accounting systems do not affect timely interim reporting.

The Information Disclosure Act requires listed Iranian companies to publish quarterly non-audited financial statements one month after the selected quarter period and quarterly audited financial statements two months after that period (Davani, 2004). TSEM regulators believe that the disclosure of such information would affect stock prices. Fakhari (1993) and Mokarrami (2000) have investigated this subject.

Mokarrami (2000) found that interim financial reporting contains informational content and affects stock prices at the publication date. Fakhari (1993) conducted a similar study. On the other hand, Zalghi (1996) examined the effect of the accountant's skills on preparation of quarterly financial reports. He did not find a significant relationship between accountants’ qualifications and the quality of financial reporting.

(c) Decision makers

The major goal of information assimilation is to provide a basis for decision making. In effect, the primary qualitative characteristics of information will be dismissed if the disclosed information is not relevant.

Dolatshahi (1997), Farrokhnia (2001), and Khoshtinat (1999) investigated these issues. Dolatshahi showed that both investors and auditors employ accounting information such as tax income and extraordinary items, sales, net income, earnings per share, dividends per share and total assets for decision making.

Khoshtinat (1999) showed that financial accounting information can be extracted to decrease the observed bias in judgments and the required education to exploit financial statements. Such changes would not only provide more reliable information, but also cause users to rely more on the information provided in financial statements when making decisions.
Farrokhnia (2001) also investigated the role of financial information in decision making and revealed that investors do not employ any specific technical models in their decision making. He also argued that a lack of specialised knowledge, insufficient information concerning stock exchange databases, a low level of satisfaction with stocks' returns and the ability to earn more profits in other investments, such as bank deposits, bonds, automobiles and mobile phones, have had negative effects on stock market prices.

Saghafi and Malekian (1998) investigated the characteristics of the financial reports of listed Iranian companies and found a significant relationship between the size (total assets), debt to equity, net sales, income before taxes to net sales ratio and the full disclosures of the annual reports. However, they did not find a significant relationship between income before taxes to equity ratio and the comprehensiveness of the reports. Some other conclusions relating to this topic are as follows:

i. There is a need for a database that facilitates analysing the information provided in financial statements. For example, Zaiffard and Arabmazar (1994) investigated this subject and showed that only a few companies prepare and publish such databases; thus, there is a strong need for restructuring of existing accounting information databases;

ii. The harmonisation of information settings at an international level provides a suitable framework for accounting information disclosures. In this manner, investment at a global level is also enhanced;

iii. Interim reporting would affect stock prices of the TSEM; and

iv. Some financial statement items (total assets, debt to equity, net sales and income before taxes to net sales) are employed more than other items for the purpose of financial decision making.

Part 2: Other subjects of financial accounting

We describe other subjects of financial accounting that have been investigated in the context of the TSEM. These subjects, listed according to their frequency (shown in table 3), are as follows: inflation reporting, dividend policies, taxation, consolidated financial statements, liquidity, accounting standards, development reserves, inventory valuation, intangible assets and advertisement costs.
<table>
<thead>
<tr>
<th>Title</th>
<th>Author(s)</th>
<th>Objectives</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A) Information systems</strong></td>
<td>Keshavarznejad (1996)</td>
<td>The suitable conditions of information reporting to decision makers</td>
<td>Lack of knowledge about asymmetry of real and expected information, different needs of stock holders and lack of needed information, inaccuracy and irregularity in providing information to users, are the major problems.</td>
</tr>
<tr>
<td></td>
<td>Saffarian (2004)</td>
<td>Harmonization of disclosure policies with global standards</td>
<td>A disclosure framework is required.</td>
</tr>
<tr>
<td><strong>B) Information production</strong></td>
<td>Saghafi and Rahimian (1998)</td>
<td>Requirements for preparing interim financial statements</td>
<td>Appropriate interim reports are not prepared in TSEM.</td>
</tr>
<tr>
<td>Requirements for preparing interim financial statements by TSEM's listed companies.</td>
<td>Yarmohammadi (2001)</td>
<td>The relationship between firms' characteristics and timely interim reports</td>
<td>There is no relationship between the firm's size, profitability, and complexity of products, ownership structure, timely reporting, and stock transaction recordings.</td>
</tr>
<tr>
<td>Factors affecting timely interim reports in TSEM's listed companies.</td>
<td>Mokarrami (2000)</td>
<td>The relationship between stock prices and interim reports</td>
<td>Information content of interim reports is shown.</td>
</tr>
<tr>
<td>Relationship between the financial reporting quality and the numbers of qualified accountants</td>
<td>Dolatshahi (1997)</td>
<td>Decision making process</td>
<td>Sale items, net incomes, Earnings per share (EPS), DPS and total assets are used for external decision making.</td>
</tr>
<tr>
<td>The impact of accounting information on decision making process in TSEM</td>
<td>(continued)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 4 (continued)

