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The Value Relevance of Disclosing a Single Corporate Target

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The value relevance of disclosing a single corporate target:

An explorative empirical analysis

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Abstract

This paper explores the relationship between disclosing corporate targets and value creation. Our empirical results show the value relevance of voluntarily disclosing a low number of targets, whereas there is a clear additional positive effect of disclosing exactly *one* corporate target in the annual report. Moreover, the value relevance of "rolling out" a single target to the business unit level in organizations is confirmed by our survey research among the same set of companies. These results support our *Accountability Principle* and Jensen's (2002) argument that "purposeful behavior requires a single-valued objective function".

JEL-codes: L21, J33, G30, M40
Keywords: targets, organizational purpose, objective, value creation, incentives, disclosure

I. INTRODUCTION AND MOTIVATION

Incentive contracts critically determine how people in organizations behave. Performance measures, targets and the relationship between pay and performance are the three basic components of incentive contracts. It is therefore quite likely that target setting is value-relevant. However, target setting is a relatively ignored topic in empirical and theoretical research on incentive contracting in accounting and personnel economics (cf. Murphy, 2000). This certainly holds for the number (and type) of targets that is used in incentive contracts.

Theoretically, two arguments have been put forth that relate to the number of targets used in incentive contracts. One argument builds on the *Informativeness Principle* (Holmstrom, 1979) and implies that, under certain conditions, a maximum number of disclosed targets would be optimal. The opposing theoretical argument advocates a limited number of measures in incentive contracts with "multi-task" agents (Holmstrom and Milgrom, 1991; Heneman et al., 2000). Jensen (2002) has recently argued that multiple targets in general, i.e. even more than one, might have negative impact on an agent's accountability since they might induce agents to 'hide' in case not all targets are met:

"It is logically impossible to maximize in more than one dimension at the same time unless the dimensions are monotone transformations of one another, Thus, telling a manager to maximize current profits, market share, future growth in profits, and anything else one pleases will leave the manager with no way to make a reasoned decision. In effect it leaves the manager with no objective. The result will be confusion and lack of purpose that will fundamentally handicap the firm in its competition for survival."

We label the entire set of arguments in favor of a limited number of targets the *Accountability Principle*, i.e. lowering the number of quantified measures and associated targets will increase accountability and enlarge the possibility of cost effectively creating incentives and will thus increase (shareholder) value.

To date no empirical research exists to test Jensen's statement or the Accountability Principle. This paper is a first attempt to fill that gap in the (accounting) literature on incentive contracts. We empirically examine the value relevance of the number of corporate targets disclosed by the Board of Directors to bond itself vis a vis its (potential) investors. We are especially interested in the value relevance of disclosing

one target to empirically test Jensen's (2002) accountability argument that "multiple objectives is no objective".

Our explorative evidence on the value relevance of setting a single target is based on two analyses. First and foremost, we analyze the relationship between the number of targets *externally communicated* through annual company reports and value creation.[i] Secondly, we study the relationship between targets *used* and "rolled out" to the business unit level as reported in a survey amongst CFO's on the one hand and value creation on the other. Both analyses take the *type* of measures for which targets are set into account as well as its *specificity*, i.e. the extent to which a target is quantified. To control for common factors that affect the cross-sectional variation of stock returns, we include the factors specified by Fama-French in their three factor model (1992, 1998).

The analysis of the value relevance of the (voluntarily) disclosure of a single target is based on a detailed examination of the 1993 and 1997 annual reports of the 80 largest Dutch quoted companies. We find a consistent and significant positive conditional correlation between value creation and externally communicating one quantified target. At the same time, we find a (not always significant) negative relationship between the disclosed number of quantified targets and value creation.

The second analysis digs into the relationship between the internal usage of a single target and value creation. To this end, we sent out a survey in 1999 to the 80 CFO's of the companies in our sample of annual reports. The questionnaire was returned by somewhat less than half of them. The survey results allow the estimation of the value-relevance of internally actually *usin*g a single target in the company's performance management system in 1998. The results confirm the result based on the disclosed information on target setting: setting *one* quantified internal target is value relevant.[ii]

In sum, we find that disclosing and setting few, and in particular one (quantified) targets is value relevant. The result supports Jensen's (2002) argument and provides empirical evidence in favor of the Accountability Principle as opposed to the Informativeness Principle

The paper proceeds as follows. Section 2 develops the theoretical background and hypotheses. Section 3 describes the sample, the methods for data collection and the control variables. Section 4 deals with the descriptive statistics, i.e. the practice of setting and communicating targets. Section 5 discusses the estimation results and section 6 concludes.

2. THEORETICAL BACKGROUND

2.A. Informativeness and Accountability Principles and Jensen's statement

Given the data available, we test three hypotheses:

Hypothesis I: *There is a significant and negative association between the number of targets disclosed and value creation.*

Hypothesis I tests the validity of the Accountability Principle against the Informativeness Principle.

Hypothesis II: *Disclosing a single corporate target has a significant and positive association with value creation*

Hypothesis III: *Internally using a single corporate target has a significant and positive association with value creation.*

Hypothesis II and III test the validity of Jensen's conjecture.

The literature provides a relevant, yet inconclusive discussion about the *number* of performance measures employed in incentive contracts (Ittner and Larcker, 1999). Based on Homlstrom's *Informativeness Principle* (1979), one stream of research argues that a reward system should incorporate *any* performance measure that cost efficiently provides incremental information about effort in order to minimize the agency problem, by maximally reducing the information asymmetry between employer and employee. This view can as well be applied to the agency relation between shareholders and management. It follows directly from the Informativeness Principle that shareholders will appreciate managers to communicate as many measures and related targets as needed to provide all possible cost effective information on their actions. In that way executives bond themselves vis-à-vis their shareholders and simultaneously reinforce implicit or explicit incentive contracts with their subordinates.

