



Evidence on asset sales and income management: Case of Iran

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ABSTRACT

This study empirically examines whether managers manipulate reported income through the timing of sales of long-lived assets and investments. Several empirical implications of the income-smoothing and debt-equity hypothesis in the context of asset sales were tested. The findings are consistent with the timing of asset sales by managers so that the recognized accounting income from these sales smoothes intertemporal income changes and mitigates accounting-based restrictions in debt contracts. In conformance with the income-smoothing hypothesis, the findings show that income from asset sales is significantly higher for firms that exhibit decreases in annual income than for firms experiencing increases. In conformance with the debt-equity hypothesis, the evidence indicates that income from asset sales of high debt-equity firms significantly exceeds that of low debt-equity firms.

Keywords:

income management, asset sales, debt-equity ratio.



1. Introduction

Accounting numbers are an important great statistics of the financial operation of firms, and therefore are of interest to stakeholders. Because the size of income is affected by accounting decisions, two interesting questions are whether firms “manage” income through such decisions and what determines income management. The great part of studies on income management focuses on incentives for and restricts on income management by listed firms. Prior evidence reached the following incentives for income management: for both internal (bonus plans and debt contracts) and external contracts, capital markets and the political and regulatory process, and some specific circumstances (labor union contract, contests, and income decreases or losses). In regard to on income management, the evidence like managerial and institutional ownership; audit committee; auditor size; and the size of the board of directors.

Income management has attracted great academic attention. Good interest in the issue has been high after accounting frauds at Enron and WorldCom were revealed. Income management is the process of taking actions within restriction of of general accepted accounting principles so as to bring to a good level of reported income. According to Healy and Wahlen (1999) income management:

Occurs when managers use judgment in financial reporting and in structuring transactions to change financial reports to either mislead some stakeholder about the underlying economic action of the company, or to effect contractual outcomes that depend on reported accounting numbers.

There is great interest in the findings of current research, as the reviews by Schipper (2001), Healy and Wahlen (1999), and Dechow and Skinner (2000) indicate. Focusing a lot on the incentives, managers have to manage income; many motivations have been used in the literature.

One good reason for managers to enter into income management would be their compensation (Healy, 1985; Gaver et al. 1995). Some researchers have found that income management occurs to meet company predicts (Kasznik, 1999) or analyst forecasts (Burgstahler and Eames, 1998). Other studies have tested the incentives of managers to manipulate income in an attempt to avoid debt contract restrict (Defond and Jiambalvo, 1994), to

smooth income (Moses, 1987), to protect firms from political costs (Maydew 1997; Han & Wang 1998), to protect the ownership control of firms (Perry and Williams, 1994; DeAngelo, 1988), and to effect capital market participants. Teoh et al. (1998) and Rangan (1998) provide evidence that manager’s manipulation income before seasoned equity offerings and initial public offerings. Kasanen et al (1996) give evidence that managers like to maintain dividend payout rates where distribution of dividends important. To best knowledge this paper is the first to examine income management by whether managers manipulate income through the timing of income recognition from disposal of long term assets and investments.

Real actions of income management have been revealed in recent years (Graham et al. , 2005). The majority of financial executives surveyed show a strong preference for smoothing income, and some managers are willing to give some economic value to achieve smoother income. The timing of asset sales to smooth income is in the context of giving up some economic value to reach to a financial reporting goal.

As Healy and Wahlen (1999), I define income management as the changing action of firms’ reported economic action by people inside company in order to mislead some stakeholders or to affect contractual outcomes. Incentives to misrepresent firm action through income management exist, in part, from a conflict of interest between insiders and outsiders. Insiders are owners or managers which have control and they can use this control over the firm to benefit at the expense of other stakeholders. Like requisite consumption and the transfer of firm assets to other firms controlled by insiders or their families. Some value is benefited mostly by insiders and not shared with outsiders.

Insiders have incentives to obscure their control benefits from outsiders, if these benefits are revealed; outsiders will take regulatory action against them. Controlling owners (e.g. Managers) have incentives to manage income in order to cover true firm action and to conceal their control benefits they have from the outsiders. A good example is how insiders can provide themselves with financial reporting discretion to increase income and block out losses that would swift outsider interference. Insiders can also provide themselves with accounting discretion to generate reserves for next next periods by decreasing income

in years of good action; making reported income less variable than the firm's actual action. Insiders cover their private control benefits and decrease the likelihood of outside conceded by managing the level.