<table>
<thead>
<tr>
<th>Title</th>
<th>Author(s)</th>
<th>Objectives</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>The comprehensiveness of annual reports and financial characteristics of the listed companies.</td>
<td>Saghafi and Malekian (1998)</td>
<td>Financial characteristics of the companies</td>
<td>There is a significant relationship between the firm's size, debt to equity ratios, net sales, incomes before taxes to net sales ratios, and full disclosures of the annual reports. There is not a significant relationship between incomes before taxes and stock holders' equity.</td>
</tr>
<tr>
<td>The role of financial information in making decisions in TSEM.</td>
<td>Farrokhnia (2001)</td>
<td>Decision making process</td>
<td>Lack of special knowledge, insufficient databases, unsatisfied returns on investments and inconsistency between markets, would cause investors do not use specific models in buy/sale decisions.</td>
</tr>
</tbody>
</table>

(a) Inflation reporting

Financial statements are prepared based on the historical costing approach, but changes in prices and decreases in purchasing power caused by inflation have affected financial information and reduced the relevance of historical cost information. Thus, SFAS No. 33 in the US, for example, required enterprises to present supplementary adjusted financial statements based on general price levels. However, presentation of such information became discretionary because of pressure from lobbying groups. Thus, researchers have sought to find answers to such questions as whether presentation of the adjusted information (based on the price level changes) affects investors' decisions.

Mostophi (1993) attempted to determine whether adjusted income statements based on general price changes are more useful for predicting future earnings than historical cost information. He found that adjusted income statements indeed contain little information for predicting future earnings and therefore, the relevance of the qualitative characteristics of such information is in doubt.
In another study, Moradinia (1994) investigated the types of information employed in decision making. She showed that investors utilise more non-financial information and consider this type of information to be more reliable. In addition, she reported that nearly all users adjust the financial statements before decision making. These adjustments include: (i) fixed assets revaluation and consideration of foreign liabilities and their effects on net income, (ii) adjustments based on the qualified paragraphs in the audit reports, (iii) adjustments based on the inflation rate, (iv) adjustments based on the deferred taxes, and (v) adjustments based on the foreign exchange rates.

Asgharian (1994) tested the impacts of the general price index financial accounting items on price settings in the cement industry. He found that these adjustments cause increasing stock prices of the listed companies. However, he referred to the cost-benefit concept and concluded that historical information was suitable for price setting. Johari (1996) and Ghanavati (1996) also investigated this question in the textile industry.

In summary, there is no distinct evidence about the effects of general price level changes on financial statements and decision making. However, it seems that revaluation of assets that has been deemed legitimate by the national accounting standards setter (the Audit Organisation) somewhat decreases the inflation effects of the financial accounting statement items.

(b) Earnings declaration and dividends

As a general rule, entities distribute earnings between their stockholders through cash or stock dividends. Thus, Samadzadeh (1993) studied earnings distribution policies and their effects on the stock values for TSEM companies. He found that managers were not familiar with earnings distribution policies and did not follow the prescribed policies for presentation of the financial positions of the entities.

On the other hand, stockholders did not pay attention to cash dividends and their changes as an adjustment signal. In addition, he showed that earnings distribution did not affect stock returns because of the legitimacy of earnings distribution time lags (the National Business Act permits entities to delay cash dividend distribution for eight months after approval). Therefore, stockholders are not interested in earnings distribution. Abbasi (1991), Gholipour (1995), Abdollahpoor (1997) and Rohaniipoor (1999) also conducted studies in this line of research and reported similar results.

One of the most common objectives of earnings distribution studies is to investigate the relationship of earnings distributions with stock prices and stock
returns and, therefore, market efficiency. Namazi (2004) and Namazi and Shooshtarian (1996) investigated this subject and showed that:

i. The concept of efficiency and its different levels (weak, semi-strong and strong forms) is complex, and it depends on different contexts, such as competitive markets, efficient information systems, and correct understanding of financial information by its users; and

ii. Market-based research shows that the TSEM is not efficient in the weak form, but it is moving towards efficiency by increasing local stock markets' development and improving information systems - especially for accounting information. However, at present, the efficiency evidence is not statistically significant.

(c) Taxation

Despite the importance of tax incomes for the listed companies (at least for reporting to the government), studies in this area are scarce. Tax allowances of the listed companies and indirect use of tax information by investors in decision making are two major topics that have been addressed by this field of research. In addition, preemptive right taxes, investment taxes and tax laws have been studied by Iranian accounting researchers.

Golestani (1996) showed that tax assessments of nearly 87% of the listed companies are based on their journals and ledger books, and the remainder (13%) are based on tax officials' assessments. About 63 percent of the listed companies follow Generally Accepted Accounting Principles (GAAP). However, they are aware of the existence of conflicts between the GAAP-based and tax-based income numbers and the probable losses resulting from these discrepancies. About 63% of the listed companies have sufficient knowledge about acceptable expenses and depreciations and have some experience with declaring assessment notices, but they do not sufficiently record the required tax provision caused by the tax differences.

In addition, about 42% of the managers argued that tax rates are high and that there is a need to revise the tax rates. Importantly, 98% of the managers argued that tax problems are the main obstacle for asset revaluations. In addition, 48% of the listed companies do not employ tax exemptions for development reserves because they are not acceptable by the Ministry of Economics and Finance.

The revaluation obstacles and non-tax exemptions showed that revaluation of assets would not lead Iranian companies to revaluate and present
their financial statements based on the current values. Therefore, historical costs are the prevalent method for preparing financial statements. Given the tax assessment legitimacy of the Iranian Certified Accountants, conducting more research on tax problems and their obstacles seems necessary. Consequently, creation and development of an efficient tax system that supports investment in financial assets also seems very desirable.

(d) Consolidated financial statements

In Iran, when an entity obtains control over another entity, consolidated financial statements are required. In recent years, the number of companies that are required to consolidate their financial statements has increased. Thus, Khoshyonn (1998) investigated the extent to which parent companies rely on their subsidiaries’ financial information. He found that for 89% of the sampled companies, auditors reported a qualified opinion, and returns on the investments in investees’ companies were less than 20%. He also discovered that approximately 35 to 42.5% of the financial statements of the investees were used by the investors for decision-making purposes.

Langari (1994) and Samarbakhsh (2001) also studied the role of the consolidated financial statements in decision making. Langari (1994) showed that although consolidated financial statement information is needed for decision making, it is not exploited appropriately. He argued for the following causes of this problem:

i. The public sector’s management of business units;
ii. A lack of sufficient knowledge relating to consolidation;
iii. A lack of authoritative requirements;
iv. A failure to reflect the subject in the audit and legal inspectors’ reports;
v. The existence of surrogate information;
vi. The existence of unsuitable and inefficient accounting systems;
vii. Inefficiency of personnel and accounting systems of the parent companies; and
viii. A failure to implement financial management ratio analysis.

Unfortunately, studies on this topic are scarce, and therefore we cannot assess its findings extensively. More research in this area is required.

(e) Liquidity

showed significant positive relationships between cash flow cycles and current ratios, accounts receivable and inventory turnover. They also found significant negative relationships between cash flow cycles and acid test ratios, accounts payable turnover, gross profit sales ratios, return of investment (ROI) and leverage ratios. However, there was no significant relationship between cash flow periods and return of assets (ROA) ratios.

(f) Accounting standards

The Audit Organisation is a government agency in Iran that is authorised to enforce accounting and auditing standards. Accounting standards have been prescribed since 2002, and so far, this organisation has published 29 standards and 3 other promulgations that are in due process (concerning EPS, impairment of assets, the disposal of noncurrent assets held for sale, and discontinued operations).

Alizadeh (1997) revealed that the disclosure standards were used in preparation and presentation of the balance sheet by 95% of the sample companies. Furthermore, these standards were exerted in preparing income statements by 90% of the companies and were used for cash flow statements by 75% of them. He concluded that the implementation rate of the disclosure standards in preparing and presenting financial reports by the listed companies was 80%.