An alternative view in the literature stresses the disadvantages of incorporating a large number of explicit measures in incentive contracts. Some tasks of "multi-task" agents will be more difficult to define and/or are more difficult to find appropriate measures of the agent's task-related effort for than other tasks of the same agents. Explicit measures on the set of tasks that are easy to measure would dilute the benefits that can be generated from the other, maybe more important, tasks (Holmstrom and Milgrom, 1991). In addition, according to Heneman et al (2000) a larger number of performance measures may also reduce the incentive effect by spreading efforts over too many objectives. Too many measures might distract the agent from the most

important tasks since an agent might have difficulty in weighing tasks adequately. Moreover, multiple targets are more complex to understand, which lowers their incentive effect as well and multiple targets can even be inconsistent with each other, which also reduces the agent's motivation. Finally, administrative costs pertaining to setting too many targets can be prohibitive. All these arguments indicate that a large number of measures and associated targets will lower the accountability of agents.

In addition to these arguments, Jensen (2002) argues that multiple targets will have negative consequences with respect to an agent's accountability for they will induce agents to 'hide' in case not all targets are met. Targets that have been met will be focused on and will be used as an excuse for not meeting the other targets. Consequently, by writing multiple-target contracts, monitoring and enforcing them will become complex and costly and the possibility for individuals to be held accountable for the realized results of their efforts will be seriously reduced. We call this set of arguments in favor of using few (or just one) target the *Accountability Principle*: i.e. lowering the number of measures and associated targets an agent is held accountable for, will increase the possibility of cost effectively creating incentives and thus increase (shareholder) value. The value loss associated with multiple targets would be due to the increased focus of effort by agents on tasks that a) are easy to perform b) are easy to measure c) have measures that can be gamed d) are less important and that people will 'hide' behind those targets that have coincidently been realized. The accountability principle implies that the extent to which targets are more exactly quantified also adds to the accountability of the agent, resulting in more transparency, lower monitoring costs and a better enforceable contract.

Jensen's argument pushes the Accountability Principle to the extreme in stating that the optimal number of targets is exactly one. Figure 1 graphically shows the theoretical relationship between number of targets and value creation, according to 1) the Informativeness Principle, 2) the Accountability Principle and 3) Jensen. These are the relationships that will be tested in the sequel.

-Insert Figure 1-

2.B. Direct and indirect effects of disclosing corporate targets

The value creating effect of disclosing targets we have been considering up till now is a direct effect: the number and type of targets that are voluntarily disclosed might

directly affect the accountability of the management towards the shareholders. This form of bonding by the management affects agency costs and is reflected in value creation. However, in addition to this direct (bonding) effect there might be an indirect *information* effect of disclosing (corporate) targets that has not yet been addressed. The indirect effect refers to the signal that management might send to investors about her target setting practice towards subordinates. The potential value relevance of the indirect effect of communicating targets depends on whether investors believe that disclosing a corporate target is also an indicator of the internal usage of the same target(s). Even when only one target is disclosed it remains uncertain if that same target is also used as the primary target for steering the next organizational level, or that additional and equally important targets are used in incentive contracts between management and their subordinates. If investors *do* believe that the disclosed targets are credible signals in the sense that they are also used internally, then the indirect (information) effect would be significant, in addition to the direct (bonding) effect.

2.C. Credibility and value relevance of voluntary disclosure

The expected value relevance of disclosing corporate targets is also affected by the credibility and value relevance of voluntary disclosure in general. Much of the theoretical work indicates that voluntary disclosure contains information and is credible. Crawford and Sobel (1982) are amongst the first to establish that a sender's voluntary disclosure of non-verifiable perfect information may very well be credible. Others, such as Farrell and Gibbons (1989) and Gigler (1994) have further analyzed the credibility problem that is central to cheap-talk games. In particular, they investigate the effect that various users of information have on a manager's incentive to voluntarily disclose information that is both perfect (i.e. the realization of the relevant random variable is observed by the sender without noise) and private. These papers establish the credibility of such information (see Farrell and Rabin, 1996, for an introduction to the cheap-talk literature). Verrecchia (1990) furthermore considers the relationship between the quality of the sender's information and voluntary disclosure and establishes that the manager is more likely to disclose information if the quality of his private information is high.

More recently Stocken (2000) has indicated the possibility of and conditions for truthful voluntary disclosure of company information. The game described by Stocken is quite similar to the situation of disclosing targets in annual reports. He examines the credibility of a manager's disclosure of privately observed non-verifiable information to

an investor in a repeated cheap-talk game setting. The theoretical outcome of the repeated game is that the manager almost always truthfully reveals his private information: The manager's concern about his reporting credibility matters enough to ensure truthful disclosure.

In addition to the theoretical work, various empirical studies have indicated that voluntarily disclosed information could indeed be credible and value relevant. Miller (2002) empirically shows that, in general, voluntary disclosure through annual reports has information content and that the stock market reacts favorably to increased voluntary disclosure. Botosan and Plumlee (2002) find similar results: the annual report disclosure level is negatively related to the cost of equity capital and consequently positively to value creation. Narayanan et al. (2000) show that the voluntary disclosure of even qualitative company information (about R&D project announcements) has, under certain conditions, positive impact on value creation. Their analyses moreover indicate that voluntarily disclosing information on management actions or intentions has more impact on stock returns than disclosure of information on actions by third parties, like government agencies. These empirical results indicate that also the voluntary disclosure of quantified targets, reflecting key managerial intentions, might indeed have significant impact on value creation.

2.D. Causality

Our cautious formulation of hypotheses indicates that our explorative study does not allow definite conclusions about the *causality* of the relationships established between number of targets set and disclosed, and value creation: we cannot empirically distinguish support for Jensen's statement from the case of reversed causality, i.e. firms that already expect high shareholder value creation, 'dare' to not hide and set one target. In this case, some firms expect higher performance, based on private information, and disclose a single (main) target and "dare" to leave out the remainder of the set of targets otherwise disclosed, whereas others don't (because they can't). In this case, a separating equilibrium of the signaling game supports the value creating effect of setting one target.

Although this case of reversed causality is possible in theory, it is not very likely in practice. Most importantly, it is not very credible towards senior management when out of several internally used corporate targets suddenly only one of them is disclosed externally. That will undermine the value and credibility of the other internally used

targets, especially since most likely these other internally used targets are used in various incentive contracts. Another problem pertaining to this opportunistic way of target setting is that in the long run this practice will not meet the requirement that a corporate target be consistent over time. Consequently, although theoretically possible, it is not very likely that suddenly only one target is disclosed based on private information on last year's or soon to be realized (superior) performance.