Income is one of the firm's most figures seen. Accounting income fetches information about firm values to investors. Ball and Brown (1968) and Beaver (1968) were among the first to show that income astonishing outcome are positively related to stock returns. Bernard and Thomas (1990) also reported a positive relation between income astonishing outcome and stock returns. Managers exercise some discretion in acquiring income without failing to meet generally accepted accounting principles. Whereas, firms can affect reported income by quickly revenue recognition and postponing expense recognition. This effectively moves income to the current period from a subsequent period. Firms can affect income by changing methods of calculating inventory, re estimating bad debt expense, or lots of other techniques.

Firms use discretionary accounting choices to control and manage disclosures especially income disclosures around the time of specific types of corporate events. Jones (1991), argues that firms control and manage income in long term in order to effect the outcomes of import firm actions. Also, DeFond and Jiambalvo (1994) find evidence showing income manipulation by firms that fail to meet debt contracts.

In general, consistent income enhances the confidence of stockholders, stakeholders and creditors for reaching to the value of the firm and managing it (Lambert 1984, Ronen & Sadan 1991, Trueman & Titman 1998). Managing earnings becomes an important action for shareholders and investors when management manipulates current income at the benefit of long term value of the firm. The size of income management done by management is affected by the corporate environment. Schipper (2001) discusses two levels of income management: One the less expensive level: management chooses a good accounting method to achieve to the desired level of income. The more expensive level is of income management performs when management changes the timing and/or size of long term decisions. Some researches were done about the timing of sales of assets and its relationship with income management finding evidence (Levitt, 1998). In addition, prior

researches suggest that one of the methods of income manipulation is done by asset sales (Fudenberg & Tirole, 2005).

2. Literature Review

2.1. Income Management Incentives Meeting analysts' expectations

Analysts' expectations and company estimates tend to show two components of financial performance: revenue and income from operations. The force to meet revenue expectations is very intense and may be the first catalyst in showing the managers to negotiate in income management that result in fraudulent or negative revenue recognition action. Magrath and Weld (2002) showed that improper revenue recognition actions were the cause of part of restatements of income filed in the SEC 1977 to 2000.

It is often the firms that create this force to meet the market's income expectations. It is very common action for firms to acquire income prediction to analysts, investors and stakeholders. Management is sometimes faced with the duty of ensuring their goal prediction is met. Several firms, like Coca-Cola Company, Intel Corporation, and Gillette Company have a contrary stance and don't acquire quarterly and annual income estimates to analysts. These firms claim they have altered their focus from meeting short term income prediction to achieving their long term plans (McKay and Brown 2002).

2.2. To avoid debt-contract violations and minimize political costs

Some firms have the motives to avoid failure income based debt contracts. In failure cases, the lender would be able to increase the interest rate of the debt or demand prompt repayment. Some firms would use income management ways to raise income to avoid such contract violations. In contrast, some other firms have the motives to decrease income in order to lower political costs related to being seen as very profitable. For example, if gas price has been rising significantly and oil firms are reaching record profit level, than there may be motives for the government to interfere and act as an excess-profit tax or try to give price controls.

2.3. To smooth income toward a long-term sustainable trend

For many years it was believed that firms should try to decrease the variation of in its income stream in order to increase share price. Because a highly varied income model indicates risk, so the shares will lose their values comparing themselves with others to a more stable income model. In addition, firms have motives to manage income to help reaching a smooth income pattern (Ortega and Grant 2003).

2.4. Meeting the bonus plan requirements

Healy's (1985) research result in that income is managed by managers in the direction that is steady with maximizing their income based bonuses. In case of income will be below the minimum level needed to earn a bonus. Though income is managed upward so that the minimum is reached and a bonus is reached. In addition, when income is higher the maximum level in case of no additional bonus is paid; income is managed downward. The extra incomes when not generating extra bonus current period are saved to use in order to earn a bonus in a next next period. When income is among the minimum and the maximum levels, in that case of income is managed increasingly in order to raise the bonus earned in this period.

2.5. Changing management

Income management often occurs near the time of changing management, the Chief Executive Officer of a company with poor performance indicators will try to raise the reported income in case of preventing or postponing being fired. Conversely, the new Chief Executive Officer will try altering part of the income to next years near the time when his/her action will be valued and measured. Though blame the low income at the start of his contract on the acts of the previous Chief Executive Officer (Hall 1998).

2.6. Measures of Income Management

Different replica has been suggested in the context of income management. Young (1999) and McNichols (2000) give a great overview of literature of the income management and also the different models given to measure income management. Three different ways are mostly used to noitce income

management: (a) aggregate accruals, (b) specific accruals, and (c) frequency of distribution approaches (McNichols, 2000). Pitiful, from the existing approaches none of them perfectly apprehend discretionary accruals. Knowing that there is no best method to predict discretionary accruals, working capital accruals is used to detect income management for the following purposes (Peasnell et al. 2000, DeFond & Park 1997).

First of all, DeFond and Jiambalvo (1994) and Teoh et al. (1998) claimed that working capital accrual is a more liable to handle than non-working capital accrual. In addition, Young (1999) and Beneish (2000) discussed that focusing only on the working capital meaning total accruals is likely more serious because continuous income management through depreciation is possibly to have few potential due to its transparency and inevitable (Peasnell et al. 2000). Secondly, the typically used accrual estimation methods based on regression like Jones require huge observations or a sizable number of industry-specific observations (DeFond and Jiambalvo 1994).

3. Methodology

3.1. Formulation of Hypothesis

The three important hypotheses suggested by Watts and Zimmerman (1986) are: bonus plan, the debt contracts and political cost. The bonus plan proposition argues that the accounting choices have a great role in management's compensation plans. More than their regular salaries, managers often provide additional compensation deriving from their management performance. Financial statement information, mostly net income, is usually used to measure their performance. Thereby, managers have incentives to choose accounting methods and use discretion in accounting estimates to enhance their compensation. Before, researchers explained this that managers with income-based bonuses had more incentives to make income enhancing accounting methods. But, tests of this hypothesis were indefinite. Healy (1985) explained the lack of consistency as failure of controlling for the existence of higher and lower bounds in bonus plans. He found that managers are more eager to choose income lowering accruals when the higher or lower range of their bonus plans are unbreakable; and Income raising accruals when these ranges are not binding. Instance in which proof

of income management has been discovered is in Dechow and Sloan (1995). They showed that Chief Executive Officer increase their compensation in final years of working in office by eliminating R&D expenditures.

The second major hypothesis offered by Watts and Zimmerman (1986) is the debt contract. It assumes that incentives for income management become available by debt contracts. Creditors of the firm forces limitations on payments of dividends, stock repurchases, and publishing additional debt to make sure repayment of interest and principal (Watts and Zimmerman 1986). These limitations are usually conveyed in terms of numbers and ratios, like working capital, coverage of interest, and net worth. Though, the debt contract hypothesis expresses that managers with high debt to equity ratios descend to choose methods and procedures in accounting that raises the reported income to stay away of being in technical difficulty of debt contracts. Some studies have examined whether firms moving toward lending contracts reveal to manage income. DeFond and Jambalvo (1994), by using a sample of firms that report breaching their lending contracts, find that firms use income raising accruals in the year prior to contract breach. They discussed these results as evidence that firms try to postpone breaching lending contracts as much as possible. Also, Sweeney (1994) found that managers of firms moving toward the default response with income raising accounting changes. Her result showed that default costs forced by lenders and the flexibility of accounting existence to managers are an important factor of accounting response of manager.

The last positive theory, the political cost, tests the role of accounting alternative in the political procedure. The political procedure forces costs on industries or firms believing to be taking advantage of the society and making excessive income. A factor that profits are desirable may cause in pressure on these firms to decrease prices or limit regulations. These firms' managers would therefore have incentives to select accounting procedures and use their discretion to decrease the reported income and reduce their political risk. Han and Wang (1998) investigate the discretionary accruals of the oil firms in a period of extreme gas price raises in 1990 Gulf War. They reported that oil firms' that anticipated to income from the mass increased profit by managing

discretionary accruals to stay away from political expenses and regulation of government. Jones (1991) found that firms postpone income raising accruals for the motive of import comfort. There is also indicates that banks survive the provisions of their loan loss (Collins et al. 1995) and try to manage of insurers assertion loss to contests regulatory needed (Adiel 1996).

The profit smoothing suggests that profit is handled to decrease variation around some level contemplate normal for the firm. Some causes may highlight smoothing behavior. Barnea et al. argued that income smoothing is a tool for management to convey its profit expectations within GAAP, which do not allow making direct estimates. As for the timing of asset sales, these deliberate provide the below hypothesis:

H₁: The correlation between income from asset sales and income changes is negative.

Lending contracts of companies mostly have accounting-based contracts that diminish the conflict between the bondholders and the stockholders conflict when borrowing from the firm and so increasing the value of the firms. Debt contracts are mostly divided into two contracts: positive and negative. Positive contracts compile the borrowing firms to provide a specified level of accounting ratios, for example a specified level of working capital and interest coverage. Conversely, negative contracts limit the financing and investing actions of borrowing firms, for example payments of dividend and publication of new debt, unless circumstances specified in accounting numbers are met. A contract that stopped forces costs on a firm, either in compromising the issue of the bonds or in limiting its opportunity set. Because it is expensive to breach debt contracts, and since contracts include accounting based limits that defined in terms of income, it accompany that managers try to decrease the breach the accounting limitations in debt agreements by manipulating profit. To examine this forecast, it is standard to presume that leverage is a proxy for limitation. According to this suppose, it has been proposed that, the bigger a debt equity ratio of a firm, the more possible its managers are to alter reported income from next period to this period and to capture in greater manipulation. Though In timing of asset

sales, debt equity assumption proposes the below hypothesis:

H₂: The correlation between income from asset sales and debt-equity ratios is positive.

3.2. Sample Selection

The data for this investigation are from the Tehran Stock Exchange. The sample covers the five-year period 1380-1384. The sample contains firm-year observations with income from asset sales reported as ordinary income during the sample period. In addition, two criteria were imposed in order to restrict the empirical analysis to observations for which data are willingly available in a readable form, to remove the outliers, which is common in the literature and to make sure that the outcome is not caused by a small number of firms that frequently sell assets. These conditions represent trade-off between cost-effectiveness, increased power and validity of the tests, and generality of the results. The final sample consists of 113 firm-year observation. From this sample, 102 firms reported gains from asset sales.

3.3. Research Design

In order to examine income management using the timing of asset sales' and investments', a discretionary accruals model is used which is developed in the accounting literature, meaning a modified Jones Model (1995) in order to calculate the discretionary accruals. Not to mention that this model is used extensively in order to assess income management (Dechow et al. 1995, Defon & Park 1997, Teoh et al. 1998). These discretionary accruals are than used as an assign of asset sales' and also investments' for the reason of manipulating income. Managers employ the discretionary accruals to shift the latent profits from this period to next period in which desired level of income is needed.

3.4. Approximation of discretionary accruals

Total accruals are spliced into two: nondiscretionary and discretionary. Let alone, nondiscretionary accruals show to the level firms' performance, but discretionary accruals show instinctive accounting methods used by managers. Total accruals are work out by changing in assets

(noncash & current) subtracted by changing in current liabilities minus depreciation & amortization expenses. So,

$$TAC_{jt} = (\Delta CA_{jt} - \Delta Cash_{jt}) - (\Delta CL_{jt} - \Delta STD_{jt} - \Delta TP_{jt}) - Dep_{jt}$$

Where, for firm j in the year t : TAC_{jt} = total accruals; ΔCA_{jt} = change in current assets; $\Delta Cash_{jt}$ = change in cash (its equivalent); ΔCL_{jt} = change in current liabilities; ΔSTD_{jt} = change in long-term debt included in current liabilities; ΔTP_{jt} = change in tax payables; and Dep_{jt} = depreciation and amortization expenses.

By utilizing the modified Jones (1991), total accruals are work out by a function of asset sales' and investment'. By utilizing factors from regression in an equation and by employing cross-sectional observations forecast individually each year is calculated. On the other hand, nondiscretionary accruals are used to interpret as the a good values from equation. Conversely, discretionary accruals are determined as the contrast and subtraction between total accruals and its suitable value meaning nondiscretionary accruals. Uniform with other studies, discretionary accruals is presumed to be the result of managers' opportunistic methods of discretionary accruals.

3.5. Significance tests

In testing the significance of income at zero net profits or zero changes in net profits, the following τ -statistic is used, which approximately follows a Student's τ -distribution.

$$\tau_n = [\Delta p_i - \text{MEAN}(\Delta p_i)] / \text{STD}(\Delta p_i)$$

where Δp_i signify the probability denseness of distance n minus the probability denseness of its neighboring distance $n-1$. $\text{MEAN}(\Delta p_i)$ and $\text{STD}(\Delta p_i)$ denote our estimates of the mean and standard deviation of Δp_i . In this research estimate $\text{MEAN}(\Delta p_i)$ and $\text{STD}(\Delta p_i)$ as the mean and standard deviation of all differences between the probability denseness of two neighboring distance $-n$ and $n-1$ for five years 1389-1393.

Table 1: Definition of variables

Variables	Definition
ΔEPS	change in pre-tax annual ordinary income, exclusive of income from asset sales, deflated by beginning-of-the-year stock price for the event year
Debt-equity ratio	ratio of the book value of long-term debt to book value of owners' equity at the beginning of the event year
Current ratio	ratio of current assets to current liabilities at the beginning of the event year

4. Result

Univariate tests of the income-smoothing hypothesis are in table 2, which shows summary statistics on one subsample containing firms with a positive income change before asset-sale income ($\Delta EPS > 0$) in the event year and on another subsample with firms that experience a negative income change ($\Delta EPS < 0$). Firms with a positive income change appear larger and to some extent less leveraged than those with a negative income change. The current

ratios of the two subsamples are almost identical. However, firms that experience positive changes seem to be riskier. Comparisons of sales of investments and long-lived assets are inclusive. The income-smoothing hypothesis implies that firms that exhibit a negative income change before asset sale income ($\Delta EPS < 0$) should report higher income from asset sales than firms that experience a positive change ($\Delta EPS > 0$). Findings presented in table 2 are consistent with this prediction.

Table 2: Summary statistics for firms that experience positive and negative income change for the year

Statistic	Negative EPS		Positive EPS		t-statistic	
	Median	Mean	Median	Mean	Median	Mean
ΔEPS	-5.21%	-5.41%	1.57%	1.66%	-	-
Debt-equity ratio	61.22%	58.13%	34.06%	38.79%	0.66	0.07
Current ratio	0.51	0.59	1.43	1.55	0.41	0.38
Sales of investments divided by market value of common equity	0.05%	0.25%	0.01%	0.51%	0.01	0.22
Sales of fixed assets divided by market value of common equity	0.39%	0.73%	0.31%	0.51%	0.77	0.02
Total sales of assets divided by value of common equity	1.22%	1.45%	0.87%	0.69%	0.01	0.03
Income from asset sales scaled by market value of common equity	0.03%	0.71%	0.11%	0.36%	0.06	0.00

The empirical investigation of the debt-equity hypothesis begins by partitioning the data into high- and low-leverage firms on the basis of the median debt-equity ratio of the sample. The summary statistics in table 3 indicate that the sample is similar with respect to changes in pre-tax EPS and firm size. The results also indicate that high-leverage firms have significantly lower current ratios than low-leverage firms. The median and mean sales of long-lived assets as a percentage of the market value of common equity

of high-leverage firms significantly exceed those of low-leverage firms.

Table 3: Summary statistics for high- and low-leverage firms

Statistic	High Leverage		Low Leverage		t-statistic	
	Median	Mean	Median	Mean	Median	Mean
Debt-equity ratio	108.88%	122.07%	32.51%	34.22%	-	-
ΔEPS	-0.12%	-0.37%	0.39%	0.34%	0.09	0.11
Current ratio	0.54	0.62	1.24	1.86	0.00	0.00
Sales of investments divided by market value of common equity	0.00%	0.37%	0.22%	0.13%	0.18	0.67
Sales of fixed assets divided by market value of common equity	0.41%	0.87%	0.12%	0.66%	0.00	0.09
Total sales of assets divided by value of common equity	0.81%	1.02%	0.40%	0.64%	0.02	0.03
Income from asset sales scaled by market value of common equity	0.05%	0.87%	0.00%	0.16%	0.09	0.27

5. Conclusions

In this paper, two hypotheses were formulated and tested: (1) income-smoothing hypothesis, (2) debt-equity hypothesis. This study explores empirically whether managers manipulate reported income through the timing of sales of long-lived assets and investments by taking advantage of the accounting valuation of assets. Several empirical implications of the income-smoothing and debt-equity have used asset sales in their examination. The findings are consistent with managers using the asset sales' timing so that the realized accounting profit from these asset sales smoothes intertemporal income deviations and alleviate the restrictions relating to accounting in debt contracts.

In the conformance with the income-smoothing hypothesis, the findings show that income from asset sales is significantly higher for firms that exhibit decreases in annual income than for firms experiencing increases. In conformance with the debt-equity hypothesis, the evidence indicates that income from asset sales of high debt-equity firms significantly exceeds that of low debt-equity firms.

It was found from a cross-sectional analysis that regressed income from asset sales on two explanatory variables (annual income changes and debt-equity ratios) indicates that the income-smoothing and debt-equity effects are incremental.

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