

Accounts Manipulation: A Literature Review and Proposed Conceptual Framework

Hervé Stolowy

HEC School of Management (Groupe
HEC)
Department of Accounting and
Management Control
1, rue de la Libération
78351 - Jouy en Josas Cedex
France

Tel: +331 39 67 94 42
Fax: +331 39 67 70 86
E-mail: stolowy@hec.fr

Gaétan Breton

University du Québec à Montreal
Department of Accounting Sciences
P.O.B. 8888
Succursale Centre-Ville
Montréal (Québec)
H3C 3P8 - Canada

Tel: +1 514 987 3000 (4774)
Fax: +1 514 987 6629
E-mail: breton.gaetan@uqam.ca

Eighth draft, January 13, 2003

This paper is a review of the literature on accounts manipulation in the U.S. and several other countries, including Canada, the U.K., Finland and France. Although we tried to follow a comprehensive approach to this topic, we may have overseen some references. We apologize to the authors not cited. We have benefited from helpful comments from Segun Wallace, Joshua Ronen, workshop participants at the Fnege research seminar (France, 2000), HEC School of Management (France, 2000), the University of Paris Val de Marne (France, 2002), the University of Bordeaux IV (CRECCI, France, 2002), and participants at the 2000 EAA Annual meeting (Munich, Germany). We are particularly grateful to the three anonymous reviewers for their insightful suggestions and to the Editor of *RAF*. Hervé Stolowy would like to acknowledge the financial support of the Research Center at the HEC School of Management (project A0013). The authors are also indebted to Ann Gallon for her much appreciated editorial help.

Accounts Manipulation: A Literature Review and Proposed Conceptual Framework

ABSTRACT

Accounts manipulation has been the subject of research, discussion and even controversy in several countries including the USA, Canada, the U.K., Australia, Finland and France. The objective of this paper is to provide a comprehensive review of the literature and propose a conceptual framework for accounts manipulation. This framework is based on the possibility of wealth transfer between the different stakeholders, and in practice, the target of the manipulation appears generally to be the earnings per share and the debt/equity ratio. The paper also describes the different actors involved and their potential gains and losses.

We review the literature on the various techniques of accounts manipulation: earnings management, income smoothing, big bath accounting, creative accounting, and window-dressing. The various definitions of all these, the main motivations behind their application and the research methodologies used are all examined. This study reveals that all the above techniques have common elements, but there are also important differences between them.

I. INTRODUCTION

Firms have been manipulating accounts for a long time, and this practice, well known in the literature, has been given various names: earnings management, income smoothing, big bath accounting, creative accounting, and window dressing. This paper aims to provide a comprehensive review of the literature and propose a conceptual framework for accounts manipulation.

The structure of this review is designed to assess the importance of each element as part of the overall picture. Consequently, there will be no detailed discussions of certain papers *per se*, although they will be cited in the references and in the appendices.

Dechow and Skinner (2000) discuss the basic definition of manipulation, but they mainly set out to investigate a new orientation in the research based on new motivations, linked to market expectations. In doing so, their goal is to reconcile the views of academics and practitioners about earnings management. Healy and Wahlen (1999), on the other hand, aim to provide useful information for standard setting purposes. For instance, they emphasize the specific accruals that have been found in the literature to be particularly frequently “managed”. They then investigate the effect of manipulation on market participants. Like Dechow and Skinner (2000), although they consider the possibility that users may not be able to make appropriate adjustments to eliminate the effect of the manipulation, they mostly remain within the concept of market efficiency.

We discuss the possibility that the market may not be efficient, and the opportunities this creates for managers and shareholders to generate wealth transfers to their own advantage. In substance, both Healy and Wahlen (1999) and Dechow and Skinner (2000) propose an oriented review of literature, while the aim of this paper is to remain as comprehensive and inclusive as possible.

In the present review, we include all forms of manipulation under one general heading: accounts manipulation. This survey, based on a comprehensive approach, is new in the literature. Previous reviews of the literature (Imhoff 1977; Ronen et al. 1977; Ronen and Sadan 1981; Buckmaster 1992, 1997; Healy and Wahlen 1999; Dechow and Skinner 2000; Jeanjean 2001 and Fields et al. 2001) generally cover one aspect of accounts manipulation, income smoothing or earnings management, and seldom review works published outside of the USA. The limited focus has, in our opinion, made it difficult to develop a comprehensive description of the phenomenon. This paper also includes an analysis of the potential gains and losses from accounts manipulation for every actor in this field.

Accounts manipulation mainly stems from the desire to influence the possibilities of wealth transfer between the various stakeholders. With this in mind, we develop a model that identifies the potential targets of manipulation in the financial statements. The first is the earnings per share (EPS) and the second the debt/equity ratio. This framework classifies the types of accounts manipulation in relation to these two elements of the financial statements.

The present review comes at a time when accounts manipulation has fallen under heavy

criticism. For instance, a former SEC Chairman, Arthur Levitt, in his September 28, 1998 speech “The Numbers Game,” attacked the earnings management and income smoothing practices of some public companies (Loomis 1999). Turner and Godwin (1999) reported some of the efforts that are under way in the Office of the SEC Chief Accountant to help achieve objectives laid out in Chairman Levitt’s speech. The Enron affair (Benston and Hartgraves 2002), meanwhile, put accounts manipulation in the spotlight for everyone, including the general public.

The remainder of the paper proceeds as follows. The next section proposes a definition and description of the phenomenon of accounts manipulation. This is followed by an analysis of the contexts of accounts manipulation in section three, a list of the actors and their motivations in section four and a review of the techniques and areas of research in section five. The conclusion is accompanied by a discussion of possible directions for future research.

II. DEFINITION OF ACCOUNTS MANIPULATION

Definition

In this study, accounts manipulation is defined as the use of management’s discretion to make accounting choices or to design transactions so as to affect the possibilities of wealth transfer between the company and society (political costs), funds providers (cost of capital) or managers (compensation plans). In the first two cases, the firm benefits from the wealth transfer. In the third, managers are acting against the firm. Figure 1 summarizes the principles of accounts manipulation. The distinction between political costs, cost of capital and compensation plans is taken from Watts and Zimmerman (1978).

Insert Figure 1 about here

The direct impact of accounts manipulation is a modification of the apparent performance (as measured, for example, by the earnings per share) and/or a modification of the company’s financial structure.

A Framework for Understanding Accounts Manipulation

Our framework is based on the possibility of wealth transfer from one stakeholder to another that results from the fundamental asymmetry of information between managers and the other categories of stakeholders. The objectives of accounts manipulation are to alter the two bases of wealth transfer: the earnings per share and the debt/equity ratio (Breton and Taffler 1995). Earnings per share can be modified in two ways: first, by adding or removing certain revenues or expenses (modification of net income), and second, by presenting an item before or after the profit used to calculate the earnings per share (classificatory manipulations). In certain countries where full dilution is not mandatory, the denominator can also be manipulated by applying unrealistic assumptions that are very difficult to challenge.

Modification of the debt/equity ratio can be achieved by artificially inflating the profit or by hiding certain financing through off-balance sheet financing devices. Figure 2 presents our framework for understanding accounts manipulation.

Insert Figure 2 about here

Manipulation that is outside the law and standards constitutes fraud. The activities covered by the terms “earnings management” (income smoothing, big bath accounting) or generally “creative accounting” normally remain within the law (this point is discussed further later in the paper).

III. CONTEXTS OF ACCOUNTS MANIPULATION

The potential impact of accounts manipulation will depend on the market context, and there is more than one interpretation of how the stock market functions.

Market Efficiency

If the market is efficient according to the *ex ante* definition proposed by Fama (1970), the essential conditions are that information circulates rapidly and is correctly interpreted. Therefore, only certain types of manipulations, involving changes in the timing of the transactions, have any chance of escaping the attention of the market participants.

Although it is still possible for managers to engage in accounts manipulation even if the market is efficient, their efforts will be fruitless. This situation will occur when managers do not believe in or understand the concept of efficiency (Mayer-Somners 1976; Hines 1982).

However, there is an alternative definition of market efficiency as a constantly evolving state that is never fully achieved. This is an *ex post* definition of efficiency (Breton and Schatt 2000) prone to allow the existence of a range of manipulations, whose success will depend on where and when they occur, as the efficiency of the market can vary according to the country and period.

Market Inefficiency

Behavioral finance (Shefrin 2000) has identified three principal themes that cover many types of irrational behavior. These themes are: heuristic-driven bias, frame dependency and inefficient markets. Examples of these behaviors include overconfidence, anchoring, limiting regrets, etc. These behaviors depart from what is generally termed, in finance and economics, rational expectations or a Bayesian attitude in assessing the possible consequences of a situation (Kahneman and Tversky 1979). Shefrin (2000) provides many examples of such stock assessment practices. The functional fixation phenomenon can be classified among these non-rational behaviors. Functional fixation is well presented in the literature. Foster (1986) describes it as the propensity to take accounting numbers at face value, most often the profit figure, which is given a quasi-magical power.

According to theories of behavioral finance or the functional fixation hypothesis, market participants may even ignore the way accounting numbers are calculated. Consequently, investors can be misled by accounting numbers. In this context, manipulating accounts is a potentially fruitful exercise; indeed, it would be considered normal behavior to manipulate accounts, as well as other items of information in the integrated corporate communication strategy.

Some Characteristics of The Manipulating Behavior

Accrual accounting differs from cash accounting in terms of timing. Over the entire life of the firm, there may be no difference between the results generated by the two methods. In the long term, earnings explain returns quite accurately (DeGeorge et al. 1999; Lamont 1998). In the short term, however, the matching of revenues and expenses creates differences. There is a standardized way of treating these differences. Accounts manipulation merely offers an alternative way to treat those differences; it brings revenues into the year of need and postpones expenses. The firm hopes that profits will be good enough in the future to cover the delayed expenses. Technically, accounts manipulation is substantially a matter of timing, which means that it is intimately related to the very principle of accrual accounting, as highlighted by Dechow and Skinner (2000).

Copeland (1968, 110) defines manipulation as an ability to increase or decrease reported net income at will. At the same time, he implicitly acknowledges that “manipulation” has several meanings; he recognizes that “maximizers”, “minimizers” or other “manipulators” do not behave like “smoothers”. Consequently, there is a difference between earnings management and income smoothing, according to circumstances.

We believe that accounts manipulation covers a broader spectrum than Copeland’s proposed definition. It includes the income statement classificatory practices presented by Barnea et al. (1975, 1976) and Ronen and Sadan (1975a, 1981), but also those related to the balance sheet, which are far less widely covered in the literature (e.g. Black et al. 1998). In fact these practices represent a more widespread phenomenon now than when Copeland published his article, and the motivations of the “manipulators” and the timing of the manipulation are also factors to consider.

Manipulations share a number of characteristics. Clearly all of them modify accounting numbers for certain purposes that vary according to the perpetrator. They also share a conception of accounting as a tool for pursuing the general strategy of the firm or its management, and they are based on the assumption that the manipulations will reduce the firm’s perceived risk of wealth transfer. At the same time, however, one significant aspect of manipulations is highly variable: the underlying motivations may be the desire to smooth, maximize or minimize reported income, or some other reason (Moore 1973, 100).

The expression “creative accounting” has been developed mainly by practitioners and people who report and comment on market activity (media commentators and journalists). Their concern comes from observing the market, not from any theory. They understand that

creative accounting is motivated by the desire to mislead investors by presenting what they want to see, for example, a steadily increasing profit figure. Therefore, “creative accounting” is a very general term referring to practices described in the work of journalists like Griffiths (1986, 1995) or Jameson (1988), who writes about “manipulation, deceit and misrepresentation,” Smith (1992), an investment analyst who refers to “accounting sleight of hand,” and Pijper (1994), an accountant who compares and contrasts the initial successes and failures of the Accounting Standards Board. Mathews and Perera (1996, 260) include under the term such activities as “fiddling the books”, “cosmetic reporting” and “window dressing the accounts.”

Farfetched Interpretation and Fraud

In most countries, the generally accepted accounting principles (GAAP) allow for a certain degree of interpretation. To be legal, interpretations may be in keeping with the spirit of the standard or, at the other extreme, clearly stretch that spirit while remaining within the letter of the law. They may be erroneous, but never fraudulent (Dechow and Skinner 2000).

Fraud occurs when somebody commits an illegal act. In terms of financial statements, for instance, fabricating false invoices to boost sales figures is fraud, while interpreting consignment sales as ordinary sales is an error. The difference, however, does not appear clear to everyone. The American commission created to investigate fraudulent financial reporting defines fraud as any act that results in “materially misleading financial statements” (NCFRR 1987, 62). In his classification of fraudulent behavior, Merchant (1987), quoted by Belkaoui (1989, 67) defines what we consider to be real fraud, i.e. falsifying or altering documents, deleting transactions from records, recording forged transactions or concealing significant information. Merchant (1987) further includes elements that fall under our definition of accounts manipulation: those related mainly to interpreting accounting standards. Brown (1999) analyzes the difference between earnings management and reporting fraud and points out that the distinction between the two is often very narrow, while Davis-Friday and Frecka (2002) summarize research evidence related to the prevalence, legality and ethics of earnings management.

The consequence of accounts manipulation is that the financial position and the results of operations do not fall into the “fair presentation” zone, as shown in Figure 3, which implies that the profit will not represent the long-term capacity of the firm to generate earnings. As Figure 3 shows, manipulation is not fraud. It is a matter of interpretation.

Insert Figure 3 about here

Figure 3 can be compared with Figure 1 from Dechow and Skinner (2000), which clearly indicates the boundary they were hesitant to fix in the text. Their categories are: *Within GAAP* and *Violates GAAP*. Outside GAAP is fraud, inside we have three categories: *Conservative Accounting*, *Neutral accounting*, and *Aggressive Accounting*. The basic principle of Figure 3 is in line with Dechow and Skinner (2000) in the sense that accounts manipulation remains within the limits of GAAP while fraud is outside these limits. However, the situation is evolving. Since the Fourth European Directive was adopted in 1978, if compliance with

GAAP does not provide a true and fair view of the financial situation of the firm, the managers must use principles taken from outside GAAP. In such a case, violation of GAAP is no longer fraudulent.

Compliance with standards is not an assurance that financial statements fairly present (or give a true and fair view of) the financial situation of the firm. Shah (1996) proposes a new concept, creative compliance, to describe the capacity of creative accounting to remain within the limits of the law while bending its spirit, reinforcing the need for an auditor. Creative compliance includes the participation of bankers, who often propose new financing schemes that skirt the law, and lawyers, whose job is to check that the detour is defensible, which may be very costly. And so it follows that those with the resources “to resist regulations are unregulatable” (Shah, 1996). Revsine (1991) suggests that “foggy” accounting standards are useful for everybody in the system, and above all for regulatees.

Specially-Designed Transactions

The way a firm accounts for a transaction depends on the form of the transaction. Consequently, if a firm can design a transaction to give it a specific form, it will be able to record this transaction in a desired way; this is what Healy and Wahlen (1999, 368) call “structuring transactions.”

Consider leasing and the example of Canada. One criterion for determining accounting treatment is the present value of the periodic payments plus the residual value at the end of the period. If this total is greater than 90% of the selling price at the time of the transaction, the leased asset must be accounted for as an owned asset, with a corresponding entry in the debts. However, leasing contracts generally include fees for maintaining the asset. So, for the same total amount, if in the contract the maintenance fees are increased while the payments are decreased, then the transaction does not exceed the 90%-of-sale price threshold and will be accounted for as an operating lease. The consequence will be a reduction in the debt-equity ratio since a debt has been taken off the balance sheet.

Many such opportunities are well known in the literature. A few examples are: depreciation estimates (Teoh et al. 1998a), provision for bad debt (Teoh et al. 1998a, McNichols and Wilson 1988), non-subsidiary subsidiaries (Breton and Taffler 1995), purchase-pooling decisions (Gagnon 1967; Copeland and Wojdak 1969; Anderson and Louderback III 1975), asset disposals (Black et al. 1998), increasing stock value (Erickson and Wang 1999), deferred tax assets (Bauman et al. 2001), gains and losses on sales of securities (Dopuch and Drake 1966), and dividends from unconsolidated subsidiaries (Dascher and Malcolm 1970), etc. The reader can refer to appendices 1 and 2 for more examples and details.

The results of these studies are inconclusive. Evidence of manipulation is surprisingly rare (Healy and Wahlen 1999). Two possible reasons for such results are the low power of the tests (Dechow et al. 1995) and the potential presence of conflicting motivations.

The Goals of Accounts Manipulation

Management artificially manages earnings to achieve some preconceived notion of “expected” earnings (e.g. analysts’ forecasts, management’s prior estimates, or the continuation of some earnings trend) (Fern et al. 1994). Management takes these actions to influence investors’ perceptions of the firm (Degeorge et al. 1999). Kellogg and Kellogg (1991) detail this position. They see two main motivations for earnings management: to encourage investors to buy a company’s stocks, and to increase the firm’s market value.

In a theoretical paper, Dye (1988) presents earnings management as a consequence of managers taking advantage of an asymmetry of information with shareholders. This is the center of the definition Scott (1997) provides. However, Dye brings at least two additional considerations into the debate. First, the point of earnings management is to increase the remuneration of the executive and, as such, investors are likely to make allowances for it. Second, existing shareholders want the market to attribute a better value to the firm. This leads to a potential wealth transfer from new shareholders to old ones, which creates an external demand for earnings management (Schipper 1989). The various objectives of accounts manipulation can be synthesized as in Table 1.

Insert Table 1 about here

Income smoothing has a clear objective: to produce a steadily growing stream of profits. It can be seen as a particular form of earnings management. To exist, this form of manipulation needs the firm to make large enough profits. Provisions are then used to regulate the flow as necessary. Income smoothing is basically a reduction of the variance in profit.

Research on income smoothing takes as its basis the belief that a steady stream of profit will mislead market participants. This belief is based on casual observations, but also on the method of estimating wealth transfer risk. Variance in profit is a measure of the risk associated with this profit. It thus follows that if for a given total profit the variance is reduced, the market’s perception of the associated wealth transfer risk will be altered.

According to Healy (1985, 86), reducing current earnings by using as many income-decreasing accruals as possible is a strategy known as “taking a bath.” Healy (1985) describes the situations that influence income-increasing or income-decreasing accounting policies. The rationale for either is that, when the lower limit of the bonus window cannot be reached efficiently, it is better to go as low as possible to clear the way for future periods.

One of the first papers exploring the “big bath” accounting hypothesis is by Moore (1973). Moore noticed that new management has a tendency to be very pessimistic about the values of certain assets, with the result that these values are often adjusted. Moore studied income-reducing discretionary accounting decisions that were made after a change in management. The objective of the research was to determine whether discretionary accounting changes are relatively more prevalent after management changes than in a random sample of annual reports. New management can benefit in at least two ways from discretionary

accounting decisions that reduce current income. First, the reported low earnings may be blamed on the old management, and the historical bases for future comparison will be reduced. Second, future income will be free of these charges, so that improved earnings trends can be reported. As a result of this study, Moore finds that the proportion of income-reducing discretionary accounting decisions made by companies with management changes was significantly greater than the proportion in samples chosen from companies with no management turnover. In a similar vein, DeFond and Park (1997) show that managers smooth earnings with both current and future relative performance in mind.

Opportunism or Signaling

Imhoff (1977, 85) shows there is no strong empirical evidence to indicate that a smoothed income stream is either advantageous or disadvantageous to a firm or its equity holders. Ball and Watts (1972) interpret their research findings as indicating that the market is efficient with respect to smoothing techniques. Yet Gonedes (1972) challenges this contention, and Beidleman (1973) further asserts that smoothing income is advantageous to both investors and market analysts. Although income smoothing has long been regarded as an opportunistic management move to “manipulate” financial statements, Ronen and Sadan (1980) propose that income smoothing may not be as evil as one might think. Specifically, they argue that smoothing income can enhance the ability of external users to predict future income figures.

In the same field, Wang and Williams (1994) demonstrate that, contrary to the widespread view that income smoothing is in fact cheating and misleading, smoothing enhances the informational value of reported earnings. Their study provides consistent evidence that markets view smoothed accounting income numbers favorably, and that firms with smoother income series are viewed as being less risky. The findings suggest that income smoothing can benefit both existing stockholders and prospective investors. The study examines the relationship between accounting income smoothing and stockholder wealth. Its conclusions appear questionable, as surely there would be no reason for the market to prefer smoothed numbers if it knew they are smoothed. Claiming that the market prefers smoothed numbers implies that smoothing is efficient for the managers of the firm, but not in the interest of investors.

Suh (1990, 704) reminds us that income smoothing is often viewed as an attempt to fool the shareholders and investors. Christensen et al. (1999) test the possibility that potential *ex ante* motivations for earnings management decrease the informativeness of earnings. Their evidence supports the hypothesis. However, Arya et al. (1998) suggest that owners can benefit from earnings management. Dechow (1994) investigates circumstances in which accruals are predicted to improve earnings’ ability to measure firm performance, as reflected in stock returns. Bradshaw et al. (2001) find evidence indicating that analysts and auditors do not alert investors to the future earnings problems associated with high accruals, thus corroborating previous findings that investors do not appear to anticipate these problems.

In contrast to these views on strategic accounting choices or income smoothing, recent agency research in accounting has provided models in which these practices arise as rational equilibrium behavior. Hand (1989) observes that managers may smooth earnings to align

results with market expectations, and even to increase the persistence of earnings. If earnings are smoothed to mitigate the effects of transitory cash flows and adjust reported earnings towards a more stable trend, then income smoothing can enhance the value-relevance of earnings. According to Subramanyam (1996), discretionary accruals are priced by the market, and evidence exists that pervasive income smoothing improves the persistence and predictability of earnings. Beaver and Engel (1996) find evidence that the capital market differentially prices the discretionary and nondiscretionary components of a major accrual in the banking industry, the allowance for loan losses.

Evans and Sridhar (1996), in an agency context, find that the principal uses the contracting system primarily to deal with moral hazard over managerial effort, and the financial reporting system to discipline the manager's reporting behavior.

Bitner and Dolan (1996) expand on the Trueman and Titman (1988) rationale, albeit in a non-agency setting, to propose equity market valuation as a motivation for smoothing. This study suggests a theoretical link between income smoothness and market valuation as measured by Tobin's Q.

Apart from the issue of standard compliance, there is still the question of whether income smoothing or even earnings management are in fact signaling devices. However, for signaling to be efficient, there must be sanctions for false signals. When profit is bad and managers want another chance, although they have no real idea about the following year, they will send the same signal as those who reasonably believe that the next year's profit will be better. The manager is taking a small risk here with accounts manipulation. If he/she wins, all is well; if he/she loses, and the next year's profit is equally bad, the sanction from the market will come in the second year instead of the first one and will concern the poor level of profit, not the manipulation itself.

Literature on the consequences of accounts manipulation is rare (see however Dechow et al. 1996). The field is open to future research. We must add here that the practitioners' point of view is that accounts manipulation is cheating, basically opportunistic behavior; they see no virtue in it (Smith, 1992). In accounting education, the ethical perspective is now increasingly integrated (Fischer and Rosenzweig 1995; DePree and Grant 1999; Cohen et al. 2000; Philips et al. 2000; Davis-Friday and Frecka 2002).

The Social Aspect of Accounts Manipulation

From the perspective that a corporation exists to generate and disseminate wealth in society (Wood 1990), accounts must be produced, first and foremost, to report on this activity. However, society does not interfere with reporting to shareholders, due to its belief that the linear addition of the best actions for every shareholder produces the best outcome for society as a whole, and reporting to shareholders can satisfy every other stakeholder. This line of thinking implies that shareholders keep an eye on their businesses for the good of society, and consequently, from a social perspective, it matters how accounts are produced for shareholders. In short, manipulating accounts is misleading society as a whole, not just the shareholders.

According to classical economics, accounting information leads to better decisions, i.e. better resource allocation. Indeed, efficient allocation of resources is the ultimate goal of any economic system. Along the lines of this logic, together with what has been said above, manipulating the accounts leads to sub-optimal allocation and, consequently, wastage of resources.

IV. ACTORS AND MOTIVATIONS

Manipulating accounts is a managerial activity (Dye 1988; Schipper 1989), and the other players in the field influence managers' decisions to manipulate accounts. Therefore, if a theory of accounts manipulation can be constructed, it will not refer to the techniques used to manipulate, but rather to the needs, opportunities and relationships existing between the categories of market participants or stakeholders. As shown in Figure 4, there are many players in the game of manipulating accounts.

Insert Figure 4 about here

By extension from Dye (1988) and Schipper (1989), investors can be divided into several sub-groups: existing shareholders, potential shareholders, existing bondholders, and potential bondholders. They have different interests, and wealth can be transferred between them. Consequently, they have different reactions to accounts manipulation.

Analysts are also players in this field and can be split into two categories: "buy-side" and "sell-side" analysts. Mozes (1997), Robb (1998) and Kasznik (1999) carried out surveys on the role of financial analysts. Financial analysts issue recommendations and forecasts. They normally try to forecast the reported numbers including the effects of manipulation (Breton and Taffler 1995). Underwriters price issues that they sell. They make profit if a manipulation raises prices, and furthermore the issues may be easier to sell, which is another source of profit (due to lower costs).

Auditors have two contradictory goals. First, they want to satisfy the client; second, they want to avoid excessive risk from third parties. The quality of auditors may also have an effect on the degree of earnings management. Becker et al. (1998) examine the relationship between audit quality and earnings management and show that clients of non-Big Six firms report

discretionary accruals¹ that increase income relatively more than the discretionary accruals reported by clients of Big Six firms. Francis et al. (1999) find that the likelihood of using a Big Six firm increases with firms' endogenous propensity for accruals. Even though Big Six-audited firms have higher levels of total accruals, Francis et al. (1999) find that they have lower amounts of estimated discretionary accruals. This finding is consistent with the belief that Big Six auditors constrain aggressive and potentially opportunistic reporting of accruals. Additionally, DeFond and Subramanyam (1998) find that discretionary accruals are income-decreasing during the last year before a change of auditor. Chen et al. (2001), examining the Chinese market, indicate that companies engaging in earnings management in order to meet the regulatory profitability requirements² receive modified audit opinions more frequently than other companies. Gaver and Paterson (2001) examine the association between external monitoring, by auditors and actuaries, and earnings management by property-casualty insurers. Their results indicate that under-reserving by weak insurers is essentially eliminated when the firm uses auditors and actuaries that are both from Big Six accounting firms.

Managers either may or may not believe in market efficiency. If they do not, they may try to manipulate the numbers. Their aims would be to reduce the cost of capital, to satisfy the external demand of existing shareholders, to increase their own remuneration, to decrease the overall risk of the firm, or to avoid violating the debt covenant or incurring political costs. The context of market inefficiency helps them, since investors are easy to manipulate. They are prone to cognitive biases and anchoring, and they depend on question framing (Shefrin, 2000). Peasnell et al. (2000) study the degree of accrual management and the composition of the board of directors. Contrasting the governance model pre- and post-Cadbury report, they found earnings management in both periods, implying that the change had not eliminated manipulations. In the period after the report, they found a significant negative relationship between the number of non-executive board members and the scope of the manipulation, thus highlighting the importance of having external administrators on the board.

There are thus many forces that influence the accounts and, more particularly, the profit figure. From the interest of each group arises the motivation to manage accounting figures. Many authors have studied these motivations directly and indirectly. Several have been identified, ranging from the managers' incentives to manipulate earnings to the reasons of other stakeholders (Merchant and Rockness 1994). The most important work in this area is the paper written by Watts and Zimmerman (1986), which proposes a theory for accounting procedure choice containing some essential underlying motivations: the remuneration package, debt covenants and political costs. Finally, Dye (1988) and Schipper (1989) propose some explanations of the manipulating behavior of shareholders and even bondholders based on the positive accounting theory. The research has not yet really looked at the motivations of other stakeholders. Table 2 explores the potential interests of each group in manipulating accounts.

Insert Table 2 about here

¹ The concepts of "accruals" and "discretionary" or "non discretionary" accruals are detailed later in the article.

² Regulations in China require that shares be suspended from trading or de-listed for companies reporting losses for three consecutive years.

Some of these stakeholder groups also have something to lose through accounts manipulation. Although Revsine (1991) says that everybody wins, that is not always the case. Table 3 shows the potential loss for different stakeholder groups because of accounts manipulation.

Insert Table 3 about here

There are few studies on the potential losses from manipulating accounts. Most likely, the potential gains and losses will be weighed up before any action is taken. Different stakeholders may have conflicting interests, and the actual level of manipulation in the financial statements will depend on who has the greatest power and strongest interests.

V. TECHNIQUES AND AREAS OF RESEARCH

The literature on accounts manipulation is not structured according to the nature of the manipulations. The existing studies can be grouped by methodology. Manipulations were studied before the development of the accruals method (Simpson, 1969) and are generally referred to as creative accounting. There is also a geographical component to the classification. For example, studies in the U.S. have been developed around testing for the level of accruals while in the U.K., the studies often used a more analytical approach, scrutinizing financial statements in detail to find misinterpretations of accounting standards (Tweedie and Whittington 1990). Figure 2 above presents the various streams of research in this field.

The remainder of this section presents the principal research in the various streams, underlines their contribution and lists other research in the field. Given the lack of theory in this literature, the contribution made is often methodological in nature.

Earnings Management³

Grouping work on earnings management by methodology gives two main categories of seminal articles: those that define the research area, mainly Schipper (1989), and those that propose and refine the model.

Methodology

For the methodology, many of the subsequent studies refer to Jones (1991). As profit differs from cash flow by the total of accruals, manipulation of the profit figure implies manipulation of the accruals. However, accruals vary in the normal course of business. The first problem is thus to determine which part of the accruals is normally related to the level of activity (non discretionary) and which part is open to manipulation (discretionary). Previous studies have suggested that specific accruals are more prone to being used for earnings management. McNichols and Wilson (1988) study only the bad debt provision adjustment. Jones (1991) believes all accruals (except those related to taxes) may be open to use in

³ Appendix 1 provides a selected list of empirical studies on earnings management.

earnings management.

However, to take into consideration the difference in a company's level of activity, Jones (1991) scales the difference in accruals by total assets, without assuming that the level of discretionary accruals is constant, as DeAngelo (1986) does, and also includes the level of tangible fixed assets in the explanatory variables that control for size. Nevertheless, in the move towards knowledge-based firms, using tangible fixed assets as a measure becomes potentially less accurate. Also different authors define discretionary accruals differently.

For a more detailed description and comparison of the models and their evolution, see Dechow et al. (1995). Their paper compares the efficiency of five different models for detecting earnings management; it portrays the characteristics of each model, including the strengths and weaknesses. The models studied are Healy (1985), DeAngelo (1986), Jones (1991), a modified Jones model and the industry model. Dechow et al. (1995) conclude that the modified Jones model is best for detecting earnings management, although the results remain quite modest. But they find a propensity in all models to take differences in the level of non-discretionary accruals as evidence of manipulation. Also, the best of five models detects only 28% of the 32 firms that the SEC found to exaggerate earnings. McNichols (2000) classifies the research design for earnings management in three categories: those that use total accruals as described in Dechow et al. (1995) and Kang and Sivaramakrishnan (1995), those that use specific accruals, like McNichols and Wilson (1988), and those that study statistical properties of earnings to identify thresholds, as in DeGeorge et al. (1999).

More recent studies refine the Jones model, thereby increasing the degree of sophistication in the separation of discretionary and non-discretionary accruals. Teoh et al. (1998b) propose separating short term and long term accruals because they behave differently. Some studies take the difference in cash flow movements as a good measure of the real evolution of the firm. In the absence of natural income manipulation (playing with the timing of transactions) this measure appears to be the best. Friedlan (1994) uses sales figures for the same purpose; the sales figure is also more likely to suit the characteristics of non-industrial firms where size is difficult to measure through assets. Bartov et al. (2001) evaluate the ability of the cross-sectional Jones model and the cross-sectional modified Jones model to detect earnings management in their time-series counterparts. Guay et al. (1996) present a market-based evaluation of the discretionary accrual models developed in Dechow et al. (1995). Haw et al. (2001) illustrate the determination of accruals in the case of China. Jaggi and Baydoun (2001) suggest that managers in Hong Kong engage in earnings management through disclosure of extraordinary items. Thomas and Zhang (2000) investigate the accuracy of six different accrual prediction models. Beneish (1999b) adopts a totally different approach, scrutinizing the financial statements.

Context

From a methodological point of view, we have identified the following contexts for earnings management (see table 4):

Insert Table 4 about here

Income Smoothing⁴

The theory underlying the concept of income smoothing is still awaiting detailed development. The hypothesis that management smoothes income was first suggested by Hepworth (1953) and elaborated on by Gordon (1964). However, Buckmaster (1992, 1997) finds earlier references. Since then, income smoothing has been studied mostly in the U.S. (some research has also appeared in Canada, the U.K. and France)⁵. Several reviews of the literature exist although they are not very recent: Ronen et al. (1977), which discusses the motivation for smoothing, the objects of smoothing, the smoothing instruments, and the methodological problems in the tests, Imhoff (1977) and Ronen and Sadan (1981).

Different Types of Smoothing

Michelson et al. (1995, 1179) point out that several studies have focused on three issues: (a) the existence of smoothing behavior, (b) the smoothing ability of various accounting techniques, and (c) conditions under which smoothing is effective (Lev and Kunitzky 1974, 268). Smoothing studies have also focused on (a) the objectives of smoothing (management motivation), (b) the objects of smoothing (operating income, net income), (c) the dimensions of smoothing (real or artificial), and (d) the smoothing variables (often called instruments) (i.e., extraordinary items, tax credits) (Ronen and Sadan 1981, 6). There are thus various types of smoothing (see Figure 5).

Insert Figure 5 about here

In the literature, many authors provide definitions of these different concepts. Albrecht and Richardson (1990, 714) indicate that Imhoff (1977) was the first researcher to try to separate artificial smoothing behavior by management from the confusing effects of real smoothing actions or naturally smooth income streams (caused by the economic events being reported). For Imhoff (1977, 89), determining whether income has been smoothed by design or as the result of some natural course of events appears to be impossible. He believes that the major assumption underlying the attempt to identify natural smoothers is the dependence of the level of income on the level of sales. If the pattern of the sales stream is similar to the pattern of the income stream, the smooth income stream might be viewed as a natural result of operations. In practice, the three types of smoothing are often difficult to distinguish and can be considered interrelated.

⁴ Appendix 2 provides a selected list of empirical studies on income smoothing.

⁵ The expression “income smoothing” has even been used in other contexts which will not be dealt with in this article: consumption smoothing and savings (Alessie and Lusardi 1997), uses of formal savings and transfers for income smoothing (Behrman et al. 1997).

The Smoothing Objects

The smoothing objects are the variables whose variations over time are to be controlled (Kamin and Ronen 1978, 141, 145). Empirical studies dealing with income smoothing show that the concept of “income” has been interpreted in different ways: net income, earnings per share (in various forms: EPS less preferred dividends, before extraordinary items, fully diluted, etc.), ordinary income, extraordinary income, operating income, etc.

The Number of Periods Covered

Copeland (1968, 113) believes that smoothing must be investigated over a sufficiently long period, and that the length of the period may influence the results of the study. His survey confirms the hypothesis that classifying firms as smoothers or non-smoothers based on observations over six years is more valid than classifying them according to observations made over two or four years (1968, 114). Similarly, Beidleman (1973, 657) states that increasing the length of the period tends to reduce misclassification of firms as smoothers when they appear from an apparently “more valid” test to be non-smoothers. However, as incomes and cash flows tend to overlap over time, depending on the method, a period that is too long may also reveal nothing.

The Smoothing Instruments

The smoothing instruments, also known as “smoothing variables” or “smoothing devices” (Moses, 1987, 360), are the accounting figures managers use to smooth (Kamin and Ronen, 1978, 145). According to Copeland (1968 102), an accounting practice or measurement rule must possess certain properties before it can be used as a manipulative smoothing device.

Some of the potential smoothing instruments that have been investigated include the investment tax credit (Gordon et al. 1966), the classification of extraordinary items (Ronen et Sadan 1975a, 1975b; Gibbins 1977; Godfrey and Jones 1999), dividend income (Copeland 1968; Copeland and Licastro 1968), gains and losses on securities (Dopuch and Drake, 1966), pensions, R&D and sales and advertising expense (Beidleman 1973; Dascher and Malcolm 1970), choice of the cost or equity method (Barefield and Comiskey 1972), and changes from accelerated to straight-line depreciation (Archibald 1967).

Earlier empirical studies on smoothing considered only one manipulative instrument at a time. However, both Gordon et al. (1966) and Copeland and Licastro (1968) acknowledge the weakness of concentrating on one instrument. Zmijewski and Hagerman (1981) suggest that companies do not select accounting procedures independently, but consider the overall effect of all accounting procedures on income. Conversely, Ma (1988, 490) assumes that the difficulty of testing several smoothing instruments simultaneously may cause the search for significant evidence of smoothing to fail.

The Smoothing Dimensions

Smoothing dimensions are the methods through which smoothing is presumed to be accomplished, such as allocation over time or classification (Kamin et Ronen, 1978, 145). Barnea et al. (1976, 110), Ronen and Sadan (1975a, 133-134; 1975b, 62; 1976) and Ronen et al. (1977, 15) indicate that smoothing can be accomplished through several smoothing dimensions (see Figure 5). As Figure 5 indicates, classificatory smoothing is achieved through the smoothing instruments cited above.

Copeland (1968, 105) suggests that there are three empirical tests for smoothing: (1) directly ascertain from management by interview, questionnaire, or observation; (2) ask other parties such as CPAs; or (3) examine financial statements and/or reports to governmental agencies to verify, *ex post*, if smoothing has occurred. Eckel (1981, 30) notes that the great majority of researchers select the third method, using the same conceptual framework: if the variability of normalized earnings generated by a specified expectancy model is reduced through inclusion of a potential smoothing variable (instrument) utilized by the firm, then the firm has “smoothed income.”

With regard to the earnings trend, Imhoff (1981, 31) explains that the model used to assess the smoothness or the variance of income varies over time. Research using a two-period model assumes that the target earnings number is equal to the previous year’s earnings (Copeland and Licastro 1968). In other words, the measure of smoothness is the magnitude of the change in income from one year to the next. The studies that evaluate earnings using multi-period tests are based on the assumption that there should be a smooth, increasing trend (Gordon et al. 1966). They employ exponential models (Dascher and Malcolm 1970), linear time-series models (Barefield and Comiskey 1972), semilogarithmic time trend (Beidleman 1973), and first-difference market income index models (Ronen and Sadan 1975a), among other approaches. Dopuch and Watts (1972) suggest that the Box-Jenkins techniques might be useful in ascertaining which smoothing model to use.

Imhoff (1977) and Eckel (1981) develop a methodology based on testing of the variability of income against the variability of sales. They assume that the level of income depends to some extent on the level of sales. The basic idea is that a change in sales must have a relatively larger effect on profit. In such a situation, if the variance in profit is less than the variance in sales, it can be concluded that the profit has been smoothed.

Big Bath Accounting

A few studies deal specifically with this question (we previously referred to Healy [1985], for example). Big bath accounting is generally closely linked to income smoothing, and in such cases one of the central challenges is to recognize the presence of the phenomenon.

Without naming it directly, Pourciau (1993) tests the level of earnings management when non-routine executive changes occur, which is a typical big bath accounting context. She finds evidence that the incoming executive adopts income-decreasing policies in the first

year in order to better increase earnings in the following years. This is consistent with the big bath accounting hypothesis. Many of the changes examined in the report take place in situations where there were few forewarnings of an unexpected resignation.

The results after a big bath are significantly different from ordinary results. The big bath is supposed to pave the way for years of smoothed, steady profit. Walsh et al. (1991) analyze a series of revenues (39 years, in the best cases), looking for outliers. Although they use a limited sample (23 companies), they find strong evidence of such behavior, the frequency of which is examined by Copeland and Moore (1972).

Creative Accounting

The grouping criteria here are twofold: geographical, since the studies are mainly from the U.K., and methodological, as the studies use alternative methodology rather than studying accruals. Given the number of books published on the topic of “creative accounting” in the U.K., it is tempting to conclude that the U.K. is perhaps the only country to experience creative accounting. Blake and Amat (1996) deny this assertion, presenting the results of a survey on the extent of creative accounting in Spain, suggesting, however, that the continental European accounting model is less open to manipulation than the flexible Anglo-American model. Shabou and Boulila Taktak (2002) discuss the existence of creative accounting in Tunisia.

In France, several journalists compare financial accounting to an art: “the art of cooking the books” (Bertolus 1988), “the art of computing its profits” (Lignon 1989), “the art of presenting a balance sheet” (Gounin 1991), “the provisions or the art of saving money” (Pourquery 1991). Ledouble (1993) has no hesitation in raising financial accounting to a “fine art.” Other journalists attribute human qualities to financial accounting (Loubière 1992; Agède 1994; Feitz, 1994): the accounts must be “cleaned up” and “dressed up,” they can be made up, have a makeover, or get a fiscal facelift. Depreciation can be tough and provisions plumped up.

According to Craig and Walsh (1989), disparaging references to “creative accounting practices” by Australian companies had appeared in the Australian financial press in earlier years (e.g., Rennie 1985). Concern about the calculation of reported profit figures is neither merely a recent phenomenon, nor a phenomenon restricted solely to the financial reporting practices of Australian companies. Chambers (1973, Ch. 8), for example, cites numerous instances of the ways in which companies in the U.K., USA and Australia “tinker with” reported profit figures and “cook the books.” Schilit (1993) can also be included in the group of critics of creative accounting.

These publications build on the presence of a fundamental asymmetry of information between managers, existing controlling shareholders, and other existing or potential shareholders. Managers and controlling shareholders are taking advantage of this asymmetry to mislead other investors and decrease the cost of capital for the firm; incidentally, this is also the goal of every piece of honest accounting information given to the market. Although it includes no empirical work, Naser (1993) synthesizes much research on the subject and tries

to determine the causes and consequences of the phenomenon. These studies go beyond the effect on earnings; they also consider the effects on the gearing (also called leverage or debt-equity ratio), an expression of the structural risk of the firm not necessarily obvious from changes in profit.

Researchers in this stream use in-depth analysis of accounts to find doubtful applications of accounting procedures and standards. Their analyses rely on the experience and knowledge of the researcher to discriminate between acceptable and unacceptable practices. The results of these studies suggest that accounts are indeed manipulated to produce a better image of the firm and convince investors to accept a lower rate of return (Simpson, 1969).

Tweedie and Whittington (1990), in a standard-setting perspective, examine some creative accounting schemes and find many opportunities for misleading uses of accounting information that take advantage of vague standards.

Breton and Taffler (1995), after conducting a laboratory experiment, find no evidence of analysts making allowances for window dressing in their assessment of firms. Finally, Pierce-Brown and Steele (1999) carry out a study of the accounting policies of the leading U.K. companies analyzed by Smith (1992). They show that size, gearing (debt-equity), the presence of an industry regulator, and industry classification are good predictors of accounting policy choices.

VI. CONCLUSION AND FUTURE RESEARCH

The objective of this paper has been to present the abundant literature on the various aspects of accounts manipulation: earnings management, income smoothing, big bath accounting, and creative accounting. In contrast to previous literature reviews, we attempt as much to describe the phenomenon as to cover the whole field of accounts manipulation. We propose a conceptual framework that links the principal components of accounts manipulation, based on the managers' and existing shareholders' desire to influence the market participants' perception of the risk of wealth transfer associated with the firm.

In this paper, reference has been made to a number of areas where further research is necessary. The models for detecting earnings management are still open to improvement, since their rates of type A (specification) and type B (power) errors are quite high. The models to detect income smoothing can also be improved. Both types of model base their conclusions on circumstantial evidence: if there is a motive (special investigation, CEO compensation package, etc.) and some evidence (level of accruals, smaller variance than expected, etc.), then earnings management or income smoothing is assumed to have happened. Some behavioral knowledge would probably contribute to advances in the research.

More research is needed into manipulations of the balance sheet (balance sheet management), particularly for the items that are not disclosed (off-balance sheet financing).

Research that analyzes specific accounting items, on the other hand, shows the limitations of having to define an artificial benchmark to discriminate between what is

acceptable and what is not, without having some information about the situation of the firm. It would be interesting to carry out a study that combines the two methods, first analyzing the accruals in order to identify firms that manage their earnings, then closely examining the financial statements in order to determine how the manipulation was performed.

The signaling hypothesis is far from proven. There appears to be very little research on the sanctions for sending a false signal. But such research is needed, since without these sanctions there can be no effective signaling. Also, there is no research into what happens the year after. If the point of earnings management is to signal private information, then following years would be expected to show a better profit. It would be interesting to see if this is the case, and if not, what actually happens.

As evidenced in Tables 2 and 3, there is space for more research on the motivations for manipulating accounts. The motivations of managers have been studied; but the motivations of other participants have not been investigated in depth. More research is also needed on the negative impact for the participants.

Another potential area for investigation is the impact of financial reporting over the Internet, although it is too soon to formulate a hypothesis on the link between accounts manipulation and the Internet, since the full impact of reporting practices on the Web has not yet been felt. Ashbaugh et al. (1999) studied the corporate motives and the content of a series of Internet sites. Among their conclusions, they show that Internet disclosure can increase information asymmetry, if manipulated and depending on the characteristics of the reader.

Finally, every study encounters the same problem, the question of whether or not the user can in fact be misled (Ashbaugh et al. 1999; Dechow and Skinner 2000). Therefore, a very important field to investigate is the reaction of market participants to financial information.

REFERENCES

- Agède, P. 1994. Habiller ses comptes (To dress its accounts). *L'Entreprise* 106 (July-August): 82-85.
- Aharony, J., C.J. Lin and M.P. Loeb. 1993. Initial public offerings, accounting choices and earnings management. *Contemporary Accounting Research* 10 (1): 61-81.
- Ahmed, A.S., C. Takeda and S. Thomas. 1999. Bank loan loss provisions: A reexamination of capital management, earnings management and signaling effects. *Journal of Accounting and Economics* 28 (1) (November): 1-25.
- Albrecht, W.D., and F.M. Richardson. 1990. Income smoothing by economy sector. *Journal of Business Finance & Accounting* 17 (5) (Winter): 713-730.
- Alessie, R. and A. Lusardi. 1997. Saving and income smoothing: Evidence from panel data. *European Economic Review* 41 (7) (July): 1251-1279.
- Amihud, Y., J.Y. Kamin and J. Ronen. 1983. 'Managerialism', 'ownerism' and risk. *Journal of Banking & Finance* 7 (2) (June): 189-196.
- Anderson, J.C. and J.G. Louderback III. 1975. Income manipulation and purchase-pooling: Some additional results. *Journal of Accounting Research* (Autumn): 338-343.
- Archibald, T.R. 1967. The return to straight-line depreciation: An analysis of a change in accounting method. *Journal of Accounting Research, Empirical Research in Accounting, Selected Studies* 5 (Supplement): 164-180.
- Arya, A., J. Glover and S. Sunder. 1998. Earnings management and the revelation principle. *Review of Accounting Studies* 3 (1-2): 7-34.
- Ashari, N., H.C. Koh, S.L. Tan and W.H. Wong. 1994. Factors affecting income smoothing among listed companies in Singapore. *Accounting and Business Research* 24 (96): 291-301.
- Ashbaugh, H., K.M. Johnstone and T.D. Warfield. 1999. Corporate Reporting on the Internet. *Accounting Horizons* 13 (3): 241-257.
- Bagnoli, M. and S.G. Watts. 2000. The effect of relative performance evaluation on earnings management: a game-theoretic approach. *Journal of Accounting and Public Policy* 19:377-397.
- Ball, R. and R. Watts. 1972. Some time series properties of accounting income. *Journal of Finance* (June): 663-682.
- Balsam, S. Discretionary accounting choices and CEO compensation. 1998. *Contemporary Accounting Research* 15 (3) (Fall): 229-252.
- Barefield, R.M. and E.E. Comiskey. 1972. The smoothing hypothesis: An alternative test. *The Accounting Review* (April): 291-298.
- Barnea, A., J. Ronen and S. Sadan. 1975. The implementation of accounting objectives: An application to extraordinary items. *The Accounting Review* (January): 58-68.
- Barnea, A., J. Ronen and S. Sadan. 1976. Classificatory smoothing of income with extraordinary items. *The Accounting Review* (January): 110-122.

- Barnea, A., J. Ronen and S. Sadan. 1977. Classificatory smoothing of income with extraordinary items: A reply. *The Accounting Review* 52 (2) (April): 525-526.
- Bartov, E. 1993. The timing of asset sales and earnings manipulation. *The Accounting Review* 68: 840-855.
- Bartov, E., F.A. Gul and J.S.L. Tsui. 2001. Discretionary-accruals models and audit qualifications. *Journal of Accounting and Economics* 30: 421-452.
- Bauman, C.C., M.P. Bauman and R.F. Halsey. 2001. Do firms use the deferred tax asset valuation allowance to manage earnings. *Journal of the American Taxation Association* 23 (Supplement): 27-48.
- Beattie, V., S. Brown, D. Ewers, B. John, S. Manson, D. Thomas and M. Turner. 1994. Extraordinary items and income smoothing: A positive accounting approach. *Journal of Business Finance and Accounting* 21 (6) (September): 791-811.
- Beaver, W.H. and E.E. Engel. 1996. Discretionary behavior with respect to allowances for loan losses and the behavior of security prices. *Journal of Accounting and Economics* 22:177-206.
- Becker, C.L., M.L. DeFond, J. Jiambalvo and K.R. Subramanyam. 1998. The effect of audit quality on earnings management. *Contemporary Accounting Research* 15 (1) (Spring):1-24.
- Beidleman, C.R. 1973. Income smoothing: The role of management. *The Accounting Review* 48 (4) (October): 653-667.
- Behrman, J.R., A. Foster and M.R. Rosenzweig. 1997. Dynamic savings decisions in agricultural environments with incomplete markets. *Journal of Business & Economic Statistics* 15 (2) (April): 282-292.
- Belkaoui, A. 1989. *The Coming Crisis in Accounting*. Quorum Books, New-York.
- Belkaoui, A. and R.D. Picur. 1984. The smoothing of income numbers: Some empirical evidence on systematic differences between core and periphery industrial sectors. *Journal of Business Finance and Accounting* 11 (4) (Winter): 527-545.
- Beneish, M.D. 1997. Detecting GAAP violation: Implications for assessing earnings management among firms with extreme financial performance. *Journal of Accounting and Public Policy* 16 (3): 271-309.
- Beneish, M.D. 1999a. Incentives and penalties related to earnings overstatements that violate GAAP. *The Accounting Review* 74 (4): 425-458.
- Beneish, M.D. 1999b. The detection of earnings manipulation. *Financial Analysts Journal* (September/October): 24-36.
- Beneish, M.D. and E.G. Press. 1993. Cost of technical violation of accounting-based debt covenants. *The Accounting Review* 68 (2): 233-257.
- Benston, G. and A.L. Hartgraves. 2002. Enron: what happened and what we can learn from it. *Journal of Accounting and Public Policy* 21 (2): 105-127.
- Bertolus, J.-J. 1988. L'art de truquer un bilan (The art of cooking the books). *Science & vie économie* 40 (June): 17-23.
- Bhat, V.N. 1996. Banks and income smoothing: An empirical analysis. *Applied Financial Economics* 6: 505-510.
- Bitner, L.N. and R.C. Dolan. 1996. Assessing the relationship between income smoothing and the value of the firm. *Quarterly Journal of Business and Economics* 35 (1) (Winter): 16-35.

- Black, E.L., K.F. Sellers and T.S. Manly. 1998. Earnings management using asset sales: An international study of countries allowing noncurrent asset revaluation. *Journal of Business Finance & Accounting* 25 (9) & (10) (November/December): 1287-1317.
- Blake J. et Amat O. 1996. Creative accounting is not just an English disease. *Management Accounting* (October): 54.
- Boynton, C., P. Dobbins and G. Plesko. 1992. Earnings management and the corporate alternative minimum tax. *Journal of Accounting Research* 30: 131-160.
- Bradshaw, M.T., S.A. Richardson and R.G. Sloan. 2001. Do analysts and auditors use information in accruals? *Journal of Accounting Research* 39 (1) (June): 45-74.
- Brayshaw, R.E. and A.E.K. Eldin. 1989. The smoothing hypothesis and the role of exchange differences. *Journal of Business Finance and Accounting* 16 (5) (Winter): 621-633.
- Bremser, W.G. 1975. The earning characteristics of firms reporting discretionary accounting changes. *The Accounting Review* (July): 563-573.
- Breton G. and R.J. Taffler. 1995. Creative Accounting and Investment Analyst Response. *Accounting and Business Research* 25 (98): 81-92.
- Breton, G. and J.-P. Chenail. 1997. Une étude empirique du lissage des bénéfices dans les entreprises canadiennes (An empirical investigation of income smoothing by Canadian firms). *Comptabilité – Contrôle – Audit* 3 (1) (March): 53-67.
- Breton, G. and A. Schatt. 2000. Rôle et caractérisation des analyses financiers (Role and characterization of financial analysts). *Revue d'Economie Financière* (September): 147-162.
- Brown, P.R. 1999. Earnings management: A subtle (and troublesome) twist to earnings quality. *Journal of Financial Statement Analysis* 4 (2) (Winter): 61-63.
- Buckmaster, D. 1992. Income smoothing in accounting and business literature prior to 1954. *The Accounting Historians Journal* 19 (2) (December): 147-173.
- Buckmaster, D. 1997. Antecedents of modern earnings management research: Income smoothing in literature, 1954-1965. *The Accounting Historians Journal* 24 (1) (June): 75-91.
- Burgstahler, D. and I. Dichev. 1997. Earnings management to avoid earnings decreases and losses. *Journal of Accounting and Economics* 24: 99-126.
- Cahan, S.F. 1992. The effect of antitrust investigations on discretionary accruals: a refined test of the political-cost hypothesis. *The Accounting Review* 67 (1): 77-96.
- Cahan, S.F., B.M. Chavis and R.G. Elmendorf. 1997. Earnings management of chemical firms in response to political costs from environmental legislation. *Journal of Accounting, Auditing and Finance* 12(1) (Winter): 37-65.
- Carlson, S.J. and C.T. Bathala. 1997. Ownership differences and firms' income smoothing behavior. *Journal of Business Finance & Accounting* 24 (2) (March): 179-196.
- Chalayer. 1994. *Identification et motivations des pratiques de lissage des résultats comptables des entreprises françaises cotées en Bourse* (Identification and motivations of income smoothing behavior by French listed companies). Ph.D. Dissertation, University of Saint-Etienne.

- Chalayer, S. 1995. Le lissage des résultats. Elements explicatifs avancés dans la littérature (Income smoothing. Explanatory elements in the accounting literature). *Comptabilité- Contrôle – Audit* 2 (1): 89-104.
- Chambers, R.J. 1973. *Securities and obscurities: A case for reform of the law of company accounts*. Gower, Australia.
- Chaney, P.K. and C.M. Lewis. 1995. Earnings management and firm valuation under asymmetric information. *Journal of Corporate Finance* 1: 319-345.
- Chen, C.J.P., S. Chen and X. Su. 2001. Profitability regulation, earnings management, and modified audit opinions: evidence from China. *Auditing: A Journal of Practice & Theory* 20 (2) (September): 9-30.
- Choi, W.W., J.D. Gramlich and J.K. Thomas. 2001. Potential errors in detecting earnings management: reexamining studies investigating the AMT of 1986. *Contemporary Accounting Research* 18 (4) (Winter): 571-613.
- Christensen, T.E., R.E. Hoyt and J.S. Paterson. 1999. *Ex ante* incentives for earnings management and the informativeness of earnings. *Journal of Business Finance & Accounting* 26 (7) & (8) (September-October): 807-832
- Clinch, G. and J. Margliolo. 1993. CEO compensation and components of earnings in bank holding companies. *Journal of Accounting and Economics* 16: 241-272.
- Cohen, J.R., L.W. Pant and D.J. Sharp. 2000. Project earnings manipulation: An ethics case based on agency theory. *Issues in Accounting Education* 15 (1) (February): 89-104.
- Copeland, R.M. 1968 Income smoothing. *Journal of Accounting Research, Empirical Research in Accounting, Selected Studies* 6 (Supplement): 101-116.
- Copeland, R.M. and R.D. Licastro. 1968. A note on income smoothing. *The Accounting Review* 43 (July): 540-545.
- Copeland, R.M. and M.L. Moore. 1972. The financial bath: Is it common ? *MSU Business Topics* 63-69.
- Copeland, R.M. and J.F. Wojdak. 1969. Income manipulation and the purchase-pooling choice. *Journal of Accounting Research* (Autumn): 188-195.
- Cormier, D. and M. Magnan. 1995. La gestion stratégique des résultats: le cas des firmes publiant des prévisions lors d'un premier appel public à l'épargne (Earnings management: the case of companies publishing forecasts at the time of a first IPO). *Comptabilité- Contrôle- Audit* 1 (1): 45-61.
- Cormier, D., M. Magnan and B. Morard. 1998. La gestion stratégique des résultats: le modèle anglo-saxon convient-il au contexte suisse ? (Earnings management: is the Anglo-Saxon model relevant to the Swiss context?). *Comptabilité – Contrôle – Audit* 4 (1) (March): 25-48.
- Cormier, D., M. Magnan and B. Morard. 2000. The contractual and value relevance of reported earnings in a dividend-focused environment. *European Accounting Review* 9 (3) : 387-417.
- Craig, R. and P. Walsh. 1989. Adjustments for 'extraordinary items' in smoothing reported profit of listed Australian companies: Some empirical evidence. *Journal of Business Finance and Accounting* 16 (2) (Spring): 229-245.
- Cushing, B.E. 1969. An empirical study of changes in accounting policy. *Journal of Accounting Research* (Autumn): 196-203.

- Dascher, P.E. and R.E. Malcolm. 1970. A note on income smoothing in the chemical industry. *Journal of Accounting Research* (Autumn): 253-259.
- Datar, S.M., G.A. Feltham and J.S. Hughes. 1991. The role of audits and audit quality in valuing new issues. *Journal of Accounting and Economics* 14: 3-49.
- Davis-Friday, P.Y. and T.J. Frecka, 2002, "What managers should know about earnings management – Its prevalence, legality, ethicality, and does it work?". *Review of Accounting and Finance*, Vol. 1 (1): 57-71.
- DeAngelo, H., L. DeAngelo and J. Skinner. 1994. Accounting choice in troubled companies. *Journal of Accounting and Economics* 17: 113-143.
- DeAngelo, L. 1986. Accounting numbers as market valuation substitutes: A study of management buyouts of public stockholders. *The Accounting Review* 61: 400-420.
- DeAngelo, L.E. 1988. Managerial competition, information costs and corporate governance: The use of accounting performances measures in proxy contests. *Journal of Accounting and Economics* 9 (1): 3-36.
- Dechow, P.M. 1994. Accounting earnings and cash flows as measures of firm performance. *Journal of Accounting and Economics* 18: 3-42.
- Dechow, P.M. and R.G. Sloan. 1991. Executive incentives and the horizon problem: an empirical investigation. *Journal of Accounting and Economics* 14: 51-89.
- Dechow, P., R. Sloan and A. Sweeney. 1995. Detecting earnings management. *The Accounting Review* 70 (2): 193-225.
- Dechow, P., R. Sloan and A. Sweeney. 1996. Causes and consequences of earnings manipulations: An analysis of firms subject to enforcement actions by the SEC. *Contemporary Accounting Research* 13 (1): 1-36.
- Dechow, P.M. and D.J. Skinner. 2000. Earnings management reconciling the views of accounting academics, practitioners, and regulators. *Accounting Horizons* 14 (2): 235-250.
- DeFond, M.L. and J. Jiambalvo. 1994. Debt covenant violations and manipulation of accruals. *Journal of Accounting and Economics* 17: 145-176.
- DeFond, M.L. and C.W. Park. 1997. Smoothing income in anticipation of future earnings. *Journal of Accounting and Economics* 23 (2) (June): 115-139.
- DeFond, M.L. and K.R. Subramanyam. 1998. Auditor changes and discretionary accruals. *Journal of Accounting and Economics* 25 (1) (February): 35-67.
- DeGeorge, F., J. Patel and R. Zeckhauser. 1999. Earnings management to exceed thresholds. *Journal of Business* 72 (1): 1-32.
- Dempsey, S.J., H.G. Hunt III and N. Schroder. 1993. Earnings management and corporate ownership structure: An examination of extraordinary item reporting. *Journal of Business Finance & Accounting* 20 (4): 479-500.
- DePree, C.M. and C.T. Grant. 1999. Earnings management and ethical decision making: Choices in accounting for security investments. *Issues in Accounting Education* 14 (4): 613-640.
- Dopuch, N. and D.F. Drake. 1966. The effect of alternative accounting rules for nonsubsidiary investments. *Journal of Accounting Research, Empirical Research in Accounting, Selected Studies* 4 (Supplement): 192-219.

- Dopuch, N. and R. Watts. 1972. Using time-series models to assess the significance of accounting changes. *Journal of Accounting Research* (Spring): 180-194.
- D'Souza, J., J. Jacob and K. Ramesh. 2001. The use of accounting flexibility to reduce labor renegotiation costs and manage earnings. *Journal of Accounting and Economics* 30: 187-208.
- Dye, R.A. 1988. Earnings management in an overlapping generations model. *Journal of Accounting Research* 26 (2) (Autumn): 195-235.
- Eckel, N. 1981. The income smoothing hypothesis revisited. *Abacus* 17 (1): 28-40.
- Eilifsen, A., K.H. Knivsflå and F. Sættem. 1999. Earnings manipulation: cost of capital versus tax. *European Accounting Review* 8 (3): 481-491.
- Erickson, M. and S. Wang. 1999. Earnings management by acquiring firms in stock for stock mergers. *Journal of Accounting and Economics* 27: 149-176.
- Evans, J.H. and S.S. Sridhar. 1996. Multiple control systems, accrual accounting, and earnings management. *Journal of Accounting Research* 34 (1): 45-65.
- Fama, E. 1970. Efficient capital markets : a review of theory and empirical work. *Journal of Finance* 25 (2) (May): 383-417.
- Feitz, A. 1994. Comment les banques nettoient leur bilan (How banks clean their balance sheet). *Option Finance* 310 (June 6): 14-18.
- Fern, R.H., B. Brown and S.W. Dickey. 1994. An empirical test of politically-motivated income smoothing in the oil refining industry. *Journal of Applied Business Research* 10 (1) (Winter): 92.
- Fields T.D., Lys T.Z., Vincent L. 2001. Empirical research on accounting choice. *Journal of Accounting and Economics* 31: 255-307.
- Fischer, M. and K. Rosenzweig. 1995. Attitudes of students and accounting practitioners concerning the ethical acceptability of earnings management. *Journal of Business Ethics* 14: 433-444.
- Foster, G. 1986. *Financial statement analysis*. Prentice Hall, Englewood Cliffs, USA.
- Francis, J.R., E.L. Maydew and H.C. Sparks. 1999. The role of Big 6 auditors in the credible reporting of accruals. *Auditing: A Journal of Practice and Theory* 18 (2) (Fall): 17-34.
- Friedlan, J.M. 1994. Accounting choices of issuers of initial public offerings. *Contemporary Accounting Research* 11 (1): 1-31.
- Fudenberg, D. and J. Tirole. 1995. A theory of income and dividend smoothing based on incumbency rents. *Journal of Political Economy* 103 (1): 75-93.
- Gagnon, J.M. 1967. Purchase versus pooling of interests: The search for a predictor. *Journal of Accounting Research, Empirical Research in Accounting, Selected Studies* 5 (Supplement): 187-204.
- Gaver, J., K.M. Gaver and J.R. Austin. 1995. Additional evidence on bonus plans and income management. *Journal of Accounting & Economics* 19 (1) (February): 3-28.
- Gaver, J.J. and J.S. Paterson. 2001. The association between external monitoring and earnings management in the property-casualty insurance industry. *Journal of Accounting Research* 39 (2) 269-282.

- Gibbins, M. 1977. Classificatory smoothing of income with extraordinary items: research implications. *The Accounting Review* 52 (2) (April): 516-524.
- Givoly, D. and J. Ronen. 1981. 'Smoothing' manifestations in fourth quarter results of operations: Some empirical evidence. *Abacus* 17 (2): 174-193.
- Godfrey, J.M. and K.L. Jones. 1999. Political cost influences on income smoothing via extraordinary item classification. *Accounting and Finance* 39 (3) (November): 229-254.
- Gonedes, N.J. 1972. Income-smoothing behavior under selected stochastic processes. *The Journal of Business* 45 (4): 571-584.
- Gordon, M.J. 1964. Postulates, principles and research in accounting. *The Accounting Review* 39 (April): 251-263.
- Gordon, M.J., B.N. Horwitz and P.T. Meyers. 1966. Accounting measurements and normal growth of the firm. in Jaedicke, Ijiri and Nielson (eds), *Research in Accounting Measurement (American Accounting Association)*: 221-231.
- Gounin, I. 1991. L'art de présenter un bilan (The art of presenting a balance sheet). *La Tribune* March 28: 11.
- Griffiths, I. 1986. *Creative Accounting*. Irwin Paperback, London.
- Griffiths, I. 1995. *New Creative Accounting*. Macmillan. London.
- Guay, W.R., S.P. Kothari and R.L. Watts. 1996. A market-based evaluation of discretionary accrual models. *Journal of Accounting Research* 34 (Supplement): 83-105.
- Guenther, D.A. 1994. Earnings management in response to corporate tax rate changes. *The Accounting Review* 69 (1): 230-243.
- Guidry, F., A. Leone and S. Rock. 1999. Earnings-based bonus plans and earnings management by business-unit managers. *Journal of Accounting and Economics* 26 (1-3) (January): 113-142.
- Hall, S.C. 1993. Political scrutiny and earnings management in the oil refining industry. *Journal of Accounting and Public Policy* 12 (4) (Winter): 325-351.
- Hall, S.C. 1994. Dividend Restriction and Accounting Choices. *Journal of Accounting, Auditing and Finance* 9 (3): 447-463.
- Hall, S.C. and W.W. Stammerjohan. 1997. Damage awards and earnings management in the oil industry. *The Accounting Review* 72 (1): 47-65.
- Han, J.C.Y. and S-W. Wang. 1998. Political costs and earnings management of oil companies during the 1990 Persian Gulf Crisis. *The Accounting Review* 73 (1): 103-117.
- Hand, J. 1989. Did firms undertake debt-equity swaps for an accounting paper profit or true financial gain? *The Accounting Review* 64: 587-623.
- Haw, I.M., D. Qi and W. Wu. The nature of information in accruals and cash flows in an emerging capital market: The case of China. *International Journal of Accounting* 36: 391-406.
- Healy, P.M. 1985. The effect of bonus schemes on accounting decisions. *Journal of Accounting and economics* 7: 85-107.

- Healy, P.M. and K.G. Palepu. 1990. Effectiveness of accounting-based dividend covenants. *Journal of Accounting and Economics* 12 (1-3): 97-123.
- Healy, P.M. and J.M. Wahlen. 1999. A review of the earnings management literature and its implications for standard setting. *Accounting Horizons* 13 (4) (December): 365-363.
- Hines, R.D. 1982. The usefulness of annual reports: The anomaly between the efficient markets hypothesis and shareholder surveys. *Accounting and Business Research*, 297-309.
- Hepworth, S.R. 1953. Periodic income smoothing. *The Accounting Review* 28 (1) (January): 32-39.
- Holthausen, R.W., D.F. Larcker, and R.G. Sloan. 1995. Annual bonus schemes and the manipulation of earnings. *Journal of Accounting and Economics* 19: 29-74.
- Imhoff, E.A. 1977. Income smoothing – A case for doubt. *Accounting Journal* (Spring): 85-100.
- Imhoff, E.A. 1981. Income smoothing: an analysis of critical issues. *Quarterly Review of Economics and Business* 21 (3) (Autumn): 23-42.
- Jaggi, B. and N. Baydoun. 2001. Evaluation of extraordinary and exceptional items disclosed by Hong Kong companies. *Abacus* 37 (2): 217-232.
- Jameson, M. 1988. *A practical Guide to Creative Accounting*. Kogan Page, London.
- Jeanjean, T. 2001. Incitations et contraintes à la gestion du résultat. (Incentives and constraints to earnings management). *Comptabilité – Contrôle – Audit* 7 (1) (March): 61-76.
- Jeter, D.C. and L. Shivakumar. 1999. Cross-sectional estimation of abnormal accruals using quarterly and annual data: effectiveness in detecting event-specific earnings management. *Accounting and Business Research* 29 (4): 299-319.
- Jones, J. 1991. Earnings management during import relief investigations. *Journal of Accounting Research* 29 (2): 193-228.
- Kahneman D. and A. Tversky. 1979. Prospect theory: an analysis of decision making on the risk. *Econometrica* 47 (2): 263-291.
- Kallunki, J.P. and T. Martikainen. 1999. Do firms use industry-wide targets when managing earnings? Finnish evidence. *International Journal of Accounting* 34 (2): 249-259.
- Kamin, J.Y. and J. Ronen. 1978. The smoothing of income numbers: Some empirical evidence on systematic differences among management-controlled and owner-controlled firms. *Accounting, Organization and Society* 3 (2): 141-157.
- Kang, S.-H. and K. Sivaramakrishnan. 1995. Issues in testing earnings management and an instrumental variable approach. *Journal of Accounting Research* 33 (2) (Autumn): 353-367.
- Kasanen, E., J. Kinnunen and J. Niskanen. 1996. Dividend-based earnings management: Empirical evidence from Finland. *Journal of Accounting and Economics* 22 (1-3): 283-312.
- Kasznik, R. 1999. On the association between voluntary disclosure and earnings management. *Journal of Accounting Research* 37 (1): 57-81.
- Kellog, I. and L.B. Kellog. 1991. *Fraud, window dressing and negligence in financial statements*. McGraw Hill,

Colorado Springs.

- Key, K.G. 1997. Political cost incentives for earnings management in the cable television industry. *Journal of Accounting and Economics* 23 (3) (November): 309-337.
- Kinnunen, J., E. Kasanen and J. Niskanen. 1995. Earnings management and the economy sector hypothesis: empirical evidence on a converse relationship in the Finnish case. *Journal of Business Finance & Accounting* 22(4): 497-520.
- Koch, B.S. 1981. Income smoothing: An experiment. *The Accounting Review* 56 (3) (July): 574-586.
- Labelle, R. and M. Thibault. 1998. Gestion du bénéfice à la suite d'une crise environnementale : un test de l'hypothèse des coûts politiques (Earnings management in response to environmental crises: a test of the political cost hypothesis). *Comptabilité – Contrôle – Audit* 4 (1) (March): 25-48.
- Lambert, R.A. 1984. Income smoothing as rational equilibrium behavior. *The Accounting Review* 59 (4) (October): 604-618.
- Lamont, O. 1998. Earnings and expected returns. *The Journal of Finance* LIII (5): 1563-1587.
- Ledouble, D. 1993. La créativité en comptabilité (Creativity in financial accounting). *Semaine juridique (J.C.P. - E)* February 25: 224.
- Le Nadant, A.L. 1999. La gestion des résultats comptables précèdent les opérations de LBO françaises (Earnings management preceding leveraged buyouts in France). *Comptabilité – Contrôle – Audit* 5 (2) : 61-83.
- Lev, B. and S. Kunitzky. 1974. On the association between smoothing measures and the risk of common stock. *The Accounting Review* 49 (2) (April): 259-270.
- Liberty, S. and J. Zimmerman. 1986. Labor union, contract negotiation and accounting choices. *The Accounting Review* 61 (4): 692-712.
- Libby, R. and W.R. Kinney, Jr. 2000. Does mandated audit communication reduce opportunistic corrections to manage earnings to forecasts? *The Accounting Review* 75 (4): 383-404.
- Lim, S. and Z. Matolcsy. 1999. Earnings management of firms subjected to product price controls. *Accounting and Finance* 39: 131-150.
- Lignon, M. 1989. L'art de calculer ses bénéfices (The art of computing its profits). *L'Entreprise* 50 (November): 17-18, 20.
- Loomis, C.J. 1999. Lies, damned lies, and managed earnings. *Fortune* 140 (3) (Aug. 2): 74-92.
- Loubière, P. 1992. Pour embellir ses comptes, Thomson cède ses brevets (To improve the look of its accounts, Thomson sells its patents). *Libération* (May 5).
- Ma, C.K. 1988. Loan loss reserves and income smoothing: The experience in the US banking industry. *Journal of Business Finance and Accounting* 15 (4) (Winter): 487-497.
- Magnan, M. and D. Cormier. 1997. The impact of forward-looking financial data in IPOs on the quality of financial reporting. *Journal of financial statement analysis* 3 (2): 6-17.
- Magnan, M., C. Nadeau and D. Cormier. 1999. Earnings management during antidumping investigations: Analysis and implications. *Canadian Journal of Administrative Sciences* 16 (2) (June): 149-162.

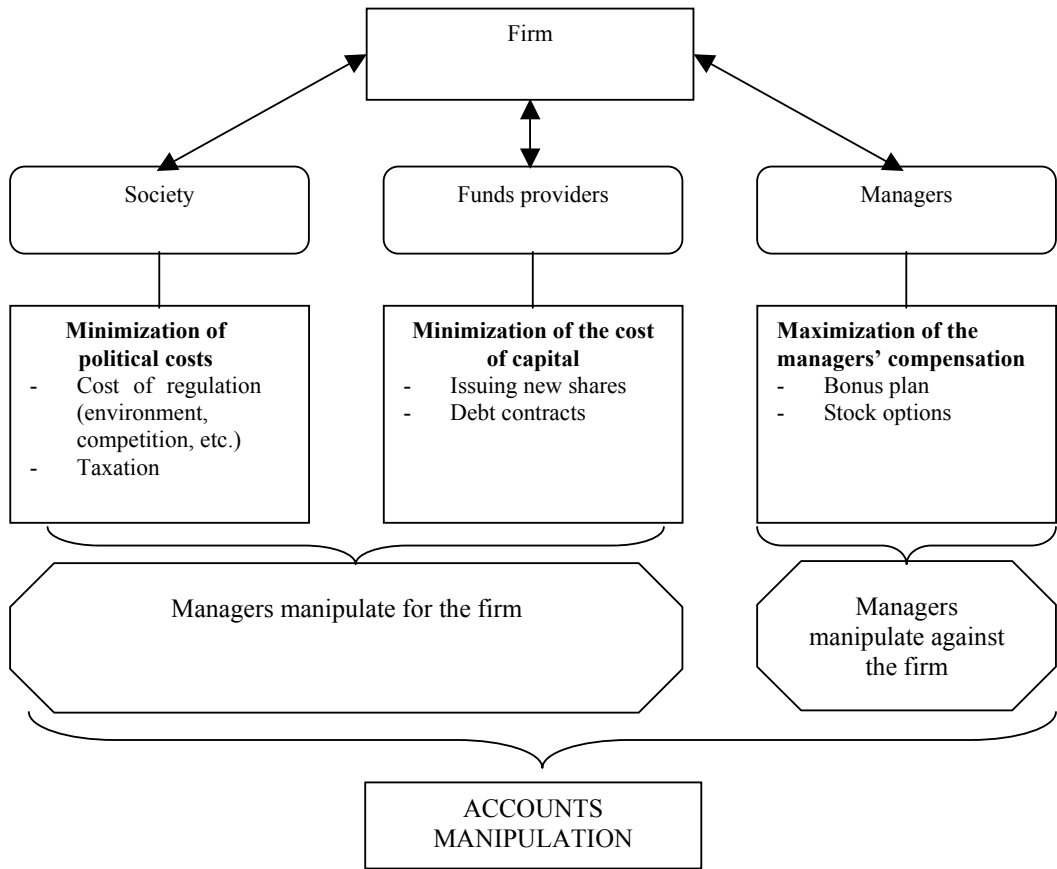
- Makar, S.D. and P. Alam. 1998. Earnings management and antitrust investigations: Political cost over business cycles. *Journal of Business Finance and Accounting* 25 (5/6) (June/July): 701-720.
- Mande, V., R.G. File and W. Kwak. 2000. Income smoothing and discretionary R&D expenditures of Japanese firms. *Contemporary Accounting Research* 17 (2) (Summer): 263-302.
- Mathews, M.R. and M.H.B. Perera. 1996. *Accounting Theory and Development*. Nelson - ITPC, Melbourne, 402 pages.
- Maydew, E.L. 1997. Tax-induced earnings management by firms with net operating losses. *Journal of Accounting Research* 35 (1) (Spring): 83-96.
- Mayer-Sommer, A.P., 1979, Understanding and Acceptance of the Efficient Market Hypothesis and the Accounting Implications, *The Accounting Review*, 88-106.
- McNichols, M. and G.P. Wilson. 1988. Evidence of earnings management from the provision for bad debts. *Journal of Accounting Research* 26 (Supplement): 1-31.
- McNichols, M. 2000. Research design issues in earnings management studies. *Journal of Accounting and Public Policy* 19 (4-5): 313-345.
- Mensah, Y.M., J.M. Considine and L. Oakes. 1994. Statutory insolvency regulations and earnings management in the prepaid health-care industry. *The Accounting Review* 69 (1) (January): 70-95.
- Merchant, K. 1987. *Fraudulent and Questionable Financial Reporting: A corporate Perspective*. Financial Executive Research Foundation, New-York.
- Merchant, K. and J. Rockness. 1994. The ethics of managing earnings: An empirical investigation. *Journal of Accounting and Public Policy* 13:79-94.
- Michelson, S.E., J. Jordan-Wagner and C.W. Wootton. 1995. A market based analysis of income smoothing. *Journal of Business Finance & Accounting* 22 (8) (December): 1179-1193.
- Moore, M.L. 1973. Management changes and discretionary accounting decisions. *Journal of Accounting Research* (Spring): 100-107.
- Moses, O.D. 1987. Income smoothing and incentives: Empirical tests using accounting changes. *The Accounting Review* 62 (2) (April): 358-377.
- Mozes, H.A. 1997. The implications of a LIFO liquidation for future gross margins. *Journal of Financial Statement Analysis* 2 (4) (Summer): 39-51.
- Murphy, K. and J. Zimmerman. 1993. Financial performance surrounding CEO turnover. *Journal of Accounting and Economics* 16: 273-316.
- Naser, K.H.M. 1993. *Creative Financial Accounting*. Prentice Hall, Hemel Hempstead.
- Navissi, F. 1999. Earnings management under price regulation. *Contemporary Accounting Research* 16 (2) (Summer): 281-304.
- NCFRR (National Commission on Fraudulent Financial Reporting), Quoted in: Belkaoui, A., 1989, *The Coming Crisis in Accounting*, Quorum Books, New-York
- Neill, J.D., S.G. Pourciau and T.F. Schaefer. 1995. Accounting method choice and IPO valuation. *Accounting Horizons* 9 (3): 68-80.

- Niskanen, J. and Keloharju, M. 2000. Earnings cosmetics in a tax-driven accounting environment: evidence from Finnish public firms. *European Accounting Review* 9 (3): 443-452.
- Peasnell, K.V., P.F. Pope and S. Young. 2000. Accrual management to meet earnings targets: UK evidence pre- and post-Cadbury. *British Accounting Review* 32: 415-445.
- Perry, S.E. and T.H. Williams. 1994. Earnings management preceding management buyout offers. *Journal of Accounting and Economics* 18 (2): 157-180.
- Phillips, F. K. Morris and K. Zvinakis. 2000. *Issues in Accounting Education* 15 (4) (November) 605-633.
- Pierce-Brown, R. and T. Steele. 1999. The economics of *Accounting for Growth*. *Accounting and Business Research* 29 (2) (Spring): 157-173.
- Pijper T. 1994. *Creative Accounting: The Effectiveness of Financial Reporting in the UK*. Macmillan.
- Pourciau, S. 1993. Earnings management and nonroutine executive changes. *Journal of Accounting and Economics* 16: 317-336.
- Pourquery, D. 1991. Les provisions ou l'art de mettre de l'argent de côté (The provisions or the art to save money). *Science & vie économie* 73 (June): 72-75.
- Press, E.G. and J.B. Weintrop. 1990. Accounting based constraints in public and private debt agreements: Their association with leverage and impact on accounting choice. *Journal of Accounting and Economics* 12 (1): 65-95.
- Rayburn, J. and S. Lenway. 1992. An investigation of the behavior of accruals in the semiconductor industry. *Contemporary Accounting Research* 9 (3): 237-251.
- Rennie, P. 1985. The Corporate AIDS – Funny financing and creative accounting. *Rydges* LVIII (11) (November): 18-20.
- Revsine, L. 1991. The selective financial misrepresentation hypothesis. *Accounting Horizons* (December): 16-27.
- Robb, S.W.G. 1998. The effect of analysts' forecasts on earnings management in financial institutions. *Journal of Financial Research* 21 (3) (Fall): 315-331.
- Ronen, J. and S. Sadan. 1975a. Classificatory smoothing: Alternative income models. *Journal of Accounting Research* (Spring): 133-149.
- Ronen, J. and S. Sadan. 1975b. Do corporations use their discretion in classifying accounting items to smooth reported income? *Financial Analysts Journal* 31 (5) (September-October): 62-68.
- Ronen, J. and S. Sadan. 1976. Ups and downs of income numbers: Inter-temporal smoothing. *Proceedings on Topical Research in Accounting*: 285-316.
- Ronen, J. and S. Sadan. 1980. Accounting classification as a tool for income prediction. *Journal of Accounting, Auditing & Finance* Summer: 339-353.
- Ronen, J. and S. Sadan. 1981. *Smoothing income numbers, Objectives, Means, and Implications*. Reading, MA, Addison Wesley.
- Ronen, J., S. Sadan and C. Snow. 1977. Income smoothing: A review. *Accounting Journal* (Spring): 11-26.

- Saudagaran, S.M. and J.F. Sepe. 1996. Replication of Moses' income smoothing tests with Canadian and UK data: A note. *Journal of Business Finance & Accounting* 23 (8) (October): 1219-1222.
- Scheiner, J.H. 1981. Income smoothing: An analysis in the banking industry. *Journal of Bank Research* 12 (2) (Summer): 119-123.
- Schilit, H.M. 1993. *Financial Shenanigans: How to Detect Accounting Gimmicks and Fraud in Financial Reports*. McGraw Hill, New-York.
- Schipper, K. 1989. Commentary on earnings management. *Accounting Horizons* 3 (4): 91-102.
- Scholes, M.S., G.P. Wilson and M.A. Wolfson. 1992. Firms responses to anticipated reductions in tax rates: The tax reform act of 1986. *Journal of Accounting Research* (Supplement): 161-185.
- Scott, W.R. 1997. *Financial Accounting Theory*. Prentice Hall, Scarborough.
- Shabou, R. and N. Boulila Taktak. 2002. Les déterminants de la comptabilité créative : étude empirique dans le contexte des entreprises tunisiennes. (Determinants of creative accounting: an empirical study in the context of Tunisian firms). *Comptabilité – Contrôle – Audit* 8 (1): 5-24.
- Shah, A.K. 1996. Creative compliance in financial reporting. *Accounting Organizations and Society* 21 (1): 23-39.
- Shefrin, H. 2000. *Beyond greed and fear*. Harvard Business School Press, Boston, USA.
- Sheikholeslami, M. 1994. The impact of foreign stock exchange listing on income smoothing: Evidence from Japanese firms. *International Journal of Management* 11 (2) (June): 737-742.
- Simpson, R.H. 1969. An empirical study of possible income manipulation. *The Accounting Review* (October): 806-817.
- Smith, T. 1992. *Accounting for growth - Stripping the camouflage from company accounts*. Century Business, London, 2nd edition 1996.
- Stolowy, H. 2000. Comptabilité créative (creative accounting). *Encyclopédie de Comptabilité, Contrôle de Gestion et Audit* (ed. Bernard Colasse). Economica: 157-178.
- Subramanyam, K.R. 1996. The pricing of discretionary accruals. *Journal of Accounting & Economics* 22 (1-3) (August-December): 249-281.
- Suh, Y.S. 1990. Communication and income smoothing through accounting method choice. *Management Science* 36 (6) (June): 704-723.
- Sweeney, A.P. 1994. Debt covenant violations and managers' accounting response. *Journal of Accounting and Economics* 17: 281-308.
- Teoh, S.H., T.J. Wong and G. Rao. 1998a. Are accruals during initial public offerings opportunity? *Review of Accounting Studies*, 3: 175-208.
- Teoh, S.H., I. Welch and T.J. Wong. 1998b. Earnings management and the long run market performance of initial public offerings. *The Journal of Finance* LIII (6): 1935-1974.
- Thauvron, A. 2000. La manipulation du résultat comptable avant une offre publique (Earnings management before a takeover). *Comptabilité – Contrôle – Audit* 6 (2) (September): 97-114.

- Thomas, J. and Zhang, X.-j. 2000. Identifying unexpected accruals : a comparison of current approaches. *Journal of Accounting and Public Policy* 19: 347-376.
- Titman, S. and B. Trueman. 1986. Information quality and the valuation of new issues. *Journal of Accounting and Economics* 8: 159-172.
- Trueman, B. and S. Titman. 1988. An explanation for accounting income smoothing. *Journal of Accounting Research* 26 (Supplément): 127-139.
- Turner, L.E. and J.H. Godwin. 1999. Auditing, earnings management, and international accounting – Issues at the Securities and Exchange Commission. *Accounting Horizons* 13 (3) (September) 281-287.
- Tweedie, D. and G. Whittington. 1990. Financial reporting: current problems and their implications for systematic reform. *Accounting and Business Research*: 87-102.
- Visvanathan, G. 1998. Deferred tax valuation allowances and earnings management. *Journal of Financial Statement Analysis* 3 (4) (Summer): 6-15.
- Walsh, P., R. Craig and F. Clarke. 1991. 'Big bath accounting' using extraordinary items adjustments: Australian empirical evidence. *Journal of Business Finance & Accounting* 18 (2): 173-189.
- Wang, Z. and T.H. Williams. 1994. Accounting income smoothing and stockholder wealth. *Journal of Applied Business Research* 10 (3) (Summer): 96-110.
- Warfield T. and T.J. Linsmeir. 1992. Tax planning, earnings management, and the differential information content of bank earnings components. *The Accounting Review* 67 (3): 546-562.
- Watts, R.L. and J. Zimmerman. 1978. Towards a positive theory of the determination of accounting standards. *The Accounting Review* 56 (January): 112-134.
- Watts, R.L., and J.L. Zimmerman. 1986. *Positive Accounting Theory*. Prentice-Hall, Englewood cliffs.
- Westmore, J.L. and J.R. Brick. 1994. Loan loss provisions of commercial banks and adequate disclosure: a note. *Journal of Economics and Business* 46: 299-305.
- White, G.E. 1970. Discretionary accounting decisions and income normalization. *Journal of Accounting Research* (Autumn): 260-273.
- White, G.E. 1972. Effects of discretionary accounting policy on variable and declining performance trends. *Journal of Accounting Research* (Autumn): 351-358.
- Wood, D. J. 1990. *Business and society*. Scott, Foresman.
- Wu, Y.W. 1997. Management buyouts and earnings management. *Journal of Accounting, Auditing and Finance* 12 (4) (Fall): 373-389.
- Yoon, S.S. and G. Miller. 2002. Earnings management of seasoned equity offering firms in Korea. *International Journal of Accounting* 37:57-78.
- Young, S. 1999. Systematic measurement error in the estimation of discretionary accruals: An evaluation of alternative modelling procedures. *Journal of Business Finance & Accounting* 26 (7) & (8) (September-October): 833-862.
- Zmijewski, M.E. and R.L. Hagerman. 1981. An income strategy approach to the positive theory of accounting standard setting/choice. *Journal of Accounting and Economics* 3 (August): 129-149.

Figure 1 - Principles of Accounts Manipulation



↔ Potential wealth transfer

Figure 2 - A Proposed Framework for Understanding the Practice of Accounts Manipulation

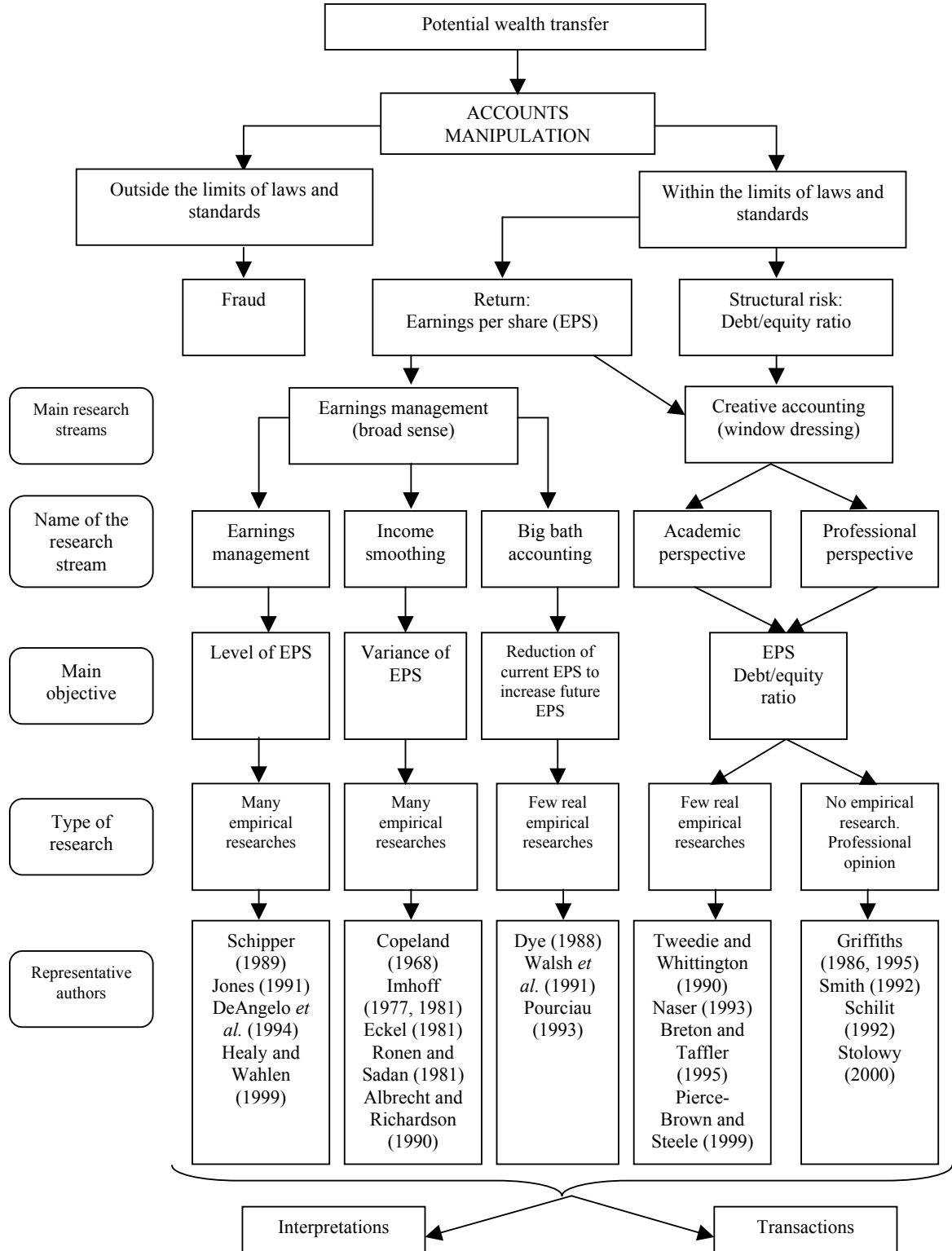


Figure 3 - Accounts manipulation and fair presentation

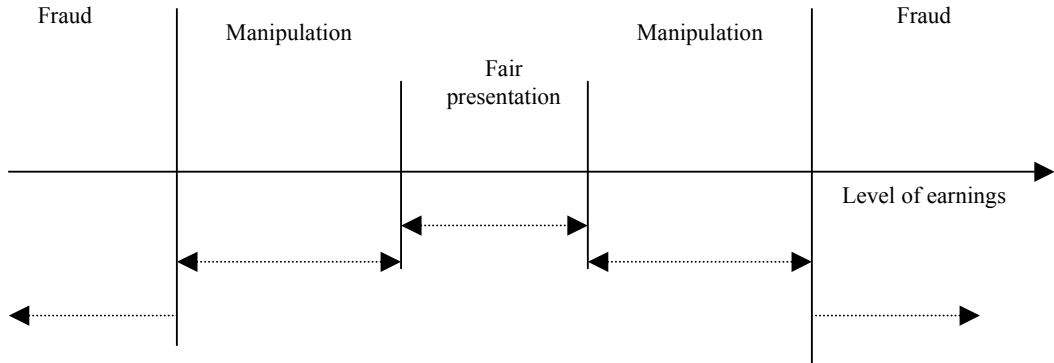


Figure 4 - Players in the Field of Accounts Manipulation

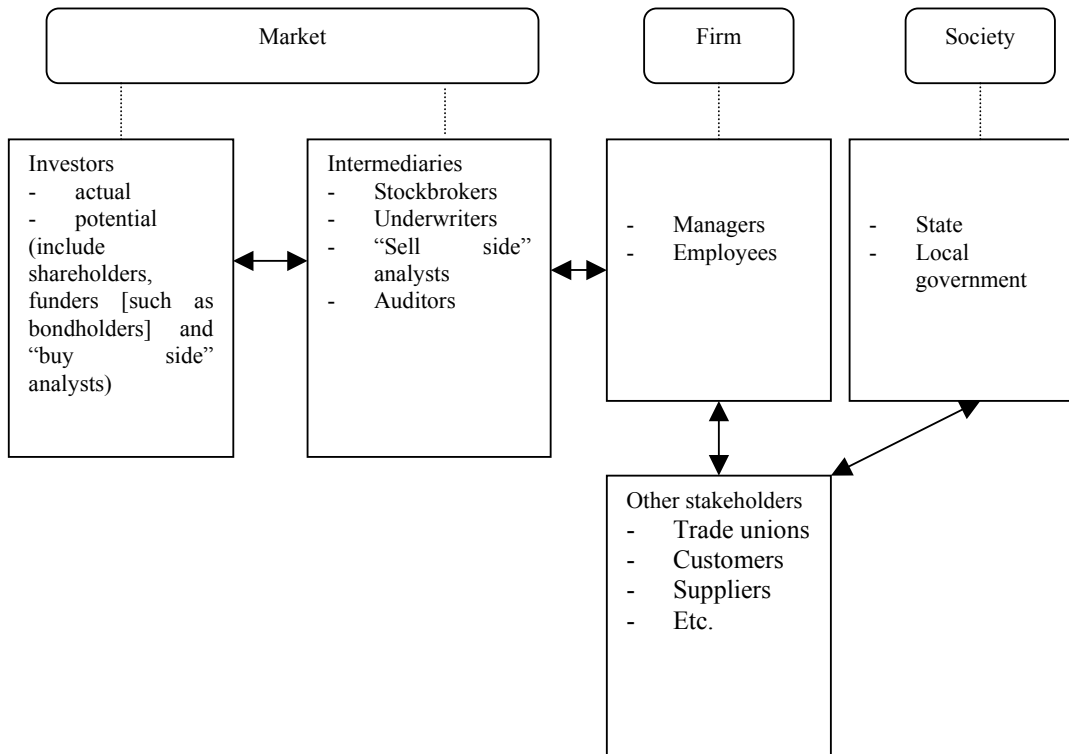


Figure 5 - Different Types of Smooth Income Streams and Dimensions of Smoothing

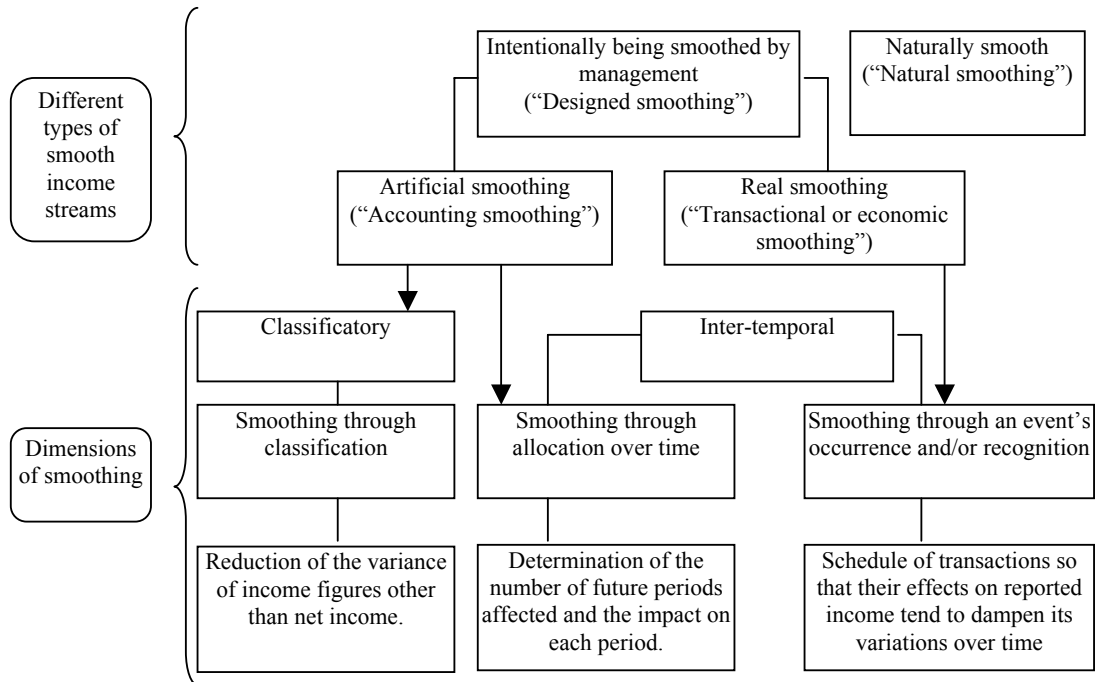


Table 1 - Objectives of earnings management and their contexts⁶

Objectives	Contexts	Examples
Minimization of political costs	Inquiries or surveillance by regulatory bodies	Jones (1991), Rayburn and Lenway (1992): U.S. International Trade Commission, Cahan (1992): Anti-Trust Division of the Ministry of Justice, Key (1997): cable television industry during periods of Congressional scrutiny, Makar and Alam (1998): antitrust investigations, Magnan et al. (1999): anti-dumping complaints
	Environmental regulation	Cahan et al. (1997), Labelle and Thibault (1998)
	Minimizing income tax	Warfield and Linsmeir (1992), Boynton et al. (1992), Guenther (1994), Maydew (1997)
	Book income adjustment and alternative minimum tax	Choi et al. (2001)
	Negotiation: labor contract or labor renegotiation costs	Liberty and Zimmerman (1986), D'Souza et al. (2001)
	Specific regulation	Mensah et al. (1994), Westmore and Brick (1994), Ahmed et al. (1999)
Minimization of the cost of capital	IPO's	Aharony et al. (1993), Friedlan (1994), Cormier and Magnan (1995), Magnan and Cormier (1997), Teoh et al. (1998a, 1998b), Le Nadant (1999)
	Renewal of debt contracts and financial distress	DeAngelo et al. (1994), Sweeney (1994), DeFond and Jambalvo (1994)
	Violation of debt covenants and restrictions on dividend payments	McNichols and Wilson (1988), Press and Weintrop (1990), Healy and Palepu (1990), Beneish and Press (1993), Hall (1994)
	To meet analysts' forecasts	Libby and Kinney (2000): behavior of auditors, Bauman et al. (2001)
	To satisfy investors' emphasis on dividends payment	Cormier et al. (2000)
	Seasoned equity offering	Yoon and Miller (2002) in Korea
	Comparison with competitors	Kallunki and Martikainen (1999), Bagnoli and Watts (2000)
	Earnings cosmetics	Niskanen and Keloharju (2000)
	Takeover	Thauvron (2000)
Maximization of managers wealth	Maximizing short term total compensation	Healy (1985), Clinch and Margliolo (1993), Holthausen et al. (1995), Gaver et al. (1995)
	Changing of control	DeAngelo (1986), Perry and Williams (1994), DeAngelo (1988)
	Non routine CEO changes	Murphy and Zimmerman (1993), Pourciau (1993), Dechow and Sloan (1991).

⁶ Adapted, updated and developed from Cormier et al. (1998).

Table 2 - Potential gains in manipulating accounts

Players	Gains	Studies
Managers	Reducing the cost of capital	Watts and Zimmerman (1986) Dechow et al. (1996)
	Signaling	Ronen and Sadan (1980)
	Keeping their job	Fudenberg and Tirole (1995)
	Managing their remuneration	Watts and Zimmerman (1978), Ronen and Sadan (1981), Lambert (1984), Healy (1985), Moses (1987), McNichols and Wilson (1988), Brawshaw and Eldin (1989), Fern et al. (1994), Gaver et al. (1995), Holthausen et al. (1995), Bhat (1996), Balsam (1998), Guidry et al. (1999)
	Respect the debts covenants	Watts and Zimmerman (1986), Sweeney (1994), DeFond and Jambalvo (1994), DeAngelo et al. (1994) (no evidence), Fern et al. (1994)
	Official examination	Jones (1991), Hall and Stammerjohan (1997), Magnan et al. (1999)
	Minimization of income tax	Scholes et al. (1992), Guenther (1994), Chaney and Lewis (1995), Maydew (1997), Visvanathan (1998), Eilifsen et al. (1999)
	Gain tax advantages	Hepworth (1953)
	Reduction of the cost of shares in an MBO	Wu (1997)
	Improve relations with creditors, employees and investors	Hepworth (1953), Godfrey and Jones (1999)
	Stable dividends	Kasanen et al. (1996)
	Avoid political costs	Hall (1993), Fern et al. (1994)
Initial shareholders	Increase their wealth (which includes many of the goals of the managers)	Titman and Trueman (1986), Datar et al. (1991), Aharony et al. (1993), Neill et al. (1995), Friedlan (1994), Teoh et al. (1998b)
Existing – controlling shareholders	Increasing the market value of their shares Controlling employees claims Reducing the cost of capital Reducing the volume of transactions	Dye (1988), Schipper (1989)
Existing – non controlling shareholders	Increasing the market value of the shares Reducing their cost of transaction	No study
Existing bondholders	Increase the market value of their bonds Controlling employees claims	Schipper (1989)
Employees	Keeping their jobs Increase their remuneration	Liberty and Zimmerman (1986)
Suppliers	Keeping their client	No study
Clients	Continuous services Warranty respected	No study
State	Tax to collect Jobs for people	No study
Bankers	Repayment of the loan	No study

Society	Keeping the jobs Production of wealth	No study
---------	--	----------

Table 3 - Potential losses from manipulating accounts

Players	Losses	Studies
Managers	Their job and reputation	No study
Existing shareholders	Confidence in the market	No study
Potential shareholders	The increase in actual shareholders' value resulting from the manipulation	Dye (1988)
Existing bondholders	Wealth transfer to the actual shareholders	No study
Potential bondholders	The increase in actual bondholders' value resulting from the manipulation	Schipper (1989)
Employees	Their job from an unexpected bankruptcy	No study
Suppliers	Some money following an unexpected bankruptcy	No study
Clients	Services interrupted Warranties not honored	No study
State	No more tax to collect Unemployed people to provide for	No study
Bankers	Some money following an unexpected bankruptcy	No study
Society	Jobs lost and resources wasted	No study

Table 4 – Earnings management: the context of study

Context	Example	Object of study
1. Event (longitudinal) study	DeFond and Jiambalvo (1994)	Debt-covenant violation (Year preceding the violation and year of the violation)
	Jones (1991)	Investigation by the International Trade Commission (Years preceding the investigation)
	Cahan (1992)	Investigation related to monopolistic practices
	Cahan et al. (1997)	Chemical firms at the time of change of legislation
	Labelle and Thibault (1998)	Companies which faced an environmental crisis
	Magnan et al. (1999)	Companies under investigation for dumping practices
	Friedlan (1994)	IPO (earnings management during the year preceding the introduction)
	Le Nadant (1999)	LBO
2. Event and two compared samples	Sweeney (1994)	Debt-covenant violation: 8 years including 5 years preceding the violation. Two samples: companies with violation and companies without violation.
	Cormier and Magnan (1995)	Companies reporting forecasts before an IPO. Two samples: companies with forecasts and companies without forecasts.
	Beneish (1999b)	Companies identified as manipulating accounts or under a SEC action.
	Lim and Matolcsy (1999)	Companies under investigation for price control.
3. No specific event. Two samples on a given period	Becker et al. (1998)	Quality of auditing. Big-six versus non big-six firms.
4. No specific event. No compared samples.	Cormier and al. (1998)	Swiss companies.

Appendix 1 - Empirical Studies of Earnings Management – A Selected Reference List

Authors	Motivations	Sample	Methodology	Results
Copeland and Wojdak (1969)	Accounting for merger to maximize future income	Gagnon's 55-58 data, plus 118 recent NYSE mergers	Changes in accounting treatments	Strong support for the hypothesis of income maximization through a massive use of the pooling method
Anderson and Louderback III (1975)	Purchase-pooling decision	114 mergers of the NYSE (pre-Opinion 16 period) and 64 mergers (post-opinion period): 1967-70. 1970-74	Test for significance of the difference between proportions: Z statistic.	No significant decline of the maximizing behavior after APB 16.
Bremser (1975)	Use of accounting changes for EM	80 firms with changes compared to 80 without	Comparison of both groups on EPS and ROI	Changing firms have a poorer pattern of profit
Healy (1985)	Effects of bonus plans on accounting choices	Population = 250 largest U.S. firms from Fortune Sample = 94 firms for 239 firm-years	Non discretionary accruals = a mean value over a period	If the profit is too low, managers will take a bath otherwise they will pick income - increasing or decreasing procedures
DeAngelo (1986)	Proxy contest and management buyout	64 NYSE and American SE proposing a management buyout (73-82)	Discretionary accruals = total accruals	The empirical evidence does not support the hypotheses
McNichols and Wilson (1988)	Decrease the variance of earnings When the profit is too low, managers will choose to take a bath	138 firms from the printing and publishing industry giving a total of 2038 firm-years	Test of the change in discretionary bad debt provision, the discretionary portion being estimated with 4 benchmarks	Results are consistent with the income decreasing hypothesis although not with the smoothing hypothesis
Dechow and Sloan (1991)	CEO situation and R&D expenditure	Compustat firms in specific SIC codes - 405 firms	Non discretionary accruals = the mean of the industry sector	Positive evidence of income - increasing accounting choices by CEO
Jones (1991)	EM during an inquiry of the International Trade Commission	23 firms in 5 industrial sectors	Non discretionary accruals = accruals normalized by total assets at the beginning, distinguishing short term and long term adjustments	Managers make income-decreasing accounting choices during investigations
Aharony et al. (1993)	EM in an IPO context	229 industrial firms (1985-87) on a population of 1162 U.S. firms	DeAngelo's model; total accruals standardized by average total assets	No evidence of manipulation through the accruals

Bartov (1993)	EM from specific items manipulation: income recognition from disposals	653 firm-year observations from Compustat, classified by industrial sector	Through a regression, the income from asset sales is explained by the variation of earnings per share and the book value of the debt/equity ratio	Highly geared and low income firms have significantly higher revenues from asset sales
Dempsey et al. (1993)	Effect of ownership structure on EM through classification as extraordinary	Compustat firms with at least one extraordinary item between 1960 and 1966. Total 248 firms	3 groups: 1 - owner managed, 2 - externally controlled, 3 - management controlled.	When management and ownership are separated, high level of EM through extraordinary items
Pourciau (1993)	The effect of nonroutine top executive changes on accounting choices	73 firms from Disclosure having experience a nonroutine CEO change	Examination of unexpected earnings, accruals and cash flows and special items	As expected new CEO decrease income in their first year (big bath), unexpectedly leaving CEO do the same in their last year
DeAngelo et al. (1994)	Potential problems to comply with debt covenant dealt through dividend cuts	76 firms from the NYSE with three years of losses within 1980-85	Looked for a movement in the accruals around the dividend reduction date. Accruals = net income - cash flows	No real significant income increasing procedures
DeFond and Jiambalvo (1994)	Possibility of a default of the debt covenant	94 firms from the NAARS database disclosing a violation between 1985 and 1988	2 measures: total accruals and working capital accruals	EM occurs the year before the default becomes publicly known
Friedlan (1994)	EM in a IPO context	277 IPO firms from 1981 to 1984	DeAngelo's model modified through standardizing by sales	Income increasing procedures just before the IPO
Sweeney (1994)	Debt covenants default possibilities	130 firms first time violators (1980-89) with data on Compustat	Direct test of the use of certain accounting methods, e.g. LIFO vs FIFO	Significant manipulations when in danger of defaulting
Dechow et al. (1995)	To test the validity of available models in detecting EM	4 samples: 2 random of 1000 each, 1 from firms having extreme performances, and 1 of 36 firms prosecuted by the SEC	Models tested: Jones original, Jones modified, Healy, DeAngelo and the industry model	Jones modified is the best model although none is really complete
Gaver et al. (1995)	Effects of bonus plans on accounting choices	102 firms, between 1980 and 1990	Replication of Healy's study using Jones' model	No big bath. They increase the profit when too low and decrease it when too high
Holthausen et al. (1995)	Effects of bonus plans on accounting choices			Income-reducing procedures at the top
Kinnunen et al. (1995)	EM and economy sectors	37 listed firms, 17 core and 20 peripheral	Total EM = profit from IASC standards less profit presented in Finnish standards	Opportunity for and use of EM is greater in the core sector, and the sector is making a difference

Neill, Pourciau et Schaefer (1995)	EM in an IPO context	Population = 2609 IPOs (1975-84). Sample = 505 following data availability	Classification of accounting methods as conservative or liberal	Relationship between the size of the proceeds and the liberality of accounting policies
Beneish (1997)	Firms experiencing extreme financial performance. Distinguish GAAP violators from simply aggressive accruals	Experimental: 64 firms charged by the SEC Control group: firms with high accruals - 2118 firms	The Jones model for selecting the aggressive accruals (control) A regression to explain the differences between violators and non violators	The model can detect the possibility of opportunistic reporting among firms with large accruals Recommendations to improve Jones model
Burgstahler and Dichev (1997)	EM around profit = 0 or a negative value	64466 observation-years (1977-94)	Gaps in the density of the distribution of earnings	Strong evidence of EM when earnings decrease or are negative
Black et al. (1998)	EM through asset disposals and accounting regulation in an international context	From data available in Global Vantage. 750 firms from Australia, New-Zealand and U.K., for a total of 1199 firm-years	Comparison of the characteristics of the revaluers and non revaluers	Testing for asset revaluation No evidence of EM in Australia and New-Zealand but strong one in the U.K.
Cormier et al. (1998)	Firms in financial distress and takeover attempts	60 Swiss firms on 5 years on the total of 172 listed Swiss firms	Explain the level of total accruals by a list of variables like the <i>Beta</i> , the cash flow, structure of ownership, etc.	Principles of the agency theory (or positive accounting theory) are applicable in Switzerland as well as in Anglo-Saxon countries
Han and Wang (1998)	EM to decrease political visibility	76 firms in predetermined Sic codes	DeAngelo's model adjusted by total assets	Evidence that oil companies used income decreasing procedures during the Gulf war
Labelle and Thibault (1998)	Environmental crises	Sample of 10 firms having known an environmental crisis reported on the front page of the New-York Times	Jones model modified, adjusted for the differences in cash flows	No evidence of earnings management following an environmental crisis
Teoh et al. (1998b)	IPOs, increased asymmetry of information	1649 IPO firms (1980-92)	Four types of accruals discretionary and non, short term and long term	Positive evidence of earnings management immediately after the issuing
Beneish (1999a)	Consequences of earnings overstatement	Same sample than in 1997		Managers are more likely to sell their holdings and exercise stock appreciation rights in periods when earnings are overstated

Beneish (1999b)	Detection of earnings manipulation	74 companies and all Compustat companies matched by two-digit SIC numbers. Data available for 1982-92 period.	8 variables.	Identification of half of the companies involved in earnings manipulation
Degeorge et al. (1999)	Manage investors impression	Quarterly data on 5387 firms from 1974 to 1996	Analysts' expectations = a mean of forecasts. They study the distribution of changes in EPS and earnings forecasts to identify discontinuities	Firms are using EM to avoid reporting earnings below some threshold identified empirically in the study
Erickson and Wang (1999)	Increasing stock value prior to a stock for stock merger	55 firms from 24 industries	Total accruals = net income less operating cash flows. Jones model to determine discretionary accruals	Income increasing procedures are found just before the merger
Jeter and Shevakumar (1999)	Improve the methodology to detect event-specific EM	1000 firms-periods in each cash flow quartile	Modified Jones model to take into account the level of cash flow	The Jones model is not well specified for extreme cash flow
Kaszniak (1999)	Managers will try to present earnings in the neighborhood of analysts forecasts	499 management earnings forecasts from Lexis news	Jones model as modified by Dechow et al. (1995)	Found evidence of EM to align the presented and the forecasted earnings
Lim and Matolcsy (1999)	EM facing price control in Australia	3 groups: 1. 32 investigated, 2. 34 subject to be inquired, 3- not subject to be inquired	Jones model	Evidence of EM for the category 1 in year 0
Magnan et al. (1999)	EM by firms participating as plaintiffs in antidumping investigations	17 Canadian firms (1976-92 period)	Model relating accruals to return, cash flow, PPE, control and tribunal	Evidence of reduction of earnings to obtain favorable rulings from the tribunal
Navissi (1999)	EM under price regulation	62 firms from New Zealand (2 samples). One control sample.	Dechow et al. (1995) model adjusted for the impact of general price inflation	Evidence of EM
Young (1999)	To test the robustness of 5 models to measurement error	158 firms distributed over 3 years	Model tested: Healy, DeAngelo, modified DeAngelo, Jones, modified Jones	Jones and modified Jones are the best models
Bauman et al. (2001)	To examine earnings management via changes in the deferred tax asset	<i>Fortune 500</i> firms	Contextual analysis. Cross-sectional tests.	Existence of earnings management in a contextual approach.

Yoon and Miller (2002)	To determine of the Seasoned equity offering (SEO) firms manage earnings in the year before a planned issue of seasoned equity stocks	249 Korean listed firms that issued seasoned equity stocks from March 1995 to December 1997.	Model created by the authors.	Results support the earnings-management hypothesis for the negative operating-cash-flow firms.
------------------------	---	--	-------------------------------	--

Appendix 2 - Studies of Income Smoothing (IS) – A Selected Reference List⁷

Authors	Purpose of the paper	Object of smoothing	Variable (instrument) of smoothing	Sample Period of analysis	Methodology – Expectancy model	Results - comments
Dopuch and Drake (1966)	To investigate the effects of alternative accounting rules for valuing non subsidiary investments.	Net income.	Gains and losses on sale of securities. Dividends of non-subsidary investments.	12 firms. 1955-64.	Time series regression techniques on net income. No expectancy model specified.	No evidence of smoothing with gain or loss of securities. Some evidence with dividend income.
Gordon et al. (1966)	To test the hypothesis that firms attempt to smooth income.	Earnings per share. Rate of return on stockholder's equity. Income (unclear which).	Investment tax credit.	21 firms in the chemical industry. 1962-63.	Exponential weighting of prior years normal earnings and current year actual earnings.	Inconclusive results.
Archibald (1967)	To discover how and why an accounting change is made.	Net income.	Change from accelerated depreciation to straight-line depreciation. Investment credit.	53 firms. 1962-64.	Target earnings are the reproduction of the preceding year's earnings. Descriptive statistics (ratios).	Mitigated results. A high proportion of companies smoothes income when their profitability is relatively low.
Gagnon (1967)	To test the assumption that managers seek to smooth reported income.	Earnings (less preferred dividends).	Purchase-pooling decision.	500 mergers from the NYSE. 1955-58.	Discriminant function.	Management's choice more consistent with income maximization than with income normalization.

⁷ This table is based on an idea taken from Ronen *et al.* (1977), Ronen and Sadan (1981), Brayshaw and Edlin (1989) and Chalayer (1994, 1995). The studies are presented in chronological order.

Copeland (1968)	To specify some attributes of accounting variables having a potential for smoothing	Net income.	Dividend income received from unconsolidated subsidiaries reported by parent at cost. Others (extraordinary charges or credits, write-offs of fixed assets or intangibles...)	19 companies from the NYSE. From 4 to 20 years.	Target earnings were the reproduction of the preceding year's earnings.	Defines what a good smoothing device must possess. Increasing the number of variables and the length of the time series reduces the error involved in misclassification of firms
Copeland and Licastrò (1968)	Study of accounting for unconsolidated subsidiaries reported by the parent at cost.	Net income.	Dividend income.	20 companies from the NYSE. Periods from 5 to 12 years (1954-65).	Year-to-year changes. Chi-square statistics.	No evidence of IS.
Cushing (1969)	Effects of changes in accounting policy on the reporting earnings with emphasis on the IS effects of such changes.	Earnings per share (unclear what type of EPS).	Reported changes in accounting policies (consistency qualifications variables in the auditor's report).	249 cases of changes. 1955-66.	A \$0.01 increase in earnings per share over the preceding year; a distributed lag model. Weighted straight-line projection based on the five previous years.	Evidence that management chooses the periods to implement a change to report favorable effects on current EPS
White (1970)	Study of discretionary accounting decisions.	Earnings per share (unclear which type).	Discretionary accounting decisions.	42 firms (chemical industry) and 54 firms (building materials industry). 1957-66.	Target earnings were the reproduction of the preceding year's earnings.	Evidence that companies facing highly variable performance pattern and declining earnings smooth income while those faced with variability in positive earnings do not smooth.

Dascher and Malcolm (1970)	Examine companies in the chemical and chemical preparations industries.	Income (not clear which).	Pension costs. Dividend from unconsolidated subsidiaries reported by the parent at cost. Extraordinary charges and credits. R&D costs.	52 firms. 1955-66 and 1961-66.	Time series regression techniques on net income. Exponential of the form $y = ab^x$.	Results considered being consistent with the smoothing assumption.
Barefield and Comiskey (1972)	Differential impact of the cost versus the equity method of accounting for unconsolidated subsidiaries.	Before tax earnings (unclear which).	Cost or equity method.	30 firms. 10 (cost basis); 14 (equity); 6 (both methods). 1959-68.	Linear relationship between earnings and time. Parametric two factor analysis of variance design with repeated measures on one factor.	Modest support for the hypothesis that firms select that method which produces smoother earnings.
White (1972)	Study of discretionary accounting decisions (other companies than in the previous study).	Earnings per share (unclear which type).	Discretionary accounting decisions.	42 chemical companies, 39 retail companies and 41 electrical and electronics companies. 1957-66 or 1959-68.	Target earnings were the reproduction of the preceding year's earnings.	Mixed results with companies faced with highly variable performance pattern and declining earnings smooth income.
Beidleman (1973)	Three questions: Is it desirable for management to have smooth earnings? If so, can management smooth earnings? If desirable and possible, do firms succeed in their attempt to smooth?	Earnings (unclear which).	Pension and retirement expense. Incentive compensation. R&D expense. Remitted earnings from unconsolidated subsidiaries. Sales and advertising expense. Plan retirements.	43 firms. 1951-70.	Linear time trend. Semi logarithmic time trend. Correlation of residuals from time-series regressions of reported income with similarly derived residuals of variables which have smoothing potential.	Many firms employ certain devices to normalize reported earnings. Evidence of smoothing with the instruments: pension costs, incentive compensation, R&D and sales and advertising expense.

Lev and Kunitzky (1974)	To suggest that firms actively engage in a smoothing activity, such as sales and capital expenditure, in order to decrease environmental uncertainty.	No object.	No instrument.	260 firms. 1949-68 (15 years of continuous annual data).	Mean-standard deviation portfolio model. Overall risk and systematic risk.	Reveal a significant association between the extent of smoothness of sales, capital expenditures, dividends, and earnings series and the risk of common stock.
Ronen and Sadan (1975a, 1975b)	To report the results of a test for classificatory smoothing with extraordinary items. To present evidence that firms make use of whatever discretion they have to “smooth” income.	Ordinary income per share before extraordinary items. Extraordinary income per share.	Extraordinary items (classificatory smoothing).	62 firms. 1951-70. Firms from four industries: paper, chemicals, rubber and airlines.	Correlation coefficient between the ordinary income series and the extraordinary income (or expense) series. First differences income market index. Submartingale.	Strong support of the smoothing hypothesis.
Barnea et al. (1976, 1977)	Tests of whether extraordinary revenues and expenses are used to smooth ordinary or operating income over time.	Ordinary income (before extraordinary items) per share. Operating income (before period charges and extraordinary items) per share.	Classification of non recurring items as either ordinary or extraordinary.	62 firms from 4 industries: paper, chemicals, rubber and airlines. 1951-70	Regression of the extraordinary items deviations on the smoothed variables deviations. Linear time trend. Industry leader trend.	Strong support for the hypothesis that management behave as if they smoothed income before extraordinary items
Imhoff (1977)	To question the definition of what constitutes IS and to suggest an alternative definition. Empirical study on the possible existence of smoothing.	No object.	No instrument.	94 industrial firms. 1962-72 (or 1961-71).	Suggested that IS can be studied by comparing the variance of sales to the variance of income. Regressions for the net income and sales time-series as well as the association between net income and sales.	No evidence of IS.

Kamin and Ronen (1978)	Factors associated with IS: separation of ownership and control. Hypothesis: management-controlled firms are more likely to be engaged in smoothing as a manifestation of managerial discretion and budgetary slack.	Operating income. Ordinary income.	Discretionary items: Operating expenses (not included in the cost of sales). Ordinary expenses including non-manufacturing depreciation and fixed charges.	310 U.S. industrial firms. 1957-71.	Time trend. Market trend.	Compared to owner-controlled companies, manager-controlled ones tend to smooth income. Barrier entry have an effect on IS.
Eckel (1981)	To offer an alternative conceptual framework for identifying IS behavior.	Net income. (Artificial smoothing).	No instrument.	62 industrial companies. 1951-70.	To compare the variability of sales and the variability of income.	Finds only two firms that appeared as if they smoothed income.
Givoly and Ronen (1981)	Hypothesis: the observed first three quarters' results trigger actions by management during the fourth quarter that appear as smoothing behavior.	Earnings per share (before extraordinary items), adjusted for stock splits and dividends.	Sales (real smoothing).	50 companies and 42 companies. 1947-72.	Submartingale. Polynomial regression.	The manifestations of end-of-year actions by managers are consistent with the possible attempt on their part to alter fourth quarter reported.
Scheiner (1981)	To examine whether the provision for loan losses has been used to smooth income in the banking industry.	Operating income before the loan loss provision and income taxes.	Loan loss provision.	107 banks. 1969-76.	Spearman Rank Correlation Coefficient Test (association between: the loan loss provision and current operating income; the loan loss provision and the measures of business failure).	No evidence of IS.

Amihud et al. (1983)	To test for the differences between owner-controlled and manager-controlled firms with respect to their risk.	Net operating income per share.	Operating expenses per share.	56 firms. 1957-71.	Method used in Kamin and Ronen (1978). Detrend of time series.	Manager-controlled firms exercise IS to a greater extent than owner-controlled firms.
Belkaoui and Picur (1984)	To test the effects of the dual economy on IS.	Operating income. Ordinary income.	Operating expenses not included in cost of sales. Ordinary expenses. Operating expenses plus ordinary expenses.	Examination of 114 core companies and 57 periphery companies. Not mentioned. 212 change events. 1975-80.	Correlation coefficient between the deviations of the smoothing objects with the deviations of the smoothing variables.	IS is stronger in the periphery sector than in the core area.
Moses (1987)	To test for associations between smoothing and variables commonly used to proxy for particular economic factors.	Earnings (unclear which).	Switch to LIFO, change in pension method or assumptions, depreciation, tax credit, consolidation, changes in amortization, depreciation estimates, changes in expense/capitalization policies	45 largest banks. 1980-84.	T-tests and regression analysis.	IS is associated with firm size, bonus compensation plans, and divergence from expected earnings.
Ma (1988)	To examine the income-smoothing practice in the U.S. banking industry.	Operating income. Income (unclear which).	Loan loss provision.	45 largest banks. 1980-84.	Equation showing the relationship between operating income, charge-off and loan-loss provision.	Strong evidence of IS.
Brayshaw and Eldin (1989)	To test the impact of accounting for exchange differences.	Ordinary income before tax and extraordinary items. Net income.	Exchange differences.	40 U.K. companies. 1975-80.	Linear time trend expectancy model. Wilcoxon sign-test. T-test.	Including exchange differences in operating income and/or net income results in greater variations therein. This variation is more significant for the operating profit.

Craig and Walsh (1989)	To discover whether the accounts of a sample of Australian listed companies contain evidence of IS.	Reported consolidated net income after tax, minority interests and extraordinary items. Artificial smoothing.	Extraordinary items adjustments (timing, amount and period of reporting). Example: gain or loss on sale of a non-current asset.	84 companies from the Sydney Stock Exchange. 1972-84.	Cox and Stuart test.	Strong evidence that large listed Australian companies are engaged in profit smoothing.
Albrecht and Richardson (1990)	To determine the importance of smoothing in accounting practice.	Operating income. Income from operations. Income before extraordinary items. Net income.	No instrument.	128 core companies and 128 periphery companies. 1974-85.	Stepwise logit procedure in order to fit a multivariate model of smoothing behavior. Eckel income variability method.	IS exists and is fairly evenly distributed in various sectors of the economy (No difference between core and periphery sector firms).
Ashari et al. (1994)	To identify the factors associated with the incidence of IS.	Income from operations. Income before extraordinary items. Net income after tax.	No instrument.	153 companies listed in the Singapore stock exchange. 1980-90.	Four hypotheses relating IS to size, profitability, industry and nationality. T-tests of differences, chi-square tests of independence and logit analyses. Use of an IS index (Eckel). Total assets. Net income after tax to total assets, industry sector and nationality.	IS is practiced and operational income is the most common IS objective.
Beattie et al. (1994)	Study of classificatory choices within an explicit, incentives-based approach.	Reported profit after tax, but before extraordinary items	Classification of items either above the line (exceptional items) or below the line (extraordinary items).	228 U.K. companies. 1989-90 (one year).	Smoothing index based on accounting risk, market risk, agency costs, political costs, ownership structure and industry. Multivariate regression.	Four variables are associated with classificatory choices consistent with smoothing behavior: earnings variability (+), managerial share options (+), dividend cover (-) and outside ownership concentration (-).

Fern et al. (1994)	To examine IS behavior in the petroleum industry. (Update of the Ronen and Sadan (1981) survey). To link smoothing behavior to a specified motivation (i.e. avoidance of political costs).	Ordinary income (income before extraordinary items).	No instruments specified.	26 oil refiners. 1971-89.	Methodology of Ronen and Sadan (1981).	Evidence of a political motivation to practice IS is reported. No evidence of significant classificatory IS but evidence of significant inter-temporal IS.
Sheikholeslami (1994)	To study the hypothesis that IS practices are altered when firms list their stocks on foreign stock exchanges.	Operating income. Pre-tax income. Net income.	No instrument.	24 firms listed abroad. Firms non listed abroad. 1982-87.	Methodology of Imhoff (1977) and Eckel (1981).	No significant difference between the two samples.
Wang and Williams (1994)	To examine the relationship between accounting IS and stockholder wealth.	No object.	No instrument.	456 companies. 1977-86.	Regression of unexpected income on cumulative abnormal returns.	The market response to earnings for firms with a smooth income series is four times as large as that for other firms.
Michelson et al. (1995)	To test for an association between IS and performance market.	Operating income after depreciation. Pretax income. Income before extraordinary items. Net income.	No instrument (variation in sales).	358 firms. 1980-91.	Coefficient of variation method (Eckel, 1981).	Firms that smooth income have a significantly lower mean annualized return than non smoothing firms. Smoothing firms have lower betas and higher market value of equity.
Bhat (1996)	Examination of the IS hypothesis for large banks.	Earnings after taxes and before extraordinary items.	Loan-loss provisions.	148 banks. 1981-91.	Regression of logarithms of earnings after taxes and loan-loss provisions against the year and computation of R ² for each bank.	Banks with a close relationship between their earnings before loan-loss provisions and after taxes and loan-loss provisions and small banks with high risk and poor financial condition tend to have smooth earnings.

Saudagaran and Sepe (1996)	To replicate Moses' (1987) investigation.	Earnings (unclear which).	Discretionary accounting changes.	58 U.K. companies and 20 Canadian companies. 1983-86.	T-tests and regression analysis.	Results different from those of Moses. Lack of association between the smoothing variable and firm size.
Breton and Chenail (1997)	To test the presence of IS by Canadian companies.	Net income.	No instrument.	402 Canadian companies. 1987-91.	Imhoff (1977) and Eckel (1981) model.	The results support the hypothesis that IS is widely practiced. Certain industrial sectors show a greater propensity to smooth. The results do not support the Belkaoui-Picur hypothesis of differences between core and peripheral activity sectors.
Carlson and Bathala (1997)	To examine the association between differences in ownership structure and IS behavior. Several factors are identified: manager versus owner control, debt financing, institutional ownership, dispersion of stock ownership, profitability and firm size	No object	No instrument	265 firms. 1982-88	Albrecht and Richardson (1990) methodology. Logistic regression model	Dimensions reflecting ownership differences, executives' incentive structure and firm profitability are important in explaining IS
Godfrey and Jones (1999)	IS in companies subject to labor-related political costs	Net operating profit	Extraordinary items (recurring gains and losses)	1,568 Australian firms listed between 1985 and 1993	Least squares regression analysis	Evidence of IS associated with the degree of management ownership

Mande et al. (2000)	To determine whether Japanese managers adjust their R&D budgets to smooth profits	Earnings before R&D expense	123 Japanese companies between 1987 and 1994	Regression analysis	Evidence of income smoothing which is larger in expansion years
---------------------	---	-----------------------------	--	---------------------	---