3. DATA

Sample

Since our model requires information on firm value creation, the relevant population consists of listed companies. The sample of the 80 largest Dutch listed firms (see Appendix A for a complete list of sample companies in each year) represents 80% of total market capitalization of all companies listed at the Amsterdam Stock Exchange. The sample is representative of the population distribution of Dutch quoted firms over industries. The total market capitalization on January 1, 2000 of the sample amounts to 650 billion Euro. The sample consists of a relatively high percentage of large multinational firms (e.g. Philips Electronics, Unilever, Royal Dutch Shell, ABN AMRO, Aegon, KLM, Akzo Nobel, ING Group, Ahold). The advantage of a single country sample is the exclusion of a type of unobserved heterogeneity associated with internationally varying corporate governance structures, accounting practices and standards, and legislation. These differences are likely to affect the (disclosure of) target setting practices. The drawback of our relatively homogeneous Dutch sample is the rather small sample size of 80 companies.

Variables

The dependent variable that measures value creation is TSR (Total Shareholder Return): yearly dividends plus capital gains relative to the share price at the beginning of the year. The independent variables of interest, the company targets, are listed in Table 1. This is a complete list of all the possible targets that we encountered in the annual reports and the surveys.

- Insert Table 1 approx. here -

We formed five categories of types of targets. Table 1 also shows how the encountered targets were grouped into the five categories. The categorization is mainly

based on research in the management accounting literature about what type of targets companies (should) use.[iii]

The first category "accounting measures" consists of traditional financial performance measures, such as return measures and profit numbers. The second category "value-oriented measures" consists of financial measures that are related to value creation, such as Economic Value Added (*EVA*), Cash Value Added (*CVA*), Cash Flow Return On Investment (*CFROI*) and shareholder value. The first two value oriented measures are economic profit measures that include indicators of return and (profitable) growth.

The third category, "growth-related" measures, consists of non-financial targets, based on growth-related indicators. Globalization, mergers, alliances, and other types of selective growth targets are included in this category. The fourth category includes "operational" non-financial targets such as logistics, security, product quality, cost control, and risk management. The fifth category of targets is related to stakeholder management and social responsibility. The targets mentioned in the annual reports that are assigned to this category are "corporate governance and transparency", "social responsibility" and "environmental responsibility".

Another apparently relevant characteristic of the targets disclosed in annual reports is the degree of specificity. We distinguish qualitative targets from quantified targets. A target is called 'quantified' when it is possible for outside investors, based on disclosed company information, to determine precisely whether the target has or hasn't been reached. A quantified target therefore clearly specifies both the performance *level* and *by when* that level should have been reached. Consequently, only by communicating a *quantified* target, management bonds itself and creates real accountability.[iv] On average only ten percent of all (qualitatively defined) targets is quantified. The numbers of targets per type and specificity level for each of the five categories were counted by firm. All companies turned out to use more than one qualified target. Testing the value relevance of single targets could therefore only be assessed with respect to quantified targets.

When analyzing the relationship between corporate targets and value creation we control for common factors that drive cross-sectional variation in stock returns. We control for the three factors included in the well accepted Fama-French three factor model: firm size, the ratio book value of equity to market value of equity and beta (c.f. Fama and French, 1992, 1998; Chan, 2000). To control for firm size we include the

natural logarithm of company sales (in thousands of Dutch guilders) into our regression equation. We enter the natural logarithm of the book value of equity over the market value of equity to control for the effect of "book to market". Although the evidence that beta is also compensated for in average returns is weaker (e.g. Fama and French, 1992, and Kothari et al., 1995) we also control for beta, the third Fama French factor. Beta is estimated by regressing five years of monthly historical company returns on the Dutch index return.

Additional control variables are industry segment and degree of diversification of the company's activities. The control variable *INDUSTRY* distinguishes four industry categories (with the number of sample firms (1997) per category in brackets): Manufacturing (32), Trade (16), Financial Services (9), and (Other) Services (23). The control variable *multi* partitions the sample over two categories: single activity and multiple activity (diversified) firms. The 1997 sample includes 59 "mono-firms", and 21 "multi-firms". This distinction is relevant: the more activities a firm employs, the more targets it might need in order to efficiently steer the company, and transparently inform investors.

Data source A: Annual reports

The full contents of the 1993 and 1997 annual reports of the 80 firms were studied in detail. We analyzed two years for each company to be able to also examine the association between *changes* in target setting behavior and value creation and to get some insight in the role played by unobserved firm heterogeneity. Moreover, analyzing two periods creates an opportunity to capture trends in target setting behavior. It also enables us to determine whether our results are time-consistent.[v] The variables of interest retrieved from the annual reports are the number and type of externally communicated targets and how well they are quantified.

Data source B: Survey analysis

A survey was sent to all CFO's of the sample companies in 1999. After two reminders, the response rate amounted to 46% (36 companies). Appendix A shows which firms completed the survey.[vi] The CFO's were asked to fill in which targets are used internally (in 1998), and whether the same targets are also "rolled out into the company" for steering and evaluating the business units and rewarding the individual

managers. They indicated for each target how well specified and quantified the target is and, how the answers would compare to five years ago.

The variables of interest retrieved from the surveys are the number, types and specificity of targets that are used internally in the year 1998. We use the survey result to estimate the value relevance of *using* a single target. We also assess by means of the survey the potential information/signaling effect of the communicated targets in annual reports. To this end, disclosed targets in the annual reports of 1998 (published around April 1999) have been analyzed for the companies that completed the survey, in addition to those of 1993 and 1997.

Data source C: financial and market data

Data on stock prices and dividends, needed to generate shareholder returns, the dependent variable of our analyses, were retrieved from Datastream. The source for the control variables (Market beta's, book-to-market, size, industry, and diversity of firm activities) is Reach[vii], which is the most reliable and complete source of Dutch accounting data.

4. DESCRIPTIVE STATISTICS

4.A. Disclosure of targets

Table 2 shows the main descriptive statistics of target disclosure practices in annual reports. The first column pertains to the total sample; the other columns refer to sub-samples as described by their column headers. The average number of qualitative targets or objectives mentioned in the 1997 annual reports is 21. Less than ten percent of all targets mentioned are quantified (2.0). The number of quantified targets has tripled between 1993 and 1997.

Little significant variation between various groups was found with respect to the *total number* of (qualitative) targets used: only a higher share performance is associated with a higher total number of targets. The degree of diversification of a firm and the number of quantified targets used (zero, one or more) are not significantly discriminating factors.

When explicitly looking at the number of quantified targets, we see that there has been a strong increase between 1993 and 1997 in the number of firms that use one or more quantified targets: 29% firms in 1993 versus 54% in 1997. Interestingly, there is a

trend among those firms that use more than one quantified target into the direction of using more of them: on average four in 1997, versus 2.5 in 1993. Finally, low performing firms seem to use more quantified targets than firms belonging to the group of the top fifty percent value creators: 2.4 versus 1.6 in 1997 (0.7 versus 0.6 in 1993). However, these differences that have increased between 1993 and 1997 are not significant in any of these two years.

Hence, more and more firms formulate both qualitative and quantified targets. Moreover, firms that quantify more than one target tend to quantify a higher number of them (more than one). There is a clear tendency towards disclosing quantified targets.

The *types* of measures used for quantified target setting are shown in the bottom half of Table 2. On average, two third of the quantified targets is accounting oriented. Twenty two percent is growth oriented and only five percent is operationally oriented or stakeholder oriented. Interestingly, over time, accounting and return oriented targets have gained popularity at the cost of growth oriented targets: the usage of accounting related targets has significantly increased from 44% in 1993 to 66% in 1997, while growth oriented targets have significantly lost share from 42% to 22%. This indicates that in 1997 Dutch companies could create more value by focusing on cost cutting and improving margins then by investing in new growth opportunities. Moreover, accounting oriented targets are slightly more popular in the group of high performing firms (74% versus 59%). This was also the case in 1993 (51% versus 35%). The usage of growth-oriented targets appears to be lower among higher performing firms than within the group of below average performing firms: the difference, 60% versus 27% is significant in 1993.

Accounting or return oriented targets have a particular high share in the group of companies that use exactly one quantified target. The unique target is accounting oriented in 85 percent of cases in 1997. A positive trend can be seen in using this type of single target: the corresponding percentage was 47 in 1993 (again at the cost of growth oriented targets).

- Insert Table 2 approx here -

Appendix B shows a correlation table between all variables used in the analyses. It shows a significantly positive relationship between using accounting targets and both value creation (TSR) and the use of a single target.

4.B. Internal usage of targets

Table 3 shows the descriptive statistics of the survey data about the internal usage of targets. On average, only one third of the internally used quantified targets are also disclosed externally ((2.8+2.9)/2.0). One would expect that those quantified targets for which management has committed itself externally are considered more important than the other ones: the measures and targets that primarily affect a company's value driver tree will be candidates for disclosure, as was discussed in section 2. The number of key performance targets seems to be much lower than the internally set 2.9 and 2.8 (non-)financial targets.

The percentage of quantified targets that was already used five years ago is 62% for financial and 43% for non-financial targets: targets are used quite consistently over time. With respect to the type of non-financial targets used, the majority of companies internally use market share related targets (65%). Half of the companies set internal targets with respect to growth and internal processes and 46% of the companies set internal targets that relate to customer satisfaction. Finally, 41% of companies use non-financial targets related to employee satisfaction. Apparently companies prefer to steer on outcome (i.e. growth or market share) to steering on the inputs required to grow.

- Insert Table 3 approx here -

Table 4 cross-tabulates the number of firms participating in the survey that uses and communicates a single target. The number of firms communicating one target is, unsurprisingly, larger than the number of firms actually using a single target in the same year (11 versus 6). This is likely be caused by the existing hierarchy amongst performance measures, in accordance with the value driver tree concept.

- Insert Table 4 approx here -

5. ESTIMATION RESULTS

We assess the value relevance of disclosing and using a single quantified corporate target by means of OLS regressions. The dependent variable in all regression equations is value creation, TSR, as defined above. The centerpiece of our analysis is the independent variable indicating whether a single target is communicated or used

(dummy "one target"). We also include a variable "number of targets" in every equation.

We distinguish between whether the target is accounting oriented or not. We also multiplied "one target" with the diversification and industry dummies to evaluate whether companies from diversified firms or companies from specific industries would retrieve more or less value creation from setting one (quantified) target.[viii]

The correlations between "one target" and "number of targets" on the one hand, and TSR on the other are measured conditional upon a set of control variables. The control variables are the three Fama-French factors and control dummies for diversified firms called "multi" and for the industries "financial services", "manufacturing", and "trade".

5.A. The value relevance of disclosing one target

Table 5 shows the estimation results pertaining to the analysis from the annual reports of 1993 and 1997. Insignificant controls or cross-terms have been omitted.

- Insert Table 5 approx. here-

The first column explains inter-firm variation in the pooled sample of 1993 and 1997 observations, where a dummy "dum93" distinguishes the intercept terms for both years. TSR is calculated over the periods July 1993 – June 1994 and July 1997-June 1998 respectively. The independent variables are defined for the fiscal years 1993 and 1997 respectively. Following Fama-French, the explanatory variables pertain to a period that lags half a year behind the period defined for the dependent variable. The second column explain inter-firm variation in TSR in the period July 1997- June 1998 by means of a set of independent variables defined for the fiscal year 1997. The third column presents the estimation results of the explanation of TSR variances in the period July 1993 - June 1994 with 1993 regressor values. The fourth set of columns, "TSR97-TSR93" explains the difference in shareholder return between these two years by means of the differences between the regressor values for the two years examined.

The estimates show that disclosing a single target is of paramount value relevance: it has a significant positive coefficient of approximately 0.09 in all equations. Furthermore, the number of (quantified) targets indeed shows a negative coefficient, though this coefficient is not significant in all equations. The descriptives showed that 25% of companies communicated exactly one quantified target (in 1997) and that a vast

majority of 85% of single quantified targets set is based on an accounting measure.[ix] This explains why the *type* of target communicated has no impact on value creation: the type of the disclosed single target appeared to be value irrelevant since the coefficients to all cross-terms are insignificant.

When looking at the effects of the control variables we see zero or positive coefficients for beta. This result is in line with the weak effects that have often been found in US studies (e.g. Fama and French, 1992 and Kothari et al. 1995) and the mixed effects found for other countries (Fama and French, 1998 and Rouwenhorst, 1999). The effect of firm size is zero in most equations. The only significantly positive coefficient is found in 1997, consistent with recent studies (Chan et.al., 2000, Rouwenhorst, 1999), but not with Fama and French (1992, 1998). The coefficients of book-to-market (ln(BVE/MVE)) are zero in 1993 and significantly negative in 1997: Dutch growth stocks seem to have outperformed value stocks in the latter year. This again is inconsistent with the older studies mentioned (Fama and French, 1992, 1998), but in line with the most recent ones (e.g. Chan et.al., 2000). Apparently, the three Fama-French control variables also capture the variation of value creation between firms that is related to other control variables since industry dummies and a firm's degree of diversification are all insignificant in the regressions.

5.B. The value relevance of internally using one target

Table 6 indicates that our results based on disclosed targets also hold for internal target setting behavior. There is a strong and significant positive association between using a single (financial) target for at least two management layers and value creation. It should however be noted that the number of firms that indeed roll out one target is six (out of the 33 observations with TSR known). The evidence on the association between a single internal target and value creation should therefore be considered with great caution only. Table 6 moreover shows that the effect of communicating a single target has an additional positive association with value creation, besides the effect of the internal usage of one target. The additional effect of disclosure is significant at the 10% level.

- Insert Table 6 approx. here-

5.C. Discussion of results

The value relevance of disclosing one quantified corporate target supports Jensen's argument that "Multiple objectives is no objective". By committing herself to one quantified target, management seems to create a superior bonding mechanism that generates abnormal stock returns. On top of this, we find a negative effect of "number of targets", implying that there is a positive association between fewer targets and TSR. The results hence, quite convincingly support the *Accountability Principle*: setting one quantified target, leading to the assignment and communication of responsibilities in a one-dimensional and transparent manner, is related to value creation. Hypothesis I and II cannot be rejected. Whether the results only reflect the direct effect of Jensen's statement or whether it also reflects an indirect information effect, can be evaluated by studying the internal practice of target setting.

The internal study reveals a significant positive association between the internal usage of a single target and value creation: Hypothesis III cannot be rejected either. An additional result is the positive conditional correlation between the communication of a single target and value creation, conditional upon the effect of internally using one target. Both these management actions (disclosure and internal usage) are value relevant. However, given the small sample sizes of the survey analyses the result of the value relevance of the *disclosure* of one target is most powerful.

By assessing the correspondence between externally communicated targets and targets that are actually used within the company we can conclude that virtually *none* of the disclosed quantified targets are in conflict with internally communicated targets[x]. In that sense, targets are truthfully disclosed. 69% of all companies that disclose quantified corporate targets use exactly the same targets internally and 21% of the companies have translated one of their externally communicated targets into an internally operational measure (either a return on equity target has been translated into a return on capital employed figure, or a net profit target has been translated into an internal EBIT figure). Only 10% of the firms had one externally communicated target that could not directly be linked to internal practice (e.g. an organic growth target, an annual profit improvement target and a year 2000 target for profit that remained unrevealed as such internally). The numbers indicate that voluntarily disclosed corporate targets are truly used to monitor and incentify subordinates.

5.D. Caveats

Our results do not discriminate between both ways of causality of the relationship between value creation and single target setting. Therefore, we interpret the result in terms of "associations" and "conditional correlations" rather than in terms of "effects", as long as results from rigorous analyses have not confirmed the assumed direction of causality.

One of the apparent reasons for the absence of empirical work on the value relevance of target setting is the lack of data and the difficulties of isolating the value effects of target setting behavior. No databases exist that contain data on disclosed, let alone internally set targets. The annual report seems to be a relatively good data source for examining the value relevance of corporate targets, even though there could be some problems associated with this source of data as was pointed out.[xi] Survey data are a good source for assessing the value relevance of using a single target. However, even a fairly high rate of response results in a small number of observations, given the small size of the (homogeneous) population studied.

Three other limitations pertain to this study. We do not consider the levels of the target(s) set. It is conceivable that more ambitious targets (up to a certain level) are associated with more accountability and therefore with more value creation than easily achievable target levels. Moreover, we don't address the value-relevance of the realization of specific corporate targets. Another dimension left for further research is the value relevance of the consistency over time of targets set.

6. CONCLUSION

We have empirically analyzed the value relevance of (the number of quantified) corporate targets disclosed by Dutch listed firms in their annual reports. Our result supports the *Accountability Principle* rather than Holmstrom's *Informativeness Principle*: value creation is associated with fewer rather than more targets. In addition to this, a test of Jensen's conjecture that stretches the accountability principle to the extreme, i.e. more than one target would destroy value, cannot be rejected either: disclosing one quantified corporate target is value-relevant indeed. This finding is consistent with recent empirical and theoretical work that indicates that voluntary disclosure of private company information contains information and is value relevant. Besides the result that disclosing exactly one quantified corporate target is associated

with high stock returns, the survey data moreover confirm the value relevance of internally using a single target. The result that *one* target is value relevant is so persistent in our data, that we certainly cannot reject Jensen's adage that "Multiple objectives is no objective".

REFERENCES

Biddle, Gary C., Robert M. Bowen, and James S. Wallace. 1997. Does EVA® Beat Earnings? Evidence on Associations with Stock Returns and Firm Values. *Journal of Accounting and Economics* **24**: 301-36.

Botosan, Christine A. and Marlene A. Plumlee. 2002. A Re-examination of Disclosure Level and the Expected Cost of Equity Capital. *Journal of Accounting Research* **40**: 21-40.

Chan, Louis K.C., Jason Karceski and Josef Lakonishok. 2000. New Paradigm or Same Old Hype in Equity Investing? *Financial Analysts Journal* **56**: *3*-36.

Crawford, V.P. and J. Sobel. 1982. Strategic Information Transmission. *Econometrica* **50**: 1431-51.

Fama, Eugene F. and Kenneth R. French. 1992. The Cross-Section of Expected Stock Returns. *Journal of Finance* **47**: 427-65.

"---". 1998. Value versus growth: The International Evidence. *Journal of Finance* **53**: 1975-99.

Farrell, J. and R. Gibbons. 1979. Cheap-talk with Two Audiences. *The American Economic Review* **79**: 1214-23.

Farrell, J. and M. Rabin. 1996. Cheap Talk. *Journal of Economic Perspectives* **10**: 103-18.

Gigler, F. 1994. Self-Enforcing Disclosure. *Journal of Accounting Research* **32**: 224-40.

Heneman, Robert L., Gerarld E. Ledford, and Maria T. Gresham. 2000. The effects of Changes in the Nature of Work on Compensation. in S. Rynes and B. Gerhart (eds.), *Compensation in Organizations: Current Research and Practice*. Jossey-Bas: San Francisco CA.

Holmstrom, Bengt. 1979. Moral Hazard and Observability. *Bell Journal of Economics* **10**: 74-91.

Holmstrom, Bengt, and Milgrom, Paul R. 1991. Multi-Task Principal-Agent Analyzes: Incentive Contracts, Asset Ownership and Job Design. *Journal of Law, Economics and Organization* **7**: 24-52.

Ittner, Christopher, and David Larcker. 1999. The Effects of Performance Measure Diversity on Incentive Plan Outcomes. *Working Paper*, Wharton School.

Jensen, Michael C. 2002. Value Maximization and the Corporate Objective Function. in Joerg Andriof, Sandra Waddock, Sandra Rahman and Bryan Husted.(eds.) *Unfolding Stakeholder Thinking*. Greenleaf Publishing.

Kothari, S.P., Jay Shanken and Richard G. Sloan. 1995. Another Look at the Cross-section of Expected Stock Returns. *Journal of Finance* **50**: 185-224.

Miller, Gregory S. 2002. Earnings Performance and Discretionary Disclosure. *Journal of Accounting Research* **40**: 173-204.

Murphy, Kevin J. 2000. Performance Standards in Incentive Contracts. *Journal of Accounting and Economics* **30**: 245-78.

Narayanan, V.K., George E. Pinches, Kathryn M. Kelm and Diane M.

Lander. 2000. The Influence of Voluntarily Disclosed Qualitative Information. *Strategic Management Journal* **21**: 707-22.

Rouwenhorst, K. Geert. 1999. Local Return Factors and Turnover in Emerging Stock Markets. *Journal of Finance* **54**: 1439-64.

Stocken, Philip C. 2000 Credibility of voluntary disclosure. *RAND Journal of Economics* **31**(2): 359-74.

Verrecchia, R.E. 1990. Information Quality and Discretionary Disclosure. *Journal of Accounting and Economics* **12**: 365-80.

Appendix A *Companies in the sample: 80 largest Dutch listed companies*

Company	*Annual report analyzed*		*Survey*	*Company*	*Annual report analyzed**		*Survey*
	1993	1997	1999		1993	1997	1999
ABN AMRO	Yes	Yes	Yes	KBB	Yes	Yes	No
AEGON	Yes	Yes	Yes	Kempen	Yes	Yes	No
Ahold	Yes	Yes	Yes	KLM	Yes	Yes	Yes
Ahrend	Yes	Yes	Yes	KNP BT	Yes	Yes	No
Akzo	Yes	Yes	No	KPN	Yes	Yes	Yes
ASM Litography	No	Yes	Yes	MacIntosh	Yes	Yes	Yes
ASR	Yes	Yes	Yes	NBM Amstelland	Yes	Yes	No
ATAG	Yes	Yes	No	Nedcon	Yes	Yes	Yes
ATHLON	Yes	Yes	No	Nedlloyd	Yes	Yes	Yes
Ballast Nedam	Yes	Yes	Yes	NIB	n.a.	Yes	No
Bank Mendes Gans	Yes	Yes	No	Norit	Yes	Yes	Yes
Boskalis	Yes	Yes	No	Numico	Yes	Yes	No
Wessanen	Yes	Yes	Yes	Nutreco	Yes	Yes	Yes
Caland	Yes	Yes	No	Oce	Yes	Yes	Yes
Cap Gemini	Yes	Yes	Yes	Ommeren, Van	Yes	Yes	No
Content	Yes	Yes	Yes	OPG	Yes	Yes	No
Ceteco	No	Yes	No	Ordina	Yes	Yes	No
CSM	Yes	Yes	No	Otra	Yes	Yes	No
De Boer Unigro	Yes	Yes	No	Pakhoed	Yes	Yes	Yes
Draka	Yes	Yes	No	Philips Electronics	Yes	Yes	No
DSM	Yes	Yes	Yes	Polygram	Yes	Yes	Yes
Econosto	Yes	Yes	No	Randstad	Yes	Yes	No
Endemol	No	Yes	No	Roto	Yes	Yes	No
Frans Maas	Yes	Yes	No	Schuitema	Yes	Yes	Yes
Fortis	Yes	Yes	Yes	Schuttersveld	Yes	Yes	No
Fugro	Yes	Yes	No	Sligro	Yes	Yes	No
Gamma	Yes	Yes	No	Sphinx	Yes	Yes	Yes
Getronics	Yes	Yes	Yes	Stork	Yes	Yes	Yes
Geveke	Yes	Yes	Yes	Telegraaf	Yes	Yes	No
Gist	Yes	Yes	No	TenCate	Yes	Yes	No
Grolsch	Yes	Yes	No	Unilever	Yes	Yes	No
Grontmij	Yes	Yes	Yes	VanLeer	Yes	Yes	No
GTI	Yes	Yes	Yes	Vedior	No	Yes	No
Gucci	No	Yes	No	Vendex	Yes	Yes	No
Hagemeyer	Yes	Yes	No	VNU	Yes	Yes	Yes
HBG	Yes	Yes	Yes	Volker	Yes	Yes	Yes
Heijmans	Yes	Yes	No	Wegener	Yes	Yes	No
Heineken	Yes	Yes	Yes	Wolters	Yes	Yes	No
Him Furness	No	Yes	Yes				
Hoogovens	Yes	Yes	Yes				
Hunter	Yes	Yes	No				
ING Groep	Yes	Yes	Yes				
Internatio	Yes	Yes	No				
KAS	Yes	Yes	Yes				

*For some companies and years, *TSR*, the measure of value creation used as dependent variable is missing. These are marked with (n.a.)

Appendix B *Correlation table of types and numbers of targets, values from annual reports 1997*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) TSR	1												
(2) One target	0.25*	1											
(3) # targets quantified	-0.19	-0.22	1										
(4) # targets qualified	0.41**	0.00	0.02	1									
(5) % accounting targets	0.28*	0.38**	-0.43**	0.18	1								
(6) % value based targets	0.17	0.18	-0.10	-0.04	-0.23	1							
(7) % growth based targets	-0.20	-0.42**	0.53**	-0.10	-0.75**	-0.10	1						
(8) % efficiency targets	-0.18	-0.31*	0.18	-0.08	-0.35**	-0.06	-0.01	1					
(9) % stakeholder targets	-0.25	0.02	-0.05	-0.11	-0.43**	-0.04	-0.05	0.10	1				
(10) % mentioning shareholder value	0.02	-0.06	0.21	0.29**	0.02	0.19	0.06	-0.17	-0.17	1			
(11) Market beta	-0.04	-0.09	-0.09	-0.21	0.11	0.04	-0.24	0.06	0.12	-0.01	1		
(12) Size (ln(turnover))	0.21	-0.03	0.02	0.42**	-0.10	0.35*	-0.10	0.17	-0.02	0.27*	-0.02	1	
(13) Bm (book to market)	-0.31**	-0.18	0.01	0.07	0.13	-0.02	-0.34*	0.16	0.23	0.00	0.14	0.03	1
(14) Manufacturing	-0.27*	-0.12	0.10	-0.29**	-0.20	0.17	-0.01	0.08	0.28*	-0.03	0.18	0.13	0.15
(15) Trade	0.08	-0.07	-0.15	0.14	0.01	-0.05	0.04	0.05	-0.10	0.01	-0.27*	-0.02	-0.04
(16) Service	-0.02	0.08	0.10	-0.08	-0.04	-0.10	0.18	-0.01	-0.14	0.07	-0.07	-0.11	-0.20
(17) Fin service	0.33**	0.16	-0.10	0.39**	0.34*	-0.05	-0.27*	0.04	-0.10	-0.06	0.17	-0.01	0.10
(18) One product	0.07	0.02	0.05	0.08	0.23	-0.23	-0.06	-0.34*		0.08	-0.03	-0.23*	0.03

*=correlation significant at 5% level; **=correlation significant at 1% level

Table 1 Categories of types of targets

(1) Financial accounting targets	**(3) Growth based targets**	Cost control
Dividend percentage	Growth (general)	Logistics/distribution
Net profit per share	Growth (autonomous)	Develop employees
Return on working capital	Growth (by acquisition)	Improving productivity/efficiency
ROA	Other growth	Risk management
ROE	Globalization	Technological/knowledge improvement
ROS	Market position/growth	Security/quality/reliability
Solvability	Turnover	Working environment
Profit/Operating income	Alliances	**(5) Social targets**
(2) Financial value based targets	Splitting up/Independency	Corporate Governance/transparency
Shareholder value	**(4) Operational targets**	Social responsibility
CFROI	Credit-rating	Environment
CVA	IT	
EVA	Customer orientation/service	
Price earnings ratio	Product quality	

Table 2 Mean values of targets variables

Target characteristic	**Total**		**TSR < median**		**TSR > median**		**Mono**		**Multi**		**No quant targets**		**One quant. target**		**More quant targets**	
Year	97	93	97	93	97	93	97	93	97	93	97	93	97	93	97	93
Number of companies	80	74	40	36	40	37	59	53	21	21	26	45	20	17	34	12
# qualitative target	21^{*}	15^{*}	17^{+}	16	25^{+}	14	22	15	19	15	20	11^{ok}	21^{o}	20^{k}	23	21
# quantified targets	2.0^{*}	0.6^{*}	2.4	0.7	1.6	0.6	2.1	0.7	1.8	0.6	0	0	1	1	4.1^{o}	2.5^{o}
% one target	25	23	18	17	33	30	25	19	24	33	0	0	100	100	0	0
% accounting	66^{*}	44^{*}	59	35	74	51	71	47	51	37	-	-	85^{k}	47^{k}	55	39
% value	2	0	0	0	4	0	0	0	7	0	-	-	5	0	0	0
% growth	22^{*}	42^{*}	25	60^{k}	19	27^{k}	21	37	26	54	-	-	5^{o}	35	32^{o}	51
% efficiency	5	7	8	5	3	9	3	7	13	9	-	-	0^{o}	6	8^{o}	10
% stakeholder	5	7	8	0	0	12	5	10	3	0	-	-	5	12	4	0

The industry segmentation is not included in this Table. The motivation of this omission is given in section 5. Relevant significant differences within rows between subsamples are denoted by corresponding superscripts.

Table 3 Descriptive statistics of internal target setting survey (1999)

Number of companies	36
Average # of financial measures for which quantified targets are formulated	2.8
- % "rolled out" into the next layer of the organization (Business unit level)	82%
- % of firms that "rolled out" one financial measure	16%
- % that was used five years ago as well	62%
Total # of non-financial quantified targets	2.9
- % "rolled out" into the next layer of the organization (Business unit level)	64%
- % that was used five years ago as well	43%

Table 4 Cross-table of using and communicating one target (survey, 1998)

No of companies using/communicating 1 target	Communication of 1 target		
	Yes	No	Total
Usage of one target			
Yes	3	3	6
No	8	22	30
Total	11	25	36

Table 5 Estimation results annual reports analysis 1993, 1997 (OLS)

Determinants of Value Creation	TSR (pooled)	TSR 1997	TSR 1993	TSR97-TSR93
Single target	0.085**	0.082*	0.095**	0.090*
	(2.4)	(1.7)	(2.0)	(1.7)
Number of targets	-0.012*	-0.009	-0.017	-0.018*
	(1.7)	(1.2)	(0.7)	(1.7)
Dummy 1993=1	0.167***			
	(5.0)			
Market beta	0.045	0.002	0.121**	0.014
	(1.5)	(0.1)	(2.1)	(0.9)
Ln(sales); sales in 1000 Dfl	0.008	0.027**	-0.005	0.06
	(0.8)	(2.0)	(0.4)	(0.9)
Ln(BVE/MVE)	-0.067***	-0.078***	0.004	-0.066
	(3.1)	(2.8)	(0.1)	(1.2)
Constant	-0.338**	-0.808***	-0.013	-0.197***
	(2.2)	(2.9)	(0.5)	(4.6)
N	136	73	60	59
Adjusted R^2	0.23	0.16	0.09	0.07

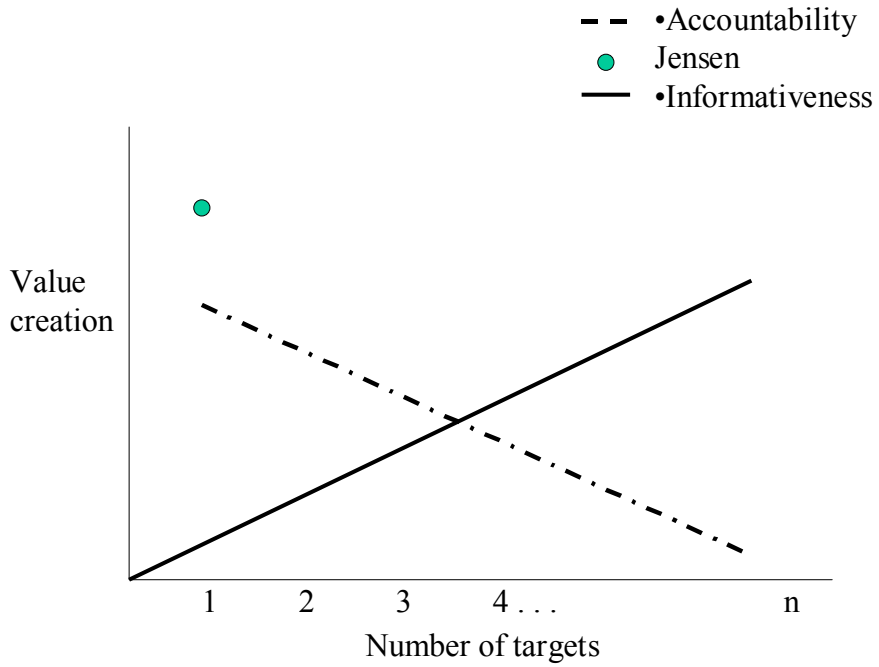
"*" refers to a 10% level of significance, "**" to a 5% level of significance, "***" to a 1% level of significance. Absolute t-values are given in parentheses. The results are invariant to a (non-linear) transformation (log) of the dependent variable, *TSR*.

Table 6 Estimation results survey analysis 1998

Determinants of Value Creation	TSR 1999			
Constant	-0.68	-1.19*	-0.70	-1.14*
Single target rolled out to next organizational layer		.46***		0.40**
Single target communicated in annual report			0.27**	0.21*
Market beta	0.00	0.01	-0.02	-0.02
Ln(sales); sales in 1000 Dfl	0.04	0.07*	0.04	0.06*
Ln(BVE/MVE); BVE= book value of equity in 1000Dfl,	0.02	-0.02	0.04	-0.00
MVE= market value of equity in 1000 Dfl				
N	33	33	33	33
Adjusted R^2	0.00	0.14	0.04	0.18

The estimation results pertain to less than 36 companies, due to one delisting and two mergers in 1999

Figure 1
Implied relationships between number of targets and value creation by the Accountability Principle, Jensen's argument and the Informativeness Principle



ENDNOTES

[i] Although the value relevance of disclosing all kinds of company information has been subject of study, the disclosure of targets has not yet been studied in the disclosure literature.

[ii] The disclosure of corporate targets is not mandatory. The credibility and value relevance of voluntary disclosure (of targets) is supported both theoretically (e.g. Stocken, 2000) and empirically (e.g. Narayanan, 2000, Botosan and Plumlee, 2002, Miller, 2002).

[iii] First of all, there is a discussion (cf. Biddle et al. 1997) of whether financial measures should be value-oriented and rather complex (e.g. CFROI, EVA, and so on), or whether they can be less complex, more conventional, accounting-oriented (ROI, ROS, EBIT, gross margin and so on). The second discussion on type of targets distinguishes financial and non-financial performance measures (for instance Ittner and Larcker, 1999).

[iv] A qualitative target, for instance "We aim to grow by acquisition" reveals the type of objective of the firm. It is often stated like "we should like to invest in the safety of our employees" or "steering on a higher product quality is important". The accountability pertaining to a qualitative target is likely to be fairly minimal, unlike the accountability pertaining to a quantified target such as "We aim at a 12% growth of the net asset base within 3 years".

[v] The analysis of the 1997 reports is motivated by the fact that this was the most recent year available by the time we started analyzing the annual reports (January, 1999). The choice for 1993 resulted from trading off the advantages of a longer time horizon (more real and implemented changes) against the advantages of a shorter time horizon (smaller effect of selection bias. The potential selection bias due to mergers, acquisitions, bankruptcies, IPO's or delistings is very limited. During the period 1993 to 1997 only a few firms were newly listed on the Amsterdam Stock Exchange and only a small number of firms were no longer quoted. We could find no selection bias in either category.

[vi] The survey was not anonymous in order to be able to link the survey results to company-characteristics, performance and the disclosed targets.

[vii] Reach is a database owned by Elsevier Publishers. It includes all accounting information of Dutch companies that have the legal duty to submit their annual report to the Chambers of Commerce.

[viii] These distinctions have been omitted in the analysis based on survey data, due to the very low number of observations. The survey data analysis is used to verify the significant results arising from the annual reports analysis.

[ix] In spite of the increased use of non-financial measures, balanced scorecards and value driver trees, accounting targets dominate at the corporate level. The advantages of accounting measures are that they capture the bottom line impact of corporate actions and that they allow a comparison of the performance of heterogeneous (sub)divisions in the company. These advantages apparently outweigh the drawback of its ex post character.

[x] One company published a 20%-25% RONA target while internally a 15% RONA target was set.

[xi] As an alternative to examining the value relevance of targets mentioned in annual reports, the announcement effects of targets could be analyzed in an event study. Unfortunately, announcements of

newly set targets do virtually not occur, and if they do occur the event is necessarily mixed with other events since disclosure usually takes place in the annual report.