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## **Contradictory budgeting practice?**

An investigation of how psychological and economic theory explains the budgetary process

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## Abstract

**Title:** Contradictory budgeting practice? – An investigation of how psychological and economic theory explains the budgetary process.

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**Keywords:** budgeting, goal-setting, agency, psychology, economics

**Purpose:** the purpose of this study is to examine how psychological and economic theory explains the budgetary process by identifying and analysing the most significant variables of each perspective.

**Research questions:** will budgeting practice and its outcome be better explained by psychology theory or economic theory?

**Theoretical framework:** the theoretical approach has been to examine two of the most frequently used theories within the area of budgeting, goal-setting theory and agency theory.

**Methodology:** this study takes a quantitative approach based on a survey that was sent to employees that work with, or are affected by, budgets. Propositions were fashioned after the theoretical framework and was statistically tested with nonparametric tests such as Spearman's ranked correlation test, the Mann Whitney U-test and the Kruskal-Wallis test.

**Conclusion:** the study does not find any significant correlation between either goal-setting theory or agency theory with budget performance. Significant correlation is however found between individual variables and budget performance within goal-setting theory. High goal-clarity seems to have a relationship with higher performance. None of the theories seem to fully be able to explain budget performance since none of them seem to comprehend the whole picture of human behaviour in the budgeting process. Agency theory is based on controlling self-serving people, while goal-setting theory has a more optimistic view of people and promotes factors as participation and feedback. To fully explain budget performance, a combined approach could potentially better model how to act in order to increase performance.

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## 1. Introduction and purpose

This paper is structured as follows. Section 1 introduces the topic and provides a background of the research problem. Section 2 builds a theoretical framework based on two theories. Section 3 focuses on the methodology of the paper and the description of the process. Section 4 presents the results that was found. Section 5 discusses the results in relation to the theoretical framework. Finally, section 6 concludes the paper and discusses some of the implications as well as presenting limitations and suggestions for future research.

### 1.1 Background

Management accounting research (MAR) has long used theories from other research disciplines to study and explain management accounting phenomena. The theories have been drawn from behavioural, economics and organizational sciences and have contributed to diversity in the field of MAR (Bromwich & Scapens, 2016). Budgeting is one of the subjects that have been studied using a wide range of theoretical frameworks. It has been made possible to view and study budgeting from different perspectives, but it also means that there are many different assumptions and conclusions that are sometimes contradictory. The behaviour and motivations that drive the *economic(s) man* are widely different from the assumptions found in theories based in psychology and sociology (Covaleski et al, 2006). This has led to a call for an integrated approach to the study of management accounting practice. The argument has been that combining the insights may further the understanding of practice, resolve differences in assumptions and theory as well as lead to a furthering of knowledge concerning budgeting and its effects (Merchant et al., 2003; Covaleski et al., 2006). This paper aims to contribute to the current research by using insights and propositions from two theories, one theory based in economics and one theory based in psychology research, to study whether budgeting practice is better explained by either of the two theories alone or if they reinforce one another. Goal-setting theory is one of the most cited and used theories to explain performance in a goal oriented setting. It has been used in MAR research to understand task performance and what motivates high effort (Birnberg et al., 2006). Agency theory has been one of the most used economics theories in MAR. It has been used to explain problems caused by the separation of ownership and control, dubbed agency problems. In budget research, it has been used to model

contracts, explain incentives and behaviour in budgeting as well as the importance of information in setting appropriate targets.

Both theories have been used to explain budgeting behavior and performance. Information is important to both theories but from different perspectives. Goal-setting theory emphasizes the importance of communication and clarity of information given from management to employee. Agency theory emphasizes differences in information between management and employee and the effects that the differences have on performance and potential problems that might arise from bad information. To study these together could reveal potential interdependencies or connections between the concepts of the two theoretical perspectives and maybe provide a bridging between economics and psychology in MAR and facilitate a better understanding of budgeting.

## 1.2 Research question

Will budgeting practice and its outcome be better explained by psychology theory or economic theory?

## 1.3 Purpose

The purpose of this study is to examine how psychological and economic theory explains the budgetary process by identifying and analysing the most significant variables of each perspective.

## 1.4 Disposition

**Introduction:** this chapter will highlight the importance of the chosen research area by pointing out a demand for using an integrated approach within management accounting. It will describe how budgeting has been examined through individual perspectives that might not suffice in explaining the whole picture of budgeting. This discussion will debouch in a research question and purpose that frames the angle of incidence.

**Theoretical framework:** this chapter will present the two main theoretical perspectives that has been chosen; goal-setting theory and principal agent theory. Both perspectives will be explained and linked to the budgeting process of companies. This chapter will further provide an overview of budgeting from a management accounting point of view. The theoretical framework will lead to a presentation of the propositions of this thesis.

**Method:** this chapter will present the research design of the thesis. It will explain the choices made by referring to methodological literature and previous research. The chapter will provide insight into how data has been collected and how the data has been processed to suit the research question. The chapter is concluded with a discussion of the validity and reliability of the thesis as well as potential sources of error.

**Results:** this chapter will present the findings from each theoretical perspectives' point of view. It will start with descriptive statistics and then present the results that originated from the different statistical methods that was chosen to examine the data.

**Discussion:** this chapter will discuss the results by linking the finding to the previously chosen theoretical frameworks. Each framework will firstly be presented individually and then be followed by a discussion concerning interesting similarities.

**Conclusion:** the final chapter will firstly present a summary of the most relevant findings and then discuss some of the limitations of this thesis as well as providing suggestions for future research.

## 2. Theoretical framework

This chapter focuses on the theoretical framework that has been used to examine the research question. This section first presents a general picture of budgeting. This is followed by an introduction of two main theories on budgeting, in order to look at the topic from two perspectives, the economic and psychologic.

### 2.1 Budgeting

The literature on the role of budgeting as a management tool is vast since it has played a key role within the subject for many decades and has been used in different areas. Wildavsky (1986) defines budgeting as translating financial resources into human purposes. Resources are limited and must thereby be allocated among competing people and purposes in an effective way. A budget system therefore tries to combine the available information with the essential procedures of a company to maintain a well-functional allocation. The main purpose of budgeting is to lead the company towards achieving its goals and evading constraints by exerting control in the organization. By coordinating efforts, avoiding excess use of resources and improving management decisions, budgets are believed to lead to higher profitability (Hofstede, 2012). Hofstede (2012) describes budgeting as having four basic functions; authorizing, forecasting, planning and measuring. Authorization concerns the expenditure of money (resources), forecasting concerns predicting economic key factors, planning concerns the decision-making process of carrying out a certain task and finally measuring management's achievements and the efficiency of their performance.

During the last two decades, the use of budgeting as a tool of control has been a subject of significant debate and criticism. Some criticize budgeting for its ineffectiveness and for being time consuming, leading to less growth and missed out opportunities because of an inflexible way of thinking (Hope & Fraser, 2003). However, there have been some solutions to the issues associated with budgeting such as 'beyond budgeting', which advocates for the abandonment of budgeting to improve the management control process (Hope & Fraser, 2013). Yet, research in countries like Finland, the US and Canada reveals that few companies are prepared to abandon the use of budgets for other management methods (Libby & Lindsay, 2010). These

results indicate that budgeting is still an important function for businesses in spite of large criticism.

Libby & Lindsay (2010) also finds that even though the replacement of budgeting is not considered an alternative for the majority, companies in the US and Canada work to adapt their budget systems on a regular basis. There is still a consensus that budgeting as a management tool has the potential to be useful if appropriately implemented. Since companies are frequently affected by environmental changes as well as internal factors, budgeting is often in the process of evolving to cover such changes. On the other hand, one could argue for the fact that budgeting is better suited for some companies than for those that might place greater importance on flexibility and innovation. These facts are some of the reasons for the extensive literature on budgeting within management accounting that is still a popular research to this date. Libby & Lindsay (2010) conclude that there might not be a universal approach to management control in the form of traditional budgeting or beyond budgeting, but rather that it would be more rewarding to seek deeper understanding of the processes that are the subject of control within companies.

The way researchers portray budgeting differs a lot from what perspective budgeting is being examined from. The three main categories that have been utilized are from the theoretical perspectives of economics, psychology and sociology. The different perspectives propose different advantages, disadvantages and pitfalls with budgeting, but few researchers cover a multidimensional approach (Covaleski et al., 2006). The next sections will present two eminent theories taken from both a psychology and economics perspective.

## 2.2 Psychology and management accounting

Psychology research has provided insight to MAR by including factors that have come to have great influence in the area, such as attitudes, motivation and behaviour. Psychology differs to some extent from other social science research since focus is targeted at an individual level instead of an organizational one. Psychology theory has been of importance in explaining and predicting the effects of management accounting practