

Management reporting on internal control and accruals quality: Insights from a “comply-or- explain” internal control regime¹

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¹ All data are publicly available

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ABSTRACT: We perform an in-depth study on the relationship between internal control reporting and accruals quality in a ‘comply-or-explain’ internal control regime, the Netherlands. On the one hand, the Dutch regime is one of the most stringent among principles-based corporate governance codes to require besides a description of the internal control system in the annual report also a management statement of effective internal controls. On the other hand, the Dutch regime is less expensive than the rules-based SOX 404 because it follows the ‘comply-or-explain’ principle, and requires no mandatory external audit of the system of internal control. Therefore, the Dutch case offers an interesting research setting to provide insights on alternative more ‘market-led’ internal control regimes. Our results suggest that in this particular setting, a statement of company management of effective internal controls is associated with less abnormal accruals beyond that explained by innate firm characteristics. However, the extent of reporting on internal control does not seem to be related to accruals quality in a systematic way. These results may be relevant for the current public policy debate on internal control reporting in many jurisdictions.

Keywords: *comply-or-explain, internal control, accruals quality, SOX*

Data Availability: *All data are publicly available*

I. INTRODUCTION

Ever since its enactment in 2002, the Sarbanes-Oxley Act (SOX) has been the subject of intense debate. Much of the debate concentrates on Section 404 of SOX (SOX 404), which requires directors and external auditors to provide a statement on the effectiveness of internal controls. SOX 404 opponents argue (among other things) that the implementation costs are far higher than expected, both in cash terms, and even more so when counting the indirect costs (such as managers' reluctance to take risks and the missed opportunities of foregone investments). As a response to this, a recent stream of research has developed on the costs and benefits of SOX 404 (e.g. Engel et al. 2007; Leuz 2007; Zhang 2007).

In contrast to U.S. prescriptive and rules-based requirements, other jurisdictions and markets (e.g. continental Europe, U.K., Australia) developed a much more principles-based and market-led approach towards corporate governance in general and internal control reporting in particular. This alternative approach resulted in the 'comply-or-explain principle', which means that company management either has to comply with the regulations contained in the national corporate governance code or explain and report why they do not comply. Most principles-based non-U.S. codes do not require an explicit management statement on internal control, as required by SOX, but recommend management to communicate to shareholders and other stakeholders how they manage risk and internal controls.

In spite of the current debate on the compliance costs of SOX 404 and in worldwide discussions on the costs and benefits of introducing a 'SOX-alike' statement in national governance codes (e.g. in continental Europe, U.K., Canada, Japan), there is very little empirical research providing insights on alternative internal control regimes. In this study, we examine the relationship between internal control reporting and accruals quality in a comply-

or-explain internal control regime, the Netherlands. The Dutch internal control regime provides us with an interesting research setting for two reasons. On the one hand, the Dutch code (effective since 2004) is quite stringent among comply-or-explain corporate governance codes since it is one of the few exceptions to contain besides a requirement for a description of the internal control system, an additional requirement that company management should state in the annual report that its internal control system is effective. On the other hand, the Dutch setting remains much less expensive than SOX 404 for two reasons. First, the Dutch corporate governance code is based on the comply-or-explain principle, which means that companies can choose, based on cost/benefit considerations whether to comply with the requirement to report that the system of internal control is effective or explain why they do not comply (market-led). Second, no opinion from an external auditor on the system of internal control is required. The impact on audit fees of the SOX 404 requirement of an external audit opinion on the system of internal control is reflected in the sharp difference between the development of audit fees in the U.S. and the Netherlands over the past five years¹.

Using this particular setting, our study has two main objectives. First, we study whether a statement of effective internal controls is associated with higher accruals quality in a comply-or-explain environment. We measure accruals quality as the level of (abnormal) accruals. Previous U.S. literature has shown that companies reporting an effective internal control system following SOX 404 have higher accruals quality than companies reporting internal control deficiencies (Ashbaugh-Skaife et al. 2008; Bédard 2006; Doyle et al. 2007b). We contribute to this literature by examining this relationship in a comply-or-explain institutional setting. Second, we investigate whether the extent of reporting on internal control in the annual report is indicative for the quality of the internal control system. If so, we would expect an association between the extent of reporting on internal control and

accruals quality. Examining this relationship can be interesting for all other comply-or-explain institutional settings that limit their requirement to describing the internal control system in the annual report, without requiring management to report on the quality (i.e. effectiveness) of internal control.

We base our study on all Dutch listed firms (excluding financial institutions) in the period 2004-2005. We have carefully read the internal control chapter in the annual reports and coded whether company management provides a statement of effective internal controls and the extent of description of the internal control system. To this end, we develop two reporting scores to capture variation in the extent to which management reports on internal control between companies.

The results of our study show that in a comply-or-explain internal control regime company management's unaudited statement of effective internal controls is related to accruals quality. In particular, we find that Dutch listed companies stating that its internal control system is adequate and effective have a lower level of abnormal accruals, suggesting that a company management statement of effective internal controls is credible in the sense that it provides an indication of higher quality financial reporting. However, in contrast to a management statement, our results do not show a systematic association between a more extensive description of the internal control system and lower levels of abnormal accruals.

These findings may be useful for regulators in countries that require only a description of the internal control system and are considering whether or not to include in their corporate governance code the requirement of an explicit statement on the quality (i.e. effectiveness) of internal control. Although, we cannot comment on whether reporting on the effectiveness of the internal control system will improve accruals quality, we provide evidence that they are positively associated.

More general, these findings may be relevant in light of the major internal control reforms taking place (or that recently have been passed) in many jurisdictions and in the current discussion on the costs and benefits of internal control reporting requirements (e.g. discussion on SOX 404, Bédard 2006; Solomon and Peecher 2004). In particular, this study provides evidence that management's statement that internal controls are effective is associated with accruals quality in a comply-or-explain setting, which is considerably less costly than compliance with SOX 404. Indeed, in both the U.S. and the Dutch system, a statement of an effective system of internal control provides an indication of the reliability of financial reporting. Moreover, Dutch companies can make a conscious trade-off between the costs and benefits in their internal control disclosure decisions.

Interestingly, the percentage of companies in the Netherlands providing a statement of effective internal controls is rather low (i.e. 38% in 2005 compared to about 80% in U.S.). This gap between the U.S. and the Netherlands may partially be due to U.S. regulation, in particular the combination of the Foreign Corrupt Practices Act (1977)² and SOX 404, requiring companies to have an effective system of internal control, while no such requirement exists in the Netherlands. This finding raises a number of relevant questions for future research like whether from an economic point of view regulators should intervene in the level of investment of companies in internal control or whether companies should be left the discretion to weigh the costs and benefits of investing in internal control to suit their specific environments (market-led approach).

The remainder of this paper is organized as follows. In the next section, we describe the corporate governance regulations with respect to internal control in the Netherlands compared with the U.S. and some other countries in the world. Further, we give an overview of the insights from prior research studying the determinants and benefits of internal control reporting. In Section 3, we develop our research questions and hypotheses. Our sample and

research design are described in Section 4. The results of our study are presented in Section 5 and the sensitivity analyses in Section 6. Finally, we conclude with a discussion in Section 7.

II. CORPORATE GOVERNANCE REGULATION WITH RESPECT TO INTERNAL CONTROL

Different corporate governance regimes

During the past years, a central theme of worldwide business reforms was improvement of corporate governance. In the U.S. this was triggered by a number of high-profile corporate scandals, resulting in a loss of investor confidence in the stock market. In response to this, U.S. government passed the Sarbanes-Oxley Act in 2002. The need for more transparency and accountability and the need to increase investor confidence was also felt outside the U.S. For example, in the E.U. Action Plan (2003) the European Commission recommends member states to develop best corporate governance practices. In response to this call many countries in the E.U. have recently developed new corporate governance codes (for example, Code “Tabaksblad” in the Netherlands (2004); Code “Lippens” in Belgium (2005); “Cromme” Code in Germany (2003); and “Le gouvernement d’entreprise des sociétés cotées” in France (2003)).

The biggest difference between the corporate governance approach in the U.S. and most other countries in the world (e.g. Australia, U.K., continental Europe) is the fact that in the U.S. the system is largely prescriptive and rules-based, while most other codes are very much founded upon principles and in particular follow the comply-or-explain principle. The comply-or-explain principle means that companies are allowed to deviate from their national code if they report why they do so. In contrast to these more market-led corporate governance codes, U.S. listed companies risk serious penalties from the Securities and

Exchange Commission (SEC) if they do not comply with the prescriptions of SOX (Mallin 2004).

Besides the fundamental difference in approach between a rules-based versus a principles-based corporate governance system, there also exists variation within principles-based corporate governance codes across countries. This is due to the fact that national corporate governance practices are very much influenced by country-specific characteristics, like ownership concentration, legal framework and board system. As a result some codes can be considered to be more stringent and/or require more information. One controversial theme on which there appears to be much variation among corporate governance guidelines is internal control reporting.

Internal control reporting in the U.S.

In the U.S. it is section 404 of SOX that deals with this issue. Annual reports filed with the SEC must contain an 'internal control report' in which management states that it is responsible for establishing and maintaining an adequate internal control structure and procedures for financial reporting, and management has to assess the effectiveness of those controls. Moreover, an external audit of the system of internal control is required.

Since its enactment, SOX 404 has been subject to severe criticism. Many opponents argue that the implementation costs largely exceed the benefits. By any measure, the costs of implementing reporting on internal control by management and auditors have been high, and considered to be a multiple of what was projected (Jonas et al. 2007). For example, the FEI studies show that the average compliance cost of SOX 404 was 2.7 million U.S. dollar in 2006 for companies with an average turnover of 6.8 billion U.S. dollar (The Economist 2006b, 2006a). The external audit on internal controls is largely blamed for creating unduly high audit fees for companies complying with SOX. As a response to this criticism, the Public Companies Accounting Oversight Board (PCAOB) and the SEC are currently taking

joint steps to make SOX 404 more efficient and cost effective. An example of this is the replacing of the controversial internal-control Auditing Standard N°2 with Auditing Standard N°5³. Despite the newly adopted rules, opponents keep arguing that the imposed burdens are too high, especially for small firms (The Economist 2006a, 2006b).

Alternative internal control reporting regimes

The principles-based and market-led approach to corporate governance in many countries around the world resulted in less strict requirements on internal control compared to the U.S. (IFAC 2006). Some corporate governance codes (e.g. Belgian Code Lippens) do not include any prescription on internal control reporting. Others (e.g. U.K. Combined Code; French Code) require management to describe and communicate to shareholders and other stakeholders how they manage risks and internal controls in their annual report (*description of internal control*). In some codes (for example in the U.K. and Ireland) this description needs to be accompanied by an acknowledgement by the board that it has carried out a review of the effectiveness of the internal control and risk management system, without the requirement to report on the outcome of this review. In its March 2005 Discussion Paper on Risk Management and Internal Control in the EU, the Fédération des Experts Comptables Européens (FEE) stated that it is not convinced about the usefulness of introducing across the EU published effectiveness conclusions on internal control over financial reporting as required by Section 404 of SOX (FEE 2005). Overall, in many countries around the world it is sufficient that management merely describes the firm's internal control and risk management system in the annual report without giving an explicit *statement* on the effectiveness of these systems. Auditors are also not required in these countries to give an opinion on the quality of the system of intern control.

Internal control reporting in the Netherlands. One of the few exceptions to this general non-U.S. approach with respect to internal control requirements is the code

Tabaksblat in the Netherlands (FEE 2005). This code can be considered to be a quite stringent code because it requires besides (1) a *description of the internal control system* also (2) a *management statement of effective internal controls* (best practice II.1.4). More specifically, the Dutch corporate governance code stipulates that managers should state that the internal risk management and control systems are adequate and effective. The original intention of best practice II.1.4 was to combine the depth of SOX (by requiring besides a description also a statement on the quality of the internal control system) with the breadth of U.K.'s Turnbull report (by extending the scope to cover strategic, operational and compliance objectives as well as financial reporting objectives). However, the detailed recommendations regarding compliance with best practice II.1.4 published by the monitoring commission of the Dutch corporate governance code in 2005 restricted the scope of the statement to internal controls over financial reporting (Monitoring Commissie Corporate Governance Code 2005). Therefore, in this paper, we focus on management's statement of effective internal controls over financial reporting.

The Dutch requirement for a management statement of effective internal controls makes the Code Tabaksblat one of the most stringent codes on internal control among other principles-based codes⁴, in which the description approach is prevailing. Recently, a number of other jurisdictions have included or are considering to include a similar requirement into their internal control regulation (e.g. Sweden, Canada, Japan)⁴. However, given the principle of comply-or-explain, management of Dutch companies can choose whether to comply and make such an explicit statement of effective internal controls in the annual report or explain why they do not provide such a statement. Moreover, as opposed to SOX, there is no requirement of an external audit of the internal control system.

Therefore, the Dutch regime on internal control reporting is clearly less expensive⁵ than SOX 404 and leaves more room for firms to tailor their internal control reports to suit their specific environments (market-led).

Previous literature on internal control reporting

In the U.S. there are many studies investigating internal control weaknesses disclosures under SOX. Some of these studies focus on the determinants of internal control weaknesses disclosures and show that firms that disclose internal control deficiencies tend to be smaller, younger, financially weaker, more complex and growing rapidly. Moreover, these firms are more likely to use a Big 4 audit firm and to dismiss their auditor in the year prior to the disclosure (Ashbaugh-Skaife et al. 2007; Bronson et al. 2006; Bryan and Lilien 2005; Doyle et al. 2007a; Zhang et al. 2007).

Recently, a number of studies investigate whether the internal control disclosures under SOX are related to accruals quality. The studies of Ashbaugh-Skaife et al. (2008) and Doyle et al. (2007b) report lower accruals quality for firms disclosing internal control weaknesses (under SOX) in the period before they were disclosed. Similarly, a study of Bédard (2006) provides support for a negative association between internal control deficiencies reported under SOX and accruals quality, as measured by unexpected accruals. Other U.S. studies focus on the link between effectiveness statements made by management and other economic outcomes including stock market reactions (De Franco et al. 2005; Hammersley et al. 2008) as well as the cost of capital (Ashbaugh-Skaife et al. 2009; Beneish et al. 2008; Ogneva et al. 2007). In sum, these papers provide evidence that strong internal controls are valued by the market.

In contrast to the vast number of papers that study SOX 404, research on market-led internal control disclosures is rather scarce. There are some studies investigating characteristics of firms that included an internal control report in their annual report at the

time internal control reporting was, although recommended by national and international best practice frameworks, completely voluntary (no obligation to explain the lack of such reporting). From studies by Bronson et al. (2006) in pre-SOX U.S. and Deumes and Knechel (2008) in the Netherlands in the late 1990s, it appeared that managers carefully weighted the costs and benefits of such reporting and tailored it to their specific environment. An early study by McMullen et al. (1996) provides evidence of a negative association between voluntary management reports on internal controls in U.S. audited financial statements and financial reporting problems, suggesting that management signalled its commitment to internal control through the issuance of a voluntary internal control report. We are not aware of any recent study in this field in a comply-or-explain reporting regime.

III. RESEARCH QUESTIONS AND DEVELOPMENT OF HYPOTHESES

Research questions

COSO (1992) defines internal control as follows:

‘Internal Control is broadly defined as a process, effected by an entity’s board of directors, management and other personnel, designed to provide reasonable assurance regarding the achievement of objectives in the following categories:

- Effectiveness and efficiency of operations;
- **Reliability of financial reporting;** and
- Compliance with applicable laws and regulation.’

By definition, a good internal control system is supposed to be associated with a higher quality of financial reporting compared to a weak internal control system. Intuitively we can explain this proposition by the fact that managers of firms with weak internal controls are less able to reliably determine accrual amounts, which reflect the underlying economic condition of the firm. Moreover these managers may be more able to override the controls and manage earnings in order to meet financial reporting objectives. Regardless of whether the resulting misstatements are intentional or unintentional, the quality of earnings is likely to

be lower when firms have weak internal controls⁶. As explained in section 2, multiple U.S. studies (Ashbaugh-Skaife et al. 2007; Ashbaugh-Skaife et al. 2008; Bédard 2006; Doyle et al. 2007b) found empirical support for this theoretical link between the quality of a firm's internal control system and the reliability of its financial reporting (i.e. they find that firms disclosing internal control weaknesses (under SOX) have lower accruals quality).

Consequently, financial statement users are interested in the quality of a firm's internal control system and value this information in their pricing decisions. However, since internal control is, in essence, a process within the organization, it is not directly observable by investors. Therefore, investors need to rely on the disclosure of private information about internal control in order to be informed about the nature, extent and quality of a firm's internal control system (Deumes and Knechel 2008). As explained in Section 2, regulatory intervention in voluntary reporting on internal control at the beginning of the 21th century resulted in different types of internal control reporting regimes in the U.S. (rules-based) and Europe (market-led).

In spite of the current U.S. debate on the compliance costs of SOX 404 and the worldwide discussions on the costs and benefits of introducing a 'SOX-alike' statement in national corporate governance codes (e.g. in continental Europe, U.K., Canada and Japan⁷), empirical research providing insights on alternative internal control regimes in place outside the U.S. is limited. The purpose of this paper is to provide a contribution in this regard by investigating the association between internal control reporting and accruals quality in a largely market-led internal control regime, the Netherlands. As explained in section 2, the Dutch corporate governance code requires company management to (1) describe the system of internal control in the annual report, as well as to (2) provide a management statement that internal controls are effective. Since the Dutch corporate governance code follows the comply-or-explain principle, company management may decide not to follow these two

requirements and choose to provide an explanation for non-compliance. The principles-based nature of the system also implies that there are no detailed rules that stipulate what is considered to be an effective internal control system or what firms need to do if they have ineffective internal controls. Further, there is no mandatory external audit of the system of internal control. For these reasons, the particular setting of the Netherlands provides us with an interesting opportunity to examine the impact of both types of internal control requirements (*description of internal control* and *management statement of effective internal controls*) in terms of whether they are associated with accruals quality.

Development of hypotheses

As explained in Section 2 prior research indicates that financial statement users view internal control reporting as informative and value this information in their pricing decisions (Hermanson 2000). Given the benefits of reporting on internal control, company management is likely to have incentives to report on internal control, either truthfully or untruthfully. However, from a theoretical point of view, managers may withhold from opportunistic disclosure behaviour because of increased monitoring pressure, which may reduce agency problems and induce truthful reporting. Healy and Palepu (2001) argue that there are potentially two mechanisms for increasing the credibility of voluntary disclosures. The first mechanism is that assurance about the quality of management's disclosures can be provided by third-party intermediaries like an external auditor or a public oversight body. As mentioned, in the Netherlands no external audit opinion is required on company management's statement of an effective system of internal control. The second mechanism is that prior voluntary disclosures can be validated through required financial reporting itself. Applied to our case, when earnings management, fraud or another material weakness in the internal control system in a particular company is revealed in the financial press, it also indicates that a previously made management statement of effective internal controls was

untruthful. Following Healy and Palepu (2001) a condition for this mechanism to be effective in making disclosures credible is that there are adequate penalties for managers (for example imposed by legal system and board monitoring), if it turns out that disclosures knowingly made by managers prove to be wrong.

Management statement of effective internal controls. The presence of a public oversight body, the threat of litigation for untruthful reporting and managers' need to preserve their reputational capital or managers' reluctance to put their reputation at stake when making a statement of effective internal controls that later turns out to be wrong, may deter management from cheap talk on the quality of the system of internal control. In this respect, prior research has described the importance of reputation as both an economic and social control for opportunistic behavior, whereby concerns for reputation can discipline the behavior of the agent (e.g. Arrow 1985; Baiman 1990; Stevens 2002). In practice, the Dutch monitoring commission indicated in their first report (2005) on compliance with the corporate governance code that the requirement with respect to the management statement of effective internal controls is one of the requirements of the code that companies are the least compliant with. From their roundtable discussion with supervisory board members from Dutch listed companies, it appeared that the statement has been the subject of multiple board discussions in listed companies and that company management is reluctant to make such explicit statements because of the potential risk for personal litigation⁸. In this regard, Dutch listed companies are scrutinized by an independent public oversight body, AFM (The Netherlands Authority for the Financial Markets), which also monitors compliance with the Dutch corporate governance code. Given the attention company management seems to give to this issue and the choice they have whether or not to make such statement of effective internal controls⁹, we hypothesize that:

H1: In a comply-or-explain regime, companies reporting that their system of internal controls is effective are associated with higher accruals quality.

Description of internal control. As explained in Section 2, the Netherlands is one of the few market-led internal control regimes that require management to report that internal controls are effective. Most other market-led settings only require management to describe their internal control system. Therefore, an interesting question is whether the extent of reporting on internal control in the annual report reflects the quality of the internal control system. The theoretical answer to this question is not univocal. On the one hand, contrary to a management statement of effective internal controls, general disclosures that describe internal controls are rather costless. More specifically, the chance of falsification of general disclosures on the process of internal control is rather limited. For example, if management reports that the firm has a whistleblower policy, it is almost impossible for investors to derive the quality of such a policy. Consequently, the description of the internal control procedures can easily result in cheap talk. In this case, there will be no association between the extent of reporting on internal control and accruals quality. On the other hand, differences in the extent of reporting on internal control may reflect differences in management's control consciousness. According to McMullen et al (1996) reporting on internal control can lead to enhanced internal controls by increasing the internal control awareness of management. If this is the case, reporting on internal control can lead to greater attention being paid to internal controls, resulting in turn in higher quality internal controls. Moreover, it can be a signal of management's commitment to internal control (tone at the top). Since control conscious managers are less likely to engage in earnings management, the relation with accruals quality is likely to be positive. Overall, this will result in a positive association between the extent of reporting on internal control and accruals quality.

Taking both arguments into account, it is an open empirical question whether the extent of reporting on internal control is associated with accruals quality. Therefore, we test hypothesis 2 against the null:

H2: In a comply-or-explain regime, companies providing more disclosure on the system of internal control are associated with higher accruals quality.

IV. RESEARCH DESIGN

Sample

The Dutch corporate governance code became effective in 2004. Our sample consists of all Dutch firms listed on the Amsterdam Stock Exchange during the period 2004-2005. Consistent with previous research on earnings quality, we exclude financial institutions and insurance companies (SIC 60-67) because of their specific accounting requirements complicating comparisons with industrial and commercial companies. This gives 219 firm-year observations. Further, we exclude firms for which data is not available for some variables, firms that are cross-listed in the U.S.¹⁰ and extreme observations¹¹. This gives a final sample of 171 firm-year observations. We retrieved financial data from the Dutch database 'REACH'¹² and hand-collected the IFRS-based data for 2004¹³. Data on the internal control requirements was hand-collected and manually coded from the annual reports of the companies.

Dependent variables

Being aware that there is no best method to capture accrual manipulation, we use three alternative proxies to measure accruals quality: industry-adjusted abnormal total accruals (ATA), industry-adjusted abnormal working capital accruals (AWCA) and discretionary accruals from a cross-sectional modified Jones model (DACC). In the

sensitivity analyses described in Section 6, we test the robustness of our results with alternative accruals measures.

Our first two proxies for accruals quality are developed in the literature as a response to the limitations of regression-based accruals models to detect earnings management outside the U.S. due to smaller sample sizes (e.g. Meuwissen et al. 2007; Wysocki 2004). Similar to Francis and Wang (2008) we compute a linear adaptation model derived from DeFond and Park (2001), which uses a firm's own prior year accruals in calculating the expectation benchmark. Specifically, expected accruals are based on a firm's prior year ratio of current accruals to sales, and the prior year's ratio of depreciation expense to gross property plant and equipment. Formally, our proxy for predicted total accruals is:

$$\text{Predicted Accruals}_t = [S_t * (CA_{t-1} / S_{t-1})] - [PPE_t * (\text{depreciation}_{t-1} / PPE_{t-1})] \quad (1)$$

where:

- CA_{t-1} = current accruals in year t-1, defined as the change in non-cash current assets minus the change in current liabilities excluding the current portion of long-term debt;
- S_t and S_{t-1} = sales in year t and year t-1; and
- PPE_t and PPE_{t-1} = property, plant and equipment in year t and year t-1.

Abnormal accruals are defined as the firm's actual total accruals in year t minus predicted total accruals for year t as defined above. Subsequently, abnormal total accruals are scaled by lagged total assets. The scaling controls for differences in firm size. Based on previous literature, we compute an industry-adjusted version of our accruals measure. Therefore, we divide the sample into industry groups. We compute the industry-adjusted abnormal total accruals measure by taking the unadjusted abnormal total accruals for firm i and subtracting the average unadjusted abnormal total accruals for firm i's industry group.

DeFond and Jiambalvo (1994) and Teoh et al. (1998) argue that non-working capital accruals are less susceptible to manipulation than working capital accruals. Therefore, we also use a proxy for abnormal working capital accruals as dependent variable in our regression model. Like DeFond and Park (2001), we define working capital accruals as the

change in non-cash working capital (WC). Abnormal working capital accruals (AWCA) are calculated as realised working capital minus ‘expected’ working capital, where expected working capital is assumed to be a fixed proportion of sales (Dechow et al. 1998; DeFond and Park 2001). Formally, our proxy for abnormal accruals is:

$$AWCA_t = WC_t - [(WC_{t-1} / S_{t-1}) * S_t] \quad (2)$$

where:

- $AWCA_t$ = abnormal working capital accruals in year t;
- WC_t and WC_{t-1} = non-cash working capital in year t, where non-cash working capital is computed as (current assets – cash and short-term investments) – (current liabilities – short-term debt); and
- S_t and S_{t-1} = sales in year t and year t-1.

Subsequently, abnormal working capital accruals are scaled by lagged total assets and adjusted for industry, as explained above.

Our final model is the modified cross-sectional Jones model (1991) as described by Dechow et al. (1995). Kothari et al. (2005) suggest that traditional discretionary accrual measures do not appropriately control for financial performance. Therefore, we follow Kothari et al.’s (2005) proposed alternative to the matched-firm approach by including performance (return on assets) as an independent variable in the modified Jones model. The following OLS regression is estimated for each industry defined by the one-digit SIC code:

$$TA_t = \alpha_0 + \alpha_1 \left(\frac{1}{Assets_{t-1}} \right) + \alpha_2 (\Delta REV_t - \Delta AR_t) + \alpha_3 PPE_t + \alpha_4 ROA_t + \varepsilon_t \quad (3)$$

where:

- TA_t = total accruals in year t (defined as the change in non-cash current assets minus the change in current liabilities excluding the current portion of long-term debt, minus depreciation and amortization), scaled by lagged total assets;
- ΔREV_t = sales in year t less sales in year t-1, scaled by lagged total assets;
- ΔAR_t = accounts receivable in year t less accounts receivable in year t-1, scaled by lagged total assets;
- PPE_t = net property, plant, and equipment in year t, scaled by lagged total assets; and
- ROA_t = net income before extraordinary items scaled by lagged total assets.

Our measure of discretionary accruals is the difference between total accruals and the fitted normal accruals estimated by the appropriate residuals from equation (3).

Since we want to capture negative as well as positive earnings manipulations, we take the absolute value of the three measures. Warfield et al. (1995) show that the absolute value is a good proxy to capture the combined effect of income-increasing and income-decreasing earnings management¹⁴.

Empirical model

Test variables

The independent variables of interest of this study are (1) whether company management actually states that internal controls are effective and (2) the extent of management reporting on the internal control system. The data for these variables was hand-collected from the annual reports of the companies.

Management statement of effective internal controls. The first variable (ICstat) is measured as a dummy, which takes the value of one if company management states that their internal control system is effective¹⁵. Appendix 1 summarizes the additional guidelines regarding compliance with best practice II.1.4 by the Dutch corporate governance monitoring commission and provides examples of management statements on internal control.

Description of internal control. We developed two different proxies to capture the extent of reporting on internal control. Our first proxy (ICproportion) measures the relative importance of the internal risk management and control report in the annual report by dividing the number of pages of the internal control report by the number of pages of the annual report (excluding the financial statements). This measure only reflects the quantity of internal control reporting, without considering the content of the internal control disclosures. On the one hand, we can expect that the relative weight company management gives to internal control reporting compared to other types of information reflects the control consciousness of management. If this is the case, our proxy is likely to be positively related to the quality of the internal control system. On the other hand, if firms make a lot of obvious

and/or meaningless internal control disclosures, our first proxy is likely to be a noisy indicator of the quality of the internal control system. Our second proxy takes into account the nature of the internal control disclosures. To this end, we design an internal control disclosure score (ICRS) that aims to capture the content of the disclosures. The construction of ICRS is similar to the construction of disclosure indices used in prior literature (Botosan 1997; Bushee 2004) and is mainly based on the voluntary disclosure index developed by Deumes and Knechel (2008). Based on a comprehensive review of public policy reports on corporate governance and internal control, Deumes and Knechel (2008) identified six separate reportable items to capture the extent of internal control reporting in the Netherlands. We eliminated the disclosure item related to the effectiveness statement, as it is already captured in the ICstat-dummy, and extend the Deumes and Knechel score with four additional disclosure items to incorporate recent additional recommendations on internal control disclosures. For a detailed overview of the disclosure items included in our index, we refer to Appendix 2.

After having identified the individual items from which the reporting score is composed, we examine the annual reports of our sample firms to identify which items are disclosed. Each item described as part of the internal control system of the company is given a value of one. Finally, we calculate an unweighted score for each company by summing the individual score for each item.

A second independent coder, who was unaware of the research hypotheses and purpose of the study, coded a subsample to control for subjectivity in the coding. Inter-rater agreement ranged from 90.32 to 100 percent for the different disclosure items. Cohen's Kappa (1960) interjudge reliability index ranged from .78 to 1 (p-value 0.000), which can be interpreted as good to perfect agreement between the two coders. Further, we assess the validity of ICRS. This is important since self-constructed indices depend to an extent on the

subjective assessment of the researcher applying the technique (Botosan 1997). Consistent with prior literature, we use Cronbach's alpha to test the internal consistency of ICRS. Cronbach's alpha measures how well a set of items measure a single unidimensional latent construct. When data have a multidimensional structure, Cronbach's alpha will be low. Cronbach's alpha for our sample is 0.73 which exceeds the generally expected lower limit of 0.70. In Section 6 we examine the sensitivity of our results for alternative measures of ICRS.

Control variables

Consistent with previous studies on accruals quality, we include the following variables to control for differences in earnings management incentives. First, we include the natural logarithm of total assets as a proxy for firm size. It is argued in the literature that accruals quality is positively associated with firm size, because large firms tend to have more stable and predictable operations (Dechow and Dichev 2002).

Second, we include a leverage variable, measured as long-term debt scaled by total assets. Following the debt-equity theory, highly leveraged firms have incentives to manage earnings upwards to prevent violations of debt covenants (DeFond and Jiambalvo 1994; Watts and Zimmerman 1990; Young 1999). Alternatively, Becker et al. (1998) argue that high leverage may induce income-decreasing earnings management in financially distressed firms in view of contractual renegotiations.

Third, we control for performance, measured by operating cash flow scaled by total assets. Dechow et al. (1995) and Young (1999) highlight the importance of controlling for financial performance, since the matching principle results in a natural smoothing property of accounting accruals. This results in negative (positive) abnormal accruals to occur in a period with extreme positive (negative) cash flows. Including a cash flow-based performance measure, which is unrelated to earnings management, in the regression models corrects for this effect.

Fourth, we control for three firm characteristics that are related to accruals quality. Hribar and Nichols (2007) show that controlling for differences across firms in the natural volatility of their accruals mitigates the potential bias arising from the use of the absolute value of discretionary accruals. For this reason, we include three firm characteristics as controls in our analysis: sales volatility (measured as the standard deviation of the change in sales, scaled by average assets in the preceding year), a loss dummy (equal to one if the firm experiences a loss in the current year) and sales growth (measured as the percentage of year-to-year growth of sales).

Finally, we include industry dummies to control for the potential effect of the industry on our accruals measures and a year dummy, which takes the value of 1 for the observations in 2005.

Hence our empirical models formally look as follows:

$$ATA_t = \beta_0 + \beta_1 ICstat_t + \beta_2 ICRS_t + \beta_3 Size_t + \beta_4 Leverage_t + \beta_5 Performance_t + \beta_6 SalesVolatility_t + \beta_7 Loss_t + \beta_8 Growth_t + \beta_9 Year + \beta_{10-13} Industry + \varepsilon \quad (4)$$

$$AWCA_t = \beta_0 + \beta_1 ICstat_t + \beta_2 ICRS_t + \beta_3 Size_t + \beta_4 Leverage_t + \beta_5 Performance_t + \beta_6 SalesVolatility_t + \beta_7 Loss_t + \beta_8 Growth_t + \beta_9 Year + \beta_{10-13} Industry + \varepsilon \quad (5)$$

$$DACC_t = \beta_0 + \beta_1 ICstat_t + \beta_2 ICRS_t + \beta_3 Size_t + \beta_4 Leverage_t + \beta_5 Performance_t + \beta_6 SalesVolatility_t + \beta_7 Loss_t + \beta_8 Growth_t + \beta_9 Year + \beta_{10-13} Industry + \varepsilon \quad (6)$$

where:

Dependent variables

ATA_t = absolute value of industry-adjusted abnormal total accruals, scaled by lagged total assets;

$AWCA_t$ = absolute value of industry-adjusted abnormal working capital accruals, scaled by lagged total assets; and

$DACC_t$ = absolute value of discretionary accruals measured by a variant of the modified Jones model (see equation 3 for details).

Independent variables

$ICstat_t$ = dummy variable (management statement of an adequate and effective internal control system=1, else=0);

$ICRS_t$ = internal control reporting score (see Appendix 1);

$Size_t$ = natural logarithm of total assets;

$Leverage_t$ = ratio of total debt over total assets;

$Performance_t$ = operating cash flow scaled by total assets;

$SalesVolatility_t$ = standard deviation of the change in sales, scaled by average assets in the preceding five years;

$Loss_t$ = dummy variable (loss in the current year = 1; else = 0);

$Growth_t$ = percentage of year-to-year growth of sales;

$Year_t$ = year dummy (observations in 2005=1; else=0); and
 $Industry_t$ = vector of industry dummies (SIC 10-19: Mining and construction; SIC 20-39: Manufacturing; SIC 40-49: Transportation, Communication, Electric, Gas, and Sanitary Services, SIC 50-59: Wholesale trade). SIC 70-89 (Services) is the industry of reference.

V. RESULTS

Descriptive statistics and univariate results

Panel A and B of Table 1 present the descriptive statistics for the test variables.

Test variables

Management statement of effective internal controls. In 2004 (the year in which the corporate governance code came in force) only 18 percent of the companies choose to comply with the requirement contained in the Dutch corporate governance code to provide a statement that internal controls are adequate and effective, and in 2005 38 percent of the companies comply with the requirement. While these percentages may seem low, they are relatively high compared to the number of statements of effective internal controls in the period following the report of the Peters Committee¹⁶ in 1997, the predecessor of the Tabaksblat Committee (2003) that developed the corporate governance code (Code Tabaksblat) in the Netherlands. Deumes and Knechel (2008) report that only 5 percent of the Dutch listed firms included a statement of effective internal controls in their annual report in 1999. The compliance rate is also slightly higher than the rates reported by Bronson et al. (2006) in their study on the characteristics of U.S. firms issuing management reports on internal control before they were mandated under SOX 404. Their analysis of a sample of U.S. mid-sized firms¹⁷ in 1998 indicated that only 15 percent presented a statement of effective internal controls, and none of the reports included an external audit opinion.

The management statement of effective internal controls appears to be quite persistent over time. The majority of the firms that comply with best practice II.1.4 of the Dutch

corporate governance code in 2004 continue to do so in 2005. Only 3 firms (20%) reported a statement of effective internal controls in 2004, but do no longer do so in 2005. Of the companies with no statement in 2004, 70% (47 firms) did not have a statement in 2005 either, while 30% of these firms (21 firms) did provide a statement in 2005. Since the Dutch corporate governance code is a comply-or-explain code, firms may opt to not comply with a specific provision in the code if they report their reasons for non-compliance. In practice, no firms stated that internal controls are *ineffective* and only very few companies report weaknesses or risks in their annual reports. Others include some kind of (weaker version of the) management statement on the effectiveness of internal control, which is not compliant with the corporate governance code and the additional recommendations. For examples of effectiveness statements and explanations for non-compliance, we refer to Appendix 1.

Description of internal control. On average internal control disclosures (ICproportion) represent approximately 5 percent of the annual report (excluding the financial statements). The mean value of the internal control reporting score (ICRS) is 4.7 with a minimum value of 0 and a maximum value of 9. More specifically average ICRS is 4.4 in 2004 and 5.1 in 2005, which implies a small increase in the extent to which companies describe their internal control system in 2005. Panel B of Table 1 also shows the frequencies of reporting on separate items of ICRS. If we compare these frequencies with the ones reported in Deumes and Knechel (2008), we observe that the extent of reporting on internal control has risen sharply over the years and this increasing trend continues to manifest it selves from 2004 to 2005. The increase is most pronounced for the item on management acknowledgment of its responsibility for internal control: 8 percent of the firms did so in 1999, compared to 55 percent in 2005.

- Insert Table 1 -

Other variables

Panel A, B and C of Table 2 present the descriptive statistics of all variables for the full sample, the statement sample and the no-statement sample respectively. The mean values ATA, AWCA and DACC are 0.09, 0.05 and 0.06 respectively. All three accruals quality proxies are on average significantly higher for firms that do not include a statement of effective internal controls than for firms that comply with the corporate governance requirement ($p = 0.003$ for ATA, $p = 0.06$ for AWCA and $p = 0.03$ for DACC). When analysing the extent of reporting on internal control conditional upon the effectiveness statement, it appears that companies reporting that their internal control system is effective score higher on ICRS compared to companies without a statement of effective internal controls. However, the difference is not significant ($p = 0.231$). None of the other control variables are significantly different for the statement sample compared to the no-statement sample.

Table 3 includes Pearson correlation coefficients among all independent variables. Given the high correlation between ICRS and size, we test in a sensitivity analysis whether scaling of ICRS affects our results (see Section 6).

- Insert Table 2 and 3-

Regression results

Management statement of effective internal controls. Table 4 presents the regression results to test hypothesis 1. The reported results are from OLS regressions with standard errors corrected for heteroskedasticity and for clustering of observations by firm. Including random firm effects gives similar results (not reported). To test hypothesis 1, the regression analysis is first performed without the two proxies for the extent of reporting on internal control. The coefficient on ICstat in Table 4 is significantly negative across the three proxies for discretionary accruals. Consistent with hypothesis 1, this implies that companies

reporting that their system of internal control is effective (ICstat) are associated with significantly lower abnormal accruals.

Description of internal control. The regression analysis for hypothesis 2 is reported in Table 5. For each abnormal accruals proxy two regression models are reported in which each proxy that measures the extent of reporting on internal control is tested one at a time. In model 1, we include ICproportion, which measures the relative importance of the internal risk management and control report in the annual report. The coefficient on ICproportion is insignificant for all three abnormal accruals proxies. Therefore, we conclude that there is no evidence that the quantity of internal control reporting in the annual report is associated with accruals quality. In model 2, we include the internal control disclosure score (ICRS), which considers the content of the disclosures. The coefficient is negative, but insignificant across the three proxies. Hence, we reject hypothesis 2 stating that companies providing more disclosure on the system of internal control are associated with higher accruals quality. Overall, these results suggest that the extent of reporting on internal control, without a statement of effective internal controls, does not reflect the quality of the internal control system¹⁸.

- Insert Table 4 and 5 -

VI. SENSITIVITY ANALYSIS

The following sensitivity analyses are performed to check the robustness of our results.

Accrual quality prior to the implementation of the Dutch corporate governance code

Without considering accruals quality prior to the adoption of the Dutch corporate governance code, two alternative explanations could drive our findings from Table 5. First, it is possible that management of ‘good’ firms (i.e. firms that have better accruals quality

before 2004) make a statement of effective internal controls after the adoption of the Dutch corporate governance code. If this is the case, firms with a statement of effective internal controls in our study period also have higher accruals quality before 2004 compared to firms without an effectiveness statement. Another explanation could be that firms that issue a statement of effective internal controls after the implementation of the new regulation, actually improved their internal control system. If this is the case, firms with a statement of effective internal controls do not necessarily have higher accruals quality prior to 2004. In order to gain further insight into the underlying factors explaining our findings, we repeat our analysis from Table 5, but now use one-year lagged accruals proxies and control variables. Results (not reported) show that the coefficient is significantly negative for two abnormal accruals proxies (AWCA and DACC), but insignificant for abnormal total accruals. If we do a two-year lagged analysis, the results are insignificant across the three proxies. Overall, this suggests that there is some evidence that firms stating that internal controls are effective already have higher accruals quality one year before they make a statement, but there is no evidence that these firms have higher accruals quality two years before they make the statement. Although it is not direct evidence, this finding is consistent with the second explanation that in order to be able to report that internal controls are effective (i.e. to comply with the corporate governance guidelines) firms actually improved the quality of their internal control system relative to non-compliant firms, resulting in less abnormal accruals after the adoption of the new regulation.

Alternative accruals quality proxies

The second sensitivity test relates to the accruals measures used. Given that there is no best way to measure discretionary accruals and that all existing proxies are criticized of measuring discretionary accruals with error, we test whether our results are robust for different specifications of the abnormal accruals proxies. The first additional proxy is the

absolute value of the residuals from a modified Jones model. The model is based on equation 3, but excludes return on assets as a dependent variable.

To obtain the second and third additional accruals quality metric, we compute a performance-adjusted version of the unadjusted abnormal total and working capital accruals measures. Similar to Francis et al. (2005), we divide the sample into deciles based on return on assets (ROA). We compute the performance-adjusted accruals measure by taking the unadjusted accruals measure for firm *i* and subtracting the average unadjusted total accrual for firm *i*'s ROA-decile.

All these alternative measures (results not reported) do not qualitatively change the results for our test variables.

Different compositions of ICRS

Our third sensitivity analysis tests the robustness of our main results for the composition of the internal control reporting score. More specifically, we test (1) whether our results are robust for the different individual categories of internal control disclosures used to construct the global score (ICRS) and (2) whether scaling of ICRS affects our findings. To this end, we replace the ICRS score by nine indicator variables representing the individual items from which the score is composed (see Appendix 2). The results (not reported) show that none of the individual items is systematically associated with lower abnormal accruals. This implies that, contrary to a management statement of effective internal controls, none of the different types of internal control disclosures are associated with higher accruals quality. This supports our finding that the content of disclosures related to the description of internal controls in the annual report seems to be less related to accruals quality than a statement on the quality (effectiveness) of internal controls.

Although the items from which the ICRS is composed are not weighted according to their size¹⁹, scaling problems could affect our results. To control for this effect, we scale

ICRS by previous year's total assets. Including this scaled ICRS in the empirical model does not alter our conclusions.

Interaction effect

The descriptive statistics (Table 2) suggest that companies reporting an effective internal control system score somewhat, though not significantly, higher on the proxies for the extent of reporting on internal control system as well. By considering the interaction of the two test variables ((ICstat and ICproportion) and (ICstat and ICRS)), we allow the coefficient of ICproportion and ICRS to change conditional on whether or not a statement of effective internal controls is present. Including the interaction term in equation (4), (5) and (6) shows that the coefficient of the interaction term (results not reported) is not significant.

Additional control variables

Our final sensitivity analysis considers different control variables to test whether our results are not biased due to correlation between these variables and both the accruals measure and our test variables. For this reason, we include following Doyle et al. (2007b) three innate firm variables as additional controls in our analysis: loss proportion, cash flow (CFO) volatility, and operating cycle (see Appendix 3 for variable definitions).

Furthermore, prior U.S. research (Ashbaugh-Skaife et al. 2007; Bryan and Lilien 2005; Doyle et al. 2007a) has shown that firms that disclose internal control deficiencies tend to be younger, more complex, are growing rapidly and are more likely to use a dominant audit firm. To make sure that our findings are not driven by possible correlation of these factors with the internal control reporting proxies (ICstat, ICproportion and ICRS) and the accruals measure that we use, we include firm age, extreme sales growth, the number of industries in which a company is active and audit firm dummies as control variables (see Appendix 3 for variable definitions).

The results of these sensitivity tests (not reported) indicate that our findings are robust for the inclusion of these factors. This suggests that a management statement of effective internal controls is positively related with accruals quality beyond these firm characteristics.

VII. DISCUSSION

The purpose of this study is to provide insights on alternative internal control regulations in force in non-U.S. capital markets. In particular, we investigate the relationship between internal control reporting and accruals quality in a setting with comply-or-explain internal control reporting requirements and examine whether (1) a management statement of effective internal controls and (2) the extent of reporting on internal control in the annual report are related to accruals quality. We conduct our study in the Netherlands, which provides an interesting research setting to investigate this for the following reasons. First, the requirement in the Dutch corporate governance code to provide a statement of effective internal controls as well as to describe the internal control system is uncommon in principles-based corporate governance codes across the world. Most principles-based codes only require a description of the internal control system. Second, in contrast to the U.S., Dutch companies, following the comply-or-explain principle, can choose not to comply with the requirement of providing a statement of effective internal controls if they motivate their decision of non-compliance. Third, an external audit opinion on the quality of the internal control system is not required. Hence, the requirement on internal control in the Dutch corporate governance code is largely market-led which allows companies to make a conscious trade-off between costs and benefits in their decision to comply with the regulation or explain non-compliance. Therefore, the Netherlands provides an interesting setting to gain further insights on internal control reporting and accruals quality.

The results of our study suggest that in this particular setting a management statement of effective internal controls is associated with accruals quality. In particular, companies stating that their internal control system is effective are associated with higher accruals quality (as captured by a lower level of discretionary accruals). However, our results do not provide evidence that the extent of reporting on internal control is systematically associated with accruals quality.

Our results are consistent with and contribute to recent U.S. studies (Bédard 2006; Doyle et al. 2007b) showing that companies reporting material weaknesses in their internal control system have lower accruals quality. This paper is to our knowledge the first to provide insights on internal control reporting in a comply-or-explain setting, which is considerably less costly than SOX 404.

Our findings may be useful in the current debate on the costs and benefits of SOX and in the worldwide discussions of introducing a requirement for a management statement on the effectiveness of internal control in the corporate governance guidelines. In the U.S., the SEC and PCAOB are taking joint steps to focus on a more risk-based regulation process that takes into account the specific control environment of the firm. In this regard the controversial internal-control auditing standard (Auditing Standard N° 2) has been replaced by the more risk-based Auditing Standard N° 5. Also other jurisdictions around the world have recently passed (e.g. Canada, Japan) or are in the process of passing internal control reforms. In Europe actions are undertaken to facilitate convergence within the European Union of requirements in relation to risk management and internal control. In its statement on internal control, the European Corporate Governance forum (2006) stressed that it did not see any need for establishing, at E.U. level, a legal obligation for boards to certify the effectiveness of internal control systems as provided for by SOX 404. One of the motivations for the position of the Forum is that “a careful examination of the lessons to be drawn from experience

should be carried out before considering any further legislation or other measure at E.U. level.” Specifically, the Forum considers that there should be an adequate balance between the benefits of any additional requirements and the costs and other burdens for companies. In sum, the debate on internal control reporting is still ongoing as jurisdictions around the world are discussing the costs and benefits of regulation.

A fruitful area for future research is to further investigate the observed gap between the U.S. and the Netherlands in terms of the number of effectiveness statements. Indeed, the percentage of companies in the Netherlands providing a statement of effective internal controls is rather low (i.e. 38 percent in 2005). The legal requirement in the U.S. Foreign Corrupt Practices Act (1977) that requires companies to have an effective system of internal control over financial reporting may be partially responsible for the observed gap between the U.S. and the Netherlands. Furthermore, this gap may be driven by the different regulation on transparency about the effectiveness of the system of internal control. While in the U.S., transparency about the effectiveness of the system of internal control is mandatory, it is voluntary in the Netherlands following the comply-or-explain principle. Making a statement compulsory as in the U.S. (and thereby depart from the comply-or-explain principle) in combination with the requirement to have an effective system of internal control is likely to oblige companies to invest in internal control in order to minimize risk of litigation. Finally, the absence of a mandatory external audit of internal control in the Netherlands could also drive this observed gap between the U.S. and the Netherlands. In particular, avoiding bad publicity triggered by a negative audit report on internal control can also be an additional motivation to invest in high-quality internal controls. Hence, our findings raise a number of relevant questions for future research. First, it can be questioned whether from an economic point of view regulators should intervene in the level of investment of companies in internal control or whether companies should have the discretion to weigh the costs and benefits of

investing in internal control. Second, it can be questioned whether U.S. regulation provides more incentives for company management to misreport thereby increasing the demand for and value of an external auditor. Therefore, future research could further investigate (1) the effect of making a management statement on internal control mandatory²⁰ and (2) the value added of a mandated audit report on internal control. Moreover, it would be interesting to study the association between accruals quality and internal control reporting, by investigating a possible causal relationship between them. Although we made a first step in investigating this causal relationship in Section 6, we do not provide direct evidence that reporting on the adequacy and effectiveness of the internal control system will improve accruals quality. It is possible that the control consciousness of management is the underlying driver for both the presence of an internal control statement (better controls) and the absence of earnings management. If this is the case, demanding regulation on internal control will improve the reliability of financial statements, only to the extent that it succeeds in altering the control consciousness of company management.

The results of this study are subject to the following limitations. First, we acknowledge that potential measurement error and bias may exist in measuring the description of internal control systems. Although, we tested the internal reliability of our ICRS score, capturing the true underlying variable remains susceptible to some subjective judgement. Second, our study considers the level of accruals which is only one aspect of earnings quality. Third, we are aware of the limitations of accruals measures in detecting accruals quality. However, we have performed sensitivity analyses with different accruals measures providing evidence for the robustness of our conclusions. Finally, our results are only generalizable to other comply-or-explain settings to the extent that the perceived risk of the revelation of an untruthful statement and the associated penalties and reputation effects

are similar to the Dutch case. It might be interesting to further examine whether these results hold in settings with weaker monitoring mechanisms.

TABLE 1
Descriptive statistics of test variables ^a

Panel A: Management statement of effective internal controls	2004 (n=84)	2005 (n=87)
ICstat	17.86%	37.93%
Panel B: Description of internal control	2004 (n=84)	2005 (n=87)
ICproportion	0.05	0.06
ICRS	4.4	5.1
<u>Item 1</u> : the supervisory board discussed (elements of) the internal control systems in at least one meeting	64.29%	74.71%
<u>Item 2</u> : the purpose of the internal control system	36.90%	42.53%
<u>Item 3</u> : management's responsibilities for internal control	47.62%	55.17%
<u>Item 4</u> : internal audit function	28.57%	33.33%
<u>Item 5</u> : activities to manage risk	80.95%	91.95%
<u>Item 6</u> : audit committee	53.57%	55.17%
<u>Item 7</u> : code of conduct	39.29%	52.87%
<u>Item 8</u> : accounting manual	32.14%	36.78%
<u>Item 9</u> : whistleblower policy	53.57%	64.37%

^a Variable definitions

- ICstat= dummy variable (full management statement on the adequacy and effectiveness of internal control =1, else=0);
- ICproportion= the number of pages of the internal control report divided by the number of pages of the annual report; and
- ICRS = internal control reporting score.

TABLE 2
Descriptive statistics of all variables

Panel A: Full sample (n = 171)

Variable^a	Mean	Median	Std. Dev.	Min	Max
ATA	0.09	0.06	0.09	0.00	0.62
AWCA	0.05	0.03	0.05	0.00	0.29
DACC	0.06	0.04	0.06	0.00	0.27
Firm Size	904,456	255,700	1,753,969	3,998	11,800,000
Leverage	0.51	0.50	0.18	0.04	1.10
Performance	0.09	0.09	0.13	-0.81	0.43
Growth	0.04	0.03	0.19	-0.50	0.74
Sales volatility	0.27	0.18	0.24	0.01	1.26
Loss dummy	0.13	0	0.34	0.00	1.00
ICproportion	0.05	0.05	0.03	0.00	0.13
ICRS	4.7	5.00	2.4	0.00	9.00

Panel B: Statement sample (ICstat = 1)(n = 48)

Variable^a	Mean	Median	Std. Dev.	Min	Max
ATA	0.07	0.05	0.05	536.00	0.00
AWCA	0.04	0.03	0.04	0.00	0.23
DACC	0.05	0.04	0.04	0.00	0.23
Firm Size	1,034,026	258,777	1,938,790	5,309	11,800,000
Leverage	0.51	0.52	0.17	0.17	0.84
Performance	0.11	0.11	0.11	-0.34	0.36
Growth	0.06	0.04	0.14	-0.19	0.65
Sales volatility	0.31	0.21	0.29	0.01	1.26
Loss dummy	0.13	0.00	0.33	0.00	1.00
ICproportion	0.05	0.05	0.02	0.01	0.11
ICRS	5.08	5.00	2.26	1.00	9.00

Panel C: No statement sample (ICstat = 0) (n = 123)

Variable^a	Mean	Median	Std. Dev.	Min	Max
ATA	0.10	0.06	0.10	267.00	0.00
AWCA	0.05	0.04	0.05	0.00	0.29
DACC	0.07	0.05	0.06	0.00	0.27
Firm Size	853,893	255,700	1,682,115	3,998	10,400,000
Leverage	0.50	0.50	0.19	0.04	1.01
Performance	0.08	0.09	0.13	-0.81	0.43
Growth	0.03	0.03	0.21	-0.50	0.74
Sales volatility	0.25	0.17	0.21	0.01	1.14
Loss dummy	0.14	0	0.35	0.00	1.00
ICproportion	0.05	0.05	0.03	0.00	0.13
ICRS	4.59	5.00	2.50	0.00	9.00

aVariable definitions:

- ATA = absolute value of industry-adjusted abnormal total accruals scaled by lagged total assets;
- AWCA = absolute value of industry-adjusted abnormal working capital accruals scaled by lagged total assets;
- DACC= absolute value of discretionary accruals from a variant of the modified Jones model (see equation 3 for details);
- Firm size = total assets in thousand EUR;
- Leverage = ratio of total debt over total assets;
- Performance = ratio of operating cash flow on lagged total assets;
- Growth = percentage of year-to-year growth of sales;
- Sales volatility = standard deviation of the change in sales, scaled by average assets in the preceding five years;
- Loss dummy = dummy variable (loss in the current year = 1 else = 0);
- ICstat= dummy variable (full management statement on the adequacy and effectiveness of internal control =1, else=0);
- ICproportion= the number of pages of the internal control report divided by the number of pages of the annual report; and
- ICRS = internal control reporting score
-

TABLE 3
Pearson Correlation Coefficients between the Independent Variables
(n=171)

Variable^a	ICstat	ICproportion	ICRS	Size	Leverage	Performance	Growth	Sales volatility
ICstat	1.0000							
ICproportion	-0.0091	1.0000						
ICRS	0.0921	0.4919**	1.0000					
Size	0.0648	0.1979**	0.7095**	1.0000				
Leverage	0.1360	0.2486**	0.3676**	0.5513**	1.0000			
Performance	0.1007	0.2119**	0.1670*	0.1181	0.0552	1.0000		
Growth	0.0660	0.1306	0.0731	0.0791	-0.0614	0.1354	1.0000	
Sales volatility	0.1103	0.0203	-0.0358	-0.1917*	-0.0783	-0.0405	-0.0932	1.0000
Loss dummy	-0.0174	-0.0512	-0.1035	-0.1525*	-0.0414	-0.3657**	-0.1024	0.1687*

*,**Significantly correlated at the $\alpha = 0.05$; 0.01 level, respectively (two-tailed)

^a Variable definitions

Size = natural logarithm of total assets in thousand EUR.

See Table 2 for other variable definitions

Table 4
Regression analysis of absolute value of discretionary accruals:
management statement of effective internal controls
(n=171)

Variables ^a	Dependent variable		
	ATA ^a	AWCA ^a	DACC ^a
ICstat	-0.028 (0.032)**	-0.016 (0.030)**	-0.017 (0.051)*
Size	-0.014 (0.005)***	-0.008 (0.005)***	-0.008 (0.004)***
Leverage	0.055 (0.314)	0.019 (0.513)	0.005 (0.875)
Performance	-0.294 (0.002)***	-0.068 (0.009)***	-0.125 (0.004)***
Growth	0.045 (0.470)	0.063 (0.003)***	0.061 (0.010)**
Sales volatility	0.047 (0.149)	0.029 (0.137)	0.035 (0.111)
Loss dummy	-0.012 (0.613)	-0.001 (0.960)	0.006 (0.659)
Industry and year included			
Constant	0.257 (0.000)***	0.140 (0.000)***	0.167 (0.000)***
Observations	171	171	171
Adjusted R ²	0.271	0.195	0.268
F-value	3.000***	5.452***	5.926***

The table reports OLS coefficient estimates and standard errors corrected for heteroskedasticity and for clustering of observations by firm (in parentheses).

*, **, *** Significantly different from zero at the $\alpha = 0.10; 0.05; 0.01$ level, respectively (two-tailed)

^a Variable definitions

Size = natural logarithm of total assets in thousand EUR

See Table 2 for other variable definitions

Table 5
Regression analysis of absolute value of discretionary accruals
Description of internal control
(n=171)

Variables ^a	Dependent variable					
	ATA ^a		AWCA ^a		DACC ^a	
ICproportion	0.005 (0.982)		-0.037 (0.764)		-0.175 (0.218)	
ICRS		-0.005 (0.177)		-0.001 (0.701)		-0.002 (0.259)
ICstat	-0.028 (0.033)**	-0.029 (0.027)**	-0.016 (0.031)**	-0.016 (0.030)**	-0.018 (0.039)**	-0.017 (0.050)**
Size	-0.014 (0.005)***	-0.009 (0.116)	-0.008 (0.005)***	-0.007 (0.043)**	-0.008 (0.004)***	-0.006 (0.065)*
Leverage	0.055 (0.314)	0.058 (0.297)	0.020 (0.493)	0.019 (0.507)	0.011 (0.737)	0.006 (0.847)
Performance	-0.294 (0.003)***	-0.286 (0.004)***	-0.067 (0.012)**	-0.067 (0.009)***	-0.119 (0.005)***	-0.121 (0.005)***
Growth	0.045 (0.465)	0.046 (0.454)	0.063 (0.002)***	0.063 (0.003)***	0.064 (0.005)***	0.062 (0.009)***
Sales volatility	0.047 (0.150)	0.053 (0.110)	0.029 (0.134)	0.030 (0.134)	0.036 (0.093)*	0.038 (0.095)*
Loss dummy	-0.012 (0.613)	-0.011 (0.651)	-0.001 (0.964)	-0.000 (0.975)	0.007 (0.641)	0.007 (0.630)
Industry and year included						
Constant	0.257 (0.000)***	0.219 (0.001)***	0.140 (0.000)***	0.134 (0.001)***	0.168 (0.000)***	0.149 (0.000)***
Observations	171	171	171	171	171	171
Adjusted R ²	0.266	0.274	0.190	0.191	0.271	0.268
F-value	2.759***	2.894***	5.030***	4.938***	5.733	5.245

The table reports OLS coefficient estimates and standard errors corrected for heteroskedasticity and for clustering of observations by firm (in parentheses).

*, **, *** Significantly different from zero at the $\alpha = 0.10$; 0.05; 0.01 level, respectively (two-tailed)

^a Variable definitions

Size = natural logarithm of total assets in thousand EUR

See Table 2 for other variable definitions

APPENDIX 1: MANAGEMENT STATEMENT OF EFFECTIVE INTERNAL CONTROLS

GUIDELINES

Dutch Corporate Governance code

II.1.4 The management board shall declare in the annual report that the internal risk management and control systems are adequate and effective and shall provide clear substantiation of this. In the annual report, the management board shall report on the operation of the internal risk management and control system during the year under review. In doing so, it shall describe any significant changes that have been made and any major improvements that are planned, and shall confirm that they have been discussed with the audit committee and the supervisory board.

Additional recommendations with respect to best practice II.1.4²¹

A company complies with best practice II.1.4 when company management declares that

- (1) the internal control systems gives reasonable assurance that the financial reporting does not contain any material inaccuracies;
- (2) the control system has worked properly in the year under review;
- (3) there are no indications that these systems will not perform satisfactorily during the current financial year.

EXAMPLES

A) Firms that provide a management statement of effective internal controls that is compliant with the Dutch corporate governance code.

Taken into account the guidelines above, the internal control dummy takes the value of one, when company management provides an explicit statement of effective internal controls as required by the corporate governance code (adequate and effective) and/or explicitly fulfils all three requirements contained in the additional recommendations with respect to best practice II.1.4.

'The Board deems that in the current situation the internal risk management and control systems as described above are adequate and effective.'

Fugro, Annual report 2004, p. 59

'We confirm that our risk management and control systems provide a reasonable degree of certainty that the financial reporting contains no inaccuracies of material importance. We further declare that the risk management and control systems have functioned correctly over the past twelve months, and that we have no reasons to believe that this situation will be different in this year.'

Royal Vopak, Annual report 2005, p. 40

B) Firms that provide no management statement of effective internal controls compliant with the Dutch corporate governance code.

Since the Dutch Corporate governance code is a comply-or-explain code, firms can decide not to provide a management statement of effective internal controls and explain their reasons for non-compliance. Examples of firms that choose not to provide a statement of effective internal controls are listed below:

Some firms are in the process of improving their internal control system:

'During the financial year attention was paid to the further construction of the company's internal risk management and control systems. The strategic and operational risks were listed, providing insight into the risks that are significant and specific to the company. These risks and the policy formulated to that are described in the chapter 'Risks and risk management' on the pages 36 to 40 of this annual report. The more structured approach to internal risk management and control that was introduced in 2004 will be further established in the organization during 2005.'

Unit 4 Agresso, Annual report 2004, p. 47

'With regard to the Dutch Corporate Governance Code a start was made in 2004 with a systematic and formal analysis and evaluation of our internal risk management and control systems. The operating units will eventually have to design an internal risk management and control system that allows the operations managers to make a statement to the Management Board on the adequacy and effectiveness of this system for the relevant operating units. This will be based on the Integrated Internal Control Framework compiled in 1992 by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Management Board can then issue a statement on the adequacy and effectiveness of the company's internal risk management and control system.'

Grontmij, Annual report 2004, p. 23

Some firms acknowledge that there may be weaknesses or risks in their internal control systems and/or aware of the need for further improvements.:

'As a consequence of the above, the Company identified some risks relating to the ICT environment which could impact the Company's financial reporting. Mitigating actions were implemented to reduce the associated exposures. The Company is of the opinion that it took the necessary steps in this respect to provide reasonable assurance that the financial reporting over 2005 will not contain material inaccuracies as a consequence of these identified risks'.

Wolters Kluwer, Annual report 2005, p. 48

'As stated in the 2003 annual report Hagemeyer had significant deficiencies in its internal control systems in the United Kingdom and the United States in 2003. Management has taken appropriate actions to resolve these weaknesses and for the most part remedial plans were implemented in 2004. At the end of 2004 we have no indications that the existing internal risk management and control systems were not adequate, but we are aware of the importance of further improvements with respect to our internal risk management and control systems. Therefore, we are currently improving our internal risk management and control procedures.'

Hagemeyer, Annual report 2004, p. 51

In other cases firms provide a management statement on the quality of the internal control system that is weaker than the statement required by the Dutch corporate governance code, as illustrated in the following extracts:

'The QA, management, and financial audits are the cornerstones of the evaluation and monitoring of internal risk management and control at Boskalis. Although there is room to further improve the systems concerned, and this receives the required attention, Boskalis has no indication that these systems are inadequate or not effective.'

Royal Boskalis Westminster, Annual report 2004, p. 22

'Ctac has an up-to-date description of the administrative organization and internal control system in place. What actually happens is in line with this description. The organization and the way the internal control system works meet the requirements that would be expected of a company such as Ctac and are regularly reviewed'.

Ctac, Annual report 2005, p. 34

APPENDIX 2

INTERNAL CONTROL REPORTING SCORE (ICRS)

Items included in the internal control disclosure index developed by Deumes and Knechel (2008):

- Ø Item 1: the supervisory board discussed (elements of) the internal control systems in at least one meeting

Best Practice II.1.8 of the Dutch corporate governance code recommends that the supervisory board shall discuss at least once a year the result of the assessment by the management board of the structure and operation of the internal risk management and control system, as well as any significant changes thereto. Item 1 takes the value of one if the supervisory board's report discloses that the supervisory committee discussed internal control.

- Ø Item 2: the purpose of the internal control system

COSO (1992) recommended that the management board reports whether a system has been established to achieve the objectives of internal control. Item 2 takes a value of one if management states the objectives of the internal control system in the annual report.

- Ø Item 3: management's responsibilities for internal control

COSO (1992), the Turnbull Guidance on internal control (1999) included in the combined corporate governance code (UK) and the additional guidance to the Dutch corporate governance code have all emphasized that management is responsible for the functioning of the internal risk management and control systems. Item 3 takes the value of one if the management board acknowledges this responsibility for internal control in the annual report.

- Ø Item 4: internal audit function

Principle V.3 of the Dutch corporate governance code stipulates that the internal audit function plays an important role in assessing and testing the internal risk management and control systems. Item 4 takes the value of one when the firm stipulates that it has an internal audit function.

- Ø Item 5: activities to manage risk

COSO (1992) identifies risk assessment as an integral part of internal control. The Dutch corporate governance code requires management to report on the operation of the internal risk management and control system during the year under review. Item 5 takes the value of one if a firm discloses specific risk management activities.

Additional items:

Ø Item 6: audit committee

Best Practice III.5.4 of the Dutch corporate governance code stipulates the supervision of the management board with respect to the operation of the internal risk management and control systems as an essential task of the audit committee. Item 6 takes the value of one if the firm reports that it has established an audit committee among the members of the supervisory board.

Ø Item 7: code of conduct

Best Practice II.1.3 of the Dutch corporate governance code identifies a code of conduct as an essential instrument of the internal risk management and control system of a firm. Item 7 takes the value of one if the firm reports that it has a code of conduct.

Ø Item 8: accounting manual

Best practice II.1.3 of the Dutch corporate governance code stipulates that a firm shall, in any event, employ as instruments of the internal risk management and control system guides for the layout of the financial reports and the procedures to be followed in drawing up the reports. Item 8 takes the value of one if the firm reports that it has such a financial reporting manual.

Ø Item 9: whistleblower policy

Best practice II.1.6 of the Dutch corporate governance code requires that the management board ensures that employees have the possibility of reporting alleged irregularities of a general, operational and financial nature in the company to the chairman of the management board or to an official designated by him, without jeopardizing their legal position. Item 9 takes a value of one if the firm reports that it has a policy for whistleblowers.

**APPENDIX 3:
Control variables definitions**

Innate firm characteristics that affect accruals quality	
Loss proportion	The percentage of loss years in the preceding five years.
OCF volatility	The standard deviation of cash flow from operations, scaled by average assets in the preceding five years.
Operating cycle	The log of the average of $[(\text{Sales}/360)/(\text{Average Accounts Receivable}) + (\text{Cost of Goods Sold}/360) / \text{Average Inventory}]$, over the preceding five years.

Additional internal control determinants that could be related to accruals quality	
Firm age	The log of the number of years since the foundation year.
Extreme sales growth	An indicator variable that is equal to one if year-to-year sales growth falls into the top quintile and zero otherwise.
Number of industries	The log of the number of industries in which the company is active.
Auditor dummies	Indicator variables equal to one if the firm is audited by a particular audit firm and zero otherwise.
Big four dummies	An indicator variable that is equal to one if the firm's auditor is part of the Big 4 audit firms and zero otherwise.

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¹ Since individual audit fees are not publicly available in the Netherlands and in the absence, to our knowledge, of public studies on audit fees, we use total income growth from auditing as a proxy. The evolution of this

figure for Dutch Big 4 auditors (who constitute 90 percent of our sample) provides no indication of any significant increases in audit fees over the period 2002-2006. Although we acknowledge that income growth from auditing for Dutch Big 4 auditors is a rough measure to use as a benchmark, it does provide some indication on the sharp difference between the development of audit fees in the Netherlands and the U.S., where audit fees increased with 271 percent over the same period.

² The FCPA requires each firm to devise and maintain a system of internal accounting controls sufficient to provide reasonable assurance that (1) transactions are executed in accordance with management's general or specific authorization; (2) transactions are recorded as necessary (a) to permit preparation of financial statements in conformity with GAAP or any other criteria applicable to such statements, and (b) to maintain accountability for assets; (3) access to assets is permitted only in accordance with management's general or specific authorization; and (4) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences (FCPA, 1977).

³ AS 5, which supersedes AS 2, does not include the previous standard's detailed requirements to evaluate management's own evaluation process and clarifies that an internal control audit does not require an opinion on the adequacy of management's process.

⁴ Other countries that require an effectiveness statement on the internal control system to be disclosed to the public are amongst others Sweden (effective since 2006), Canada (effective in 2008) and Japan (effective in 2008).

⁵ See note 1.

⁶ Internal control or the lack thereof can influence the precision of accrual amounts in multiple ways. Earnings manipulations by management harm the positive 'tone at the top' and thereby violate an essential part of the control environment. The internal control framework, developed by COSO, stipulates that 'the effectiveness of internal controls cannot rise above the integrity and ethical values of the people who create, administer and monitor them.' Many of these manipulations will show up in the level of discretionary working capital accruals (e.g. recording virtual sales). Working capital accruals can also be influenced by specific internal control activities. In an effective internal control system a variety of controls are performed to check accuracy, completeness and authorization of transactions. A customer's order, for example, is accepted only upon reference to an approved customer file and credit limit and thereby will prevent intentional and unintentional errors to enter the accounting system. (COSO 1992)

⁷ As part of its corporate governance policy the European Commission has signaled its intention to require companies to report on risk management and internal control. The new Directive on Statutory Audit (2006/43/EC) requires the audit committee (or alternative body) of listed and other eligible public interest entities to monitor the effectiveness of the company's internal control, internal audit where applicable, and risk management systems. The new amending Directive concerning annual and consolidated accounts requires listed companies to publish an annual corporate governance statement, including a description of the main features of any existing risk management systems and internal controls in relation to the financial reporting process. However, the European Corporate Governance Forum considers that there is no need to introduce a legal obligation for boards to certify the effectiveness of internal controls at E.U. level. (European Corporate Governance Forum (2006)). In the UK, the prescription in the Cadbury Code (1992) that directors should report on internal control was removed from the final version of the code (Chambers 1997). After considerable collaboration among provincial legislators and the Canadian Securities Administrators (CSA), Canadian listed companies are required to provide management certification of the design and operating effectiveness of internal control over financial reporting. The design certification requirements became effective for years ending after June 29, 2006, and the effectiveness certification requirements are proposed for years ending after June 29, 2008 (CSA 2006; 2007). Although it originally had been proposed, auditor certification of management control assessments is not required. (Pollanen and Pollanen 2007). In 2006 Japan has developed its own version of the Sarbanes-Oxley Act (JSOX), which will come into effect in 2008. Like its American predecessor, this law requires management to prepare a statement on the effectiveness of internal controls and an external auditor to audit the statement. Also a number of other jurisdictions have recently passed or are in the process of passing internal control reforms.

⁸ In the UK, the lobbying by finance directors, who feared litigation in response to the prescription in the Cadbury Code (1992) that directors should report on internal control effectiveness, resulted in a replacement of this prescription into a suggestion that they may wish to do so. (Chambers 1997)

⁹ Unfortunately, the data do not allow to track the reason why management does not provide a statement of an effective system of internal control. Nevertheless, we believe that irrespective of the underlying reason, in both cases there are reasons to expect an association with accruals quality. In case management is aware of a material weakness, we clearly expect a negative impact on accruals quality. In case management does not have sufficient knowledge to judge the internal control quality, this implies that management does not perform

regular quality reviews of its internal control system, which is arguably essential for having an internal control system of constant high quality.

¹⁰ We excluded all cross-listed firms (13) to minimize interference with SOX 404 and to increase intra-sample homogeneity.

¹¹ To remove outliers we deleted the observations which are in the top or bottom 1 percent of the distribution of scaled total accruals.

¹² REACH is a database distributed by Bureau Van Dijk (<http://www.bvdep.com/>) that contains financial statement data of Dutch listed and non-listed companies.

¹³ Most companies included in the sample changed their accounting policy in 2005 in order to be compliant with IFRS. According to IFRS 1, first-time adopters should reconcile their financial statements of the year preceding the adoption to IFRS to ease comparison. For the accrual proxies of 2005 we use those reconciled accounting numbers to make sure our results are not influenced by the change in accounting policies.

¹⁴ As a sensitivity analysis we also looked at income-increasing and income-decreasing earnings management. The results suggest that no statement of effective internal controls is associated with both types of earnings management, although the results for income-increasing are somewhat stronger.

¹⁵ As mentioned, the Dutch corporate governance regime is principles-based, which implies that there are no detailed rules that stipulate what is considered to be an effective internal control system or what firms need to do if they have ineffective internal controls.

¹⁶ The Peter's Committee (1997) suggested that the supervisory board of Dutch companies discusses the effectiveness of internal control. This is consistent with COSO (1992), the Cadbury Committee (1992) and the Hampel committee (1998) recommending that directors report on the effectiveness of the firm's system of internal control.

¹⁷ The average size of the companies in their sample (\$1.2 billion in assets) is comparable to the size of the average sample company in our study (€0.9 billion in assets).

¹⁸ See note 14

¹⁹ For example, if a firm discloses that it has an internal audit function, the value for this item in ICRS is one, independent of the size of this audit function (large audit department versus one internal auditor). By doing so, we mitigate the effect of firm size on the ICRS, caused by a natural correlation between firm size and the dimension of the internal control system. Indeed, for a small firm one internal auditor might be as effective as an extensive audit department for a large firm.

²⁰ To derive the incremental effect of the requirements of SOX 404 on the 'voluntary' Dutch Section II.1.4 without an external audit, it would be interesting to compare local Dutch listed firms with Dutch firms cross-listed in the US. However, in our sample period (2004-2005) none of the Dutch cross-listed firms are subject to SOX 404, since the SEC postponed the date by which foreign issuers must comply with the auditor attestation of Section 404 to fiscal years ending on or after July 15, 2006 for foreign issuers that are large accelerated filers and even until 2009 for smaller companies. Extending our sample period, does not solve this issue, since the number of cross-listed firms in our sample (13) is too small to generalize inferences from this kind of analysis. For example, even in 2006 less than 10 Dutch companies (accelerated filers) comply with SOX 404. Moreover, there are no Dutch firms that voluntarily chose to include an audit attestation on internal control in their annual report.

²¹ Apart from the provision itself, there were no additional guidelines published in 2004. Therefore companies are considered to be compliant in 2004 when they state in their annual report that the company's internal control system is adequate and effective. In 2005 the monitoring commission of the Dutch corporate governance code published detailed recommendations regarding compliance with best practice II.1.4. Therefore, for the year 2005, the internal control dummy takes the value of 1, when company management provided an explicit effectiveness statement or has fulfilled all three requirements. Limiting our sample to 2004 does not qualitatively alter the conclusions.