(g) Development reserves

Mahooti (1996) investigated 23 listed companies during the period of 1992–1994 and found no significant correlations between raising capital resources and the development of physical assets. On the other hand, resources that were provided by capital increases were not implemented to develop and complete fixed assets. He also showed that there was no significant relationship between proposed dividends and dividends payable and distributed earnings for the listed companies.

(h) Inventory

Very limited research in this area was found. Evazi (2002) investigated factors affecting inventory accounting choices. He revealed that there were no significant relationships between accounting choices (such as the FIFO and average methods) and the firm size, debt to working capital ratio and industry type.
Mohammad Namazi and Amin Nazemi

(i) Intangible assets

Boghaddareh (1995) studied accounting for intangible assets for the listed companies and showed that companies employed traditional accounting methods that were not based upon a uniform criterion for valuation and bookkeeping purposes; therefore, intangible assets were not presented properly.

(j) Advertisement costs

Ebrahimi (1995) investigated the application of the recognition method for advertisement costs (i.e., capitalising or expensing advertisement costs) and found that advertisement costs could be capitalised in some industries. He investigated four industry groups during the period of 1977 to 1993, including: (i) chemical, (ii) food and beverages, (iii) textile, and (iv) household appliances. Except for the chemical industry, in which advertisement costs had a significant influence on future revenue distributions and should be expensed in the current period, advertisement costs had no influence on revenue distributions.

Summary Check Points in Financial Accounting

We can briefly conclude that, except for reporting, there are only a few studies on financial accounting in the Iranian context. Therefore, Iranian researchers should consider other topics within financial accounting and concentrate more on investors' decision-making demands. The most important results of the financial accounting section can be summarised as follows:

i. Earnings distribution does not affect stock returns, and stockholders are not interested in the dividend policies because of multiple problems;
ii. Tax acts are the major obstacle to revaluation of assets;
iii. Despite the importance of the consolidated financial information, it is not properly utilised for decision making;
iv. Resources raised by equity holders are not employed for development and equipment costs;
v. There are no significant relationships between accounting choices and firm size, debt to working capital ratio and industry type;
vii. Intangible assets are not valued and presented properly in the financial statements of the listed companies;
vii. Advertisement costs can be capitalised in some industry groups.
Auditing

As table 3 shows, auditing reports are the second major topic considered by Iranian researchers. Alizadeh (1995) investigated auditors' attitudes towards major factors that would cause earnings changes that affect decision making processes. He concluded that a proper information presentation in financial statements, especially earnings changes caused by sales price variations, production and sales volume and changes in costs of goods sold items, were useful in the decision making processes of the financial statements' users.

Rahimi (1996) investigated the impact of the audit evidence on audit reports. Jamshidi (1993) and Tabibi (1993) also reviewed problems confronting the exploiting of audit reports for the listed companies and the reasons for adverse (or qualified) reports.

Rajabi (1997) analysed audit service markets in Iran and showed that the client, firm size and type of the firm significantly affected the audit fees. He argued that the Audit Organisation, which is a governmental organisation, provides major auditing services in the country, and therefore the audit market is not competitive. (This research, however, was conducted ten years ago, and currently a segment of the audit services have been transferred to private auditing firms).

Golnari (1997) selected 60 companies listed during 1991–1995. He reviewed their audit reports and found that, in recent years, most of the auditors and legal inspectors' reports were routine, and stockholders did not pay attention to these reports. Ebrahimi (1999) also showed that auditing and legal inspector reports were not considered by common stockholders; but Mousavi (1999) showed that lenders, stockholders and investors rely on the audited financial reports.

Noravesh and Fiali (1997) investigated the entropy of the balance sheet items and auditing correction notes and reported a significant relationship between the entropy of other assets, accounts payable and auditing correction notes.

Nick-khah and Mojtahedzadeh (1998) reviewed the responsibilities of the independent auditors and argued that the auditors’ most important responsibilities include audit assessment, evaluation of internal control structure, detection of misstatements (errors and fraud), evaluation of social responsibility and accountability of the clients.
Shabahang and Khatami (1999) tested the effects of the qualified opinions on stock prices and on stockbrokers' analysis of the annual financial statements. They found that audit paragraphs affected clients' stock prices, but stockbrokers did not consider audit paragraphs in their analysis. Thus, audit qualification paragraphs are only effective in changing institutional investors' behaviours.

Azgoli (2000) also investigated the impact of auditing reports on the stock prices of the TSEM listed companies and reported that the type of information reflected in auditing reports can change stock prices.

Kadkhodaee and Mohammadi (2001) studied the relationship between stock returns and the type of audit assessments for the listed companies. They concluded that:

i. A significant portion of the audit reports (approximately 68.5%) were issued by the Audit Organisation; and
ii. There was no significant relationship between audit assessments and stock returns.

They recommended that authoritative bodies support and develop suitable rules and regulations and train stakeholders to improve the efficiency and usefulness of the auditing reports.

Mirmotaharri (2001) studied 50 actively traded companies from 1998 to 2000. He revealed that, in nearly all selected samples, qualified audit reports were issued. In addition, the number of qualification paragraphs in manufacturing companies’ reports was greater than in the investment companies’ reports. Finally, he argued that tax qualified paragraphs (in the audit reports) were the most frequently appearing paragraph in audit reports of the sampled companies.

**Summary Check Points of Auditing**

The most frequent topic considered by auditing researchers in the TSEM context is the content of auditing reports. The existing findings do not support any hypothesis with certainty. Therefore, there is a need for in-depth studies to be conducted in the future. In these studies, the roles of the Audit Organization and the Iranian Certified Public Accountants (IACPA) should also be considered. Table 5 summarises the major findings of this line of research.
Table 5
Summary of the auditing research findings.

<table>
<thead>
<tr>
<th>Title</th>
<th>Author(s)</th>
<th>Period (year)</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>An analytical study of the auditing attitudes towards the effect of disclosing significant factors in earnings changes.</td>
<td>Alizadeh</td>
<td>1995</td>
<td>Appropriate disclosures in financial statements (specifically earnings changes, sales price changes, sales volume changes and changes in the costs of goods sold items) are useful in decision makings.</td>
</tr>
<tr>
<td>Studying the relationship between the entropy of financial positions and auditing correction notes.</td>
<td>Noravesh and Fiali</td>
<td>1997</td>
<td>There is a significant relationship between some balance sheet items and audit correction notes.</td>
</tr>
<tr>
<td>The effectiveness of the auditor and legal inspectors' reports in common stockholders' decisions.</td>
<td>Golnari</td>
<td>1997</td>
<td>Most of the reports issued during recent 5 years, are repetitive and therefore, they are not used for decision makings.</td>
</tr>
<tr>
<td>Auditing markets in Iran</td>
<td>Rajabi</td>
<td>1997</td>
<td>Size of the firm is a significant factor affecting the audit fees.</td>
</tr>
<tr>
<td>Identifying auditing responsibilities based on the auditing users and auditors' views.</td>
<td>Nick-khah and Mojtahedzadeh</td>
<td>1998</td>
<td>Audit assessment, evaluation of the internal control structures, fraud detection, evaluation of the social responsibility and client accountability are the most important responsibilities.</td>
</tr>
<tr>
<td>The effect of auditing reports on stock prices and annual financial statements analysis by stock brokers.</td>
<td>Shabahang and Khatami</td>
<td>1999</td>
<td>There is a significant relationship between the auditing qualification reports and stock prices.</td>
</tr>
<tr>
<td>Auditing reports in TSEM</td>
<td>Mirmotahari</td>
<td>2001</td>
<td>Nearly all samples received a 'qualified report'. The most frequent qualified paragraph is relating to the &quot;tax&quot; paragraph. The number of the &quot;qualified paragraphs&quot; for manufacturing companies is more than the investment companies.</td>
</tr>
<tr>
<td>The effect of auditing assessments on stock prices.</td>
<td>Kadkhodae and Mohammadi</td>
<td>2001</td>
<td>There is no significant relationship between audit assessments and stock prices.</td>
</tr>
</tbody>
</table>
Managerial Accounting

As table 3 shows, most managerial accounting studies of the TSEM have concentrated on cost accounting. Jalilpour (1995) investigated the application of a master budget program in the tire and plastic industry. He showed that implementing a master budget improves performance and increases efficiency. He also pointed out the role of the human aspect of the budgeting process and argued that managers’ communication would improve their knowledge on the objectives and permit problems and constraints to be overcome.

Khajavi (1995) found that the managers of the manufacturing companies in the TSEM do not possess sufficient knowledge about different management accounting concepts and methods. He maintained that the most important restrictions against the development of management accounting concepts in manufacturing companies are as follows:

i. Lack of necessary information for predicting the required variables;
ii. Lack of cooperation and coordination between different manufacturing departments;
iii. Problems in training managers to understand what is being implemented in practice (i.e., practical management accounting methods); and
iv. Difficulties in separation of the fixed and variable costs that arise because of internal and external problems.

Ebrahimi (1997) argued that an Activity Based Costing (ABC) system could provide vital information for managers to enable them to concentrate on customers, identify opportunities and create improvements in the organisation. He studied the possibility of implementing ABC in a particular company (Gas-Butan Manufacturing Co.). He concluded that there were two prerequisites for implementing ABC in this company: (i) the existence of various management styles and accountability for employing the system and (ii) data availability and an appropriate environment for designing and establishing ABC. Managers of the selected company had sufficient knowledge to implement ABC. Furthermore, it was possible to identify activities and cost drivers in the company to compute the ABC costs.

Masoumian (1997) focused on other aspects of the management accounting methods. He studied the capital project evaluation methods in the TSEM. He reported that the selected managers mostly exerted two capital budgeting methods, the net present value (NPV) and the profitability index (PI), and they did not employ other analytical methods of evaluating the projects. In
addition, managers argued that the PI index was the most important method and that NPV, internal rate of return, payback period, accounting rate of return and reverse payback period were the next most important methods that could be exercised by TSEM companies.

Gholipour (1997) reviewed the role of management cultures in improving human resource productivity among the listed companies. He argued that religious aspects of the culture affect productivity and that nearly all productivity problems result from management weaknesses. Hajikarimi (1992) gathered nine years of time series data to investigate the relationships between productivity, employee training, compensation and corporate culture. He reported a positive relationship between productivity, training and compensation, but he found no relationship between productivity and cooperation. Esmaeelpour (1994) also reviewed the role of effective communication in increasing productivity and investigated the contributions of the significant factors affecting productivity.

**Summary Check Points in Managerial Accounting**

Limited study of TSEM managerial accounting issues has been attempted. The studies conducted are mainly related to the extent of management knowledge about information technology, the role of cost accounting systems in management control, cost control processes in the automobile industry, and empirical research on total quality management (TQM) in the pharmacy industry. Table 6 provides a summary of the findings.

One can conclude that the major managerial accounting studies are related to cost accounting issues and problems and obstacles hindering the implementation of cost accounting systems. However, few studies exist in the field of management accounting. Therefore, it is imperative that researchers pay more attention to this field. Also, it seems that the TSEM listed companies face different problems in applying advanced managerial accounting techniques such as the ABC. These problems are mainly related to employee resistance to change and a lack of knowledge about the necessary techniques, productivity and information updating.
Table 6
Summary of management accounting research findings.

<table>
<thead>
<tr>
<th>Title</th>
<th>Author(s)</th>
<th>Period (year)</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>The investigation of management accounting obstacles in TSEM' listed companies.</td>
<td>Khajavi</td>
<td>1996</td>
<td>Managers do not have sufficient knowledge about management accounting concepts and methods. Lack of necessary information, Lack of managers' understanding of practical methods, Lack of separation of fixed and variable costs are essential problems.</td>
</tr>
<tr>
<td>The relationship between strategic decision making models and productivity in the mineral industry.</td>
<td>Gholipour</td>
<td>1997</td>
<td>Management weaknesses would cause less productivity.</td>
</tr>
<tr>
<td>Long-term investment evaluation methods (capital projects) in TSEM.</td>
<td>Masoumian</td>
<td>1998</td>
<td>Companies mainly use only two methods for capital investment evaluation; NPV and PI.</td>
</tr>
<tr>
<td>Required conditions for implementing ABC in the house appliance industry.</td>
<td>Ebrahimi</td>
<td>1997</td>
<td>Managers had sufficient knowledge about ABC. In addition, it was possible to identify activity cost drivers in selected companies.</td>
</tr>
</tbody>
</table>

Other Subjects

In this section, we review other important topics: macroeconomic variables, privatisation and other related subjects (see Table 3). These studies are listed in table 7.
Table 7
Summary of other economic subjects in TSEM.

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Author(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>exchange markets</td>
<td></td>
</tr>
<tr>
<td>The need for other exchange markets (agricultural</td>
<td>Rasoolof (2002), Eskandari (2003)</td>
</tr>
<tr>
<td>and metal products)</td>
<td></td>
</tr>
<tr>
<td>Stock insurance</td>
<td>Valibeigi (2002), Ghazizadeh (2003), Talebi (1997)</td>
</tr>
<tr>
<td>Stock exchange and automobile industry</td>
<td>Arman (1997)</td>
</tr>
<tr>
<td>Women participation in the stock exchange</td>
<td>Shahrokni (1999)</td>
</tr>
</tbody>
</table>

The effect of macroeconomic variables

Economic factors affect society as a whole. In Iran, oil revenues are the major income source of the government. Therefore, changes in oil prices affect economic welfare nationwide. In addition, gold prices, foreign currency prices, inflation, real estate conditions and fuel prices are the most important economic variables and thus, they have been investigated in the context of the TSEM.


Javadpour (1996) found that forward index changes and stock price variations are not correlated. On the other hand, except for the two indices that did match the signs of stock price changes, other index changes were not significant; the first index was the number of building permissions for the private sector and the second was the number of licenses for new industries.

Lotfi (1997) studied stock return time series trends. He found that the rate of return growth was greater than the inflation rate. Also, the stock price index growth far exceeded the inflation rate and the net income growth rate and the dividend growth rate was indeed greater than the inflation rate. He also concluded that the stock price growth rate was abnormal in selected samples. Badkobehi (1995) and Yahyazadehfard (1999) also considered this subject and reported similar results.
The preceding findings suggest both that economic factors affect financial parameters and stock market variables and that stockholders should utilise hedging policies to minimise economic effects. However, more in-depth research is required to identify the effects of other economic factors, such as inflation, oil prices and foreign currency prices.

Privatisation

In recent years, the Iranian government has tried to increase its efficiency and effectiveness by transferring governmental holdings to private sectors. An important question, however, is how to privatise. Generally, stock markets are integrated and organised markets that are structured by many investors. These markets can be extracted for privatisation. Therefore, the government has attempted to privatise governmental entities through the TSEM. The government has also attempted to monitor governmental entities that become private companies to assure an increase in their efficiency and effectiveness. Aminimehr (1994) investigated the efficiency of privatisation and revealed that privatisation through the TSEM has not been truly efficient.

Miri (1995) investigated privatisation trends in manufacturing entities and concentrated on their efficiency and effectiveness. He discovered that the profitability and production ratios increased after privatisation.

Talebi (1997) compared market values based on the initial public offering (IPO) prices of private companies and discounted cash flows. He showed that stock price changes were not related to predicted rate of returns. Therefore, it was not possible to determine stock prices based on financial and economic variables. He argued that accounting and economic valuation techniques would create significant problems for price detection.

Arabi (1996) showed that privatising manufacturing companies would improve their performance. He studied this subject in the chemical, food and beverage, tile, mineral and packaging industries and found that except for the chemical industry, performance increased following privatisation.

On the other hand, Almasi (2001) considered the effect of privatisation policies based on the Economic and Social Development Plans and extracted three criteria (EPS, ROA and return of equity (ROE)); he reported that the selected companies' performances did not improve after privatisation.
Table 8 shows a summary of the findings for this section.

Table 8

<table>
<thead>
<tr>
<th>Title</th>
<th>Author(s)</th>
<th>Period (year)</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparison of privatisation methods and trend reviews.</td>
<td>Aminimehr</td>
<td>1995 (two period)</td>
<td>Privatisation methods are not appropriate in spite of the acceptance of provisions in TSEM.</td>
</tr>
<tr>
<td>The effects of privatisation on the efficiency of manufacturing companies.</td>
<td>Miri</td>
<td>1995</td>
<td>Profitability and production ratios have been increased after privatisation.</td>
</tr>
<tr>
<td>IPO (Initial Public Offering) pricing problems and suggestions for an appropriate method.</td>
<td>Talebi</td>
<td>1997</td>
<td>Comparison on the first price and present value of discounted cash flows shows that financial and economic information are not sufficient for price detection.</td>
</tr>
<tr>
<td>The effects of industry type on performance after privatisation.</td>
<td>Arabi</td>
<td>1997</td>
<td>Privatisation concepts for pharmacy industry would improve performance.</td>
</tr>
<tr>
<td>The effects of privatisation on financial performance in TSEM.</td>
<td>Almasi</td>
<td>2001</td>
<td>After privatisation, financial performances (ROE, EPS, and ROA) have not been improved.</td>
</tr>
</tbody>
</table>

Based on these results, one can conclude that the efficiency of privatisation has not been significant because of the lack of appropriate monitoring mechanisms, the use of an inappropriate privatisation framework, errors in pricing and mistakes in firm selection. These factors should be seriously considered by the government because if public reliance on privatisation decreases, it would be difficult to restore it and the advantages of privatisation would be diminished.

SUMMARY AND CONCLUDING REMARKS

The TSEM has an important role in merging small investments and it provides an efficient capital allocation mechanism. Various researchers have studied different accounting-based variables pertinent to the TSEM companies. In this study, we have cited and categorised these subjects and findings published during the 1991–2003 period based on content analysis and archival evidence. We believe this classification will be useful and effective for future research by categorising the major studies and their findings.
The major objectives of this study were to compile a relevant database of studies conducted on the TSEM and to report the significant findings of these studies and their implications for the capital market. In approaching these objectives, after reviewing different databases and published articles, following Namazi and Nazemi (2005), we based our classification system on the content and frequency of the articles and we classified the relevant studies into four groups: financial accounting (14.3% of studies), auditing (5.4%), management accounting (4.2%) and other subjects (19.0%). Finance studies (57.1%), which comprise the majority of TSEM studies, were not considered because Namazi and Nazemi (2005) presented these results.

The finance studies, however, make up the majority of the reviewed literature. According to Namazi and Nazemi (2005), information content studies (16%) were the most frequent studies in this section. Stock prices and stock returns predictions (9%) and market efficiency (8%) were the next most frequent topics considered by the researchers (Namazi and Nazemi, 2005).

Financial accounting is the second most popular area of study. Financial reporting, information disclosure and decision making (totalling nearly 40%) were the major topics studied based on the number of published studies. Financial reporting studies are divided into three groups: information provider, information users and information systems. Accounting standards, taxation and consolidated financial statements are also included in this section.

Auditing studies of the TSEM are concentrated on auditing reports. Auditing reports provide a summary of auditors' findings. The reliability of audit reports is increased if they are assessed by independent auditors because they must be independent and qualified to provide an accurate assessment. However, in the future, more research must be conducted in this venue because the auditing profession involves other aspects worthy of study.

Cost and management accounting were introduced as the third most frequent topic studied in the TSEM context. Budgeting methods, the ABC system, decision making techniques, and human aspects are the major topics in this section. It seems that researchers have not extensively studied managerial accounting topics because of the difficulty or impossibility of collecting the required information from the TSEM companies.

Finally, we presented research on other topics, such as economic factors and privatisation. Based on the results, we can conclude that privatisation mechanisms are inefficient because of the lack of an appropriate monitoring framework, the use of inappropriate privatisation mechanisms, errors in pricing,
and mistakes in firm selection. These findings could help the government to improve the efficiency and effectiveness of the economic resources involved in the privatisation process.

We should note that these findings are relevant to a specific period (1991–2003) and are not comprehensive. We only attempted to explain the major studies and results. We also encountered many restrictions when attempting to access databases. These databases, in some cases, were not complete, and therefore it is probable that some relevant studies are not included in this review. Furthermore, access to the results of past studies was not easy to obtain. Unfortunately, even the most complete academic database (i.e., irandoc.ir) contains a substantial amount of missing data. Therefore, we could not obtain complete information about some studies. Finally, we found that some researchers’ names were repeated two or three times because their topics were not new and/or their studies were published in different sources.

In summary, in recent years, the number of studies relating to different aspects of the TSEM has increased significantly, and the research techniques and approaches used in these studies have also improved greatly. They have provided useful knowledge about the capital market and the functions of accounting areas. However, much more research is necessary. We suggest the following areas for future investigations:

i. Creation of a more comprehensive database of TSEM studies;
ii. An in-depth analysis of each area of the studies identified in this article;
iii. Studies of different accounting standards and values relating to the TSEM and its efficiency;
iv. Research on the implications of the auditing standards, managerial accounting data and systems, tax laws, etc. for the efficiency and effectiveness of the TSEM; and
v. Creation of EMH mechanisms in the TSEM.

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29
Mohammad Namazi and Amin Nazemi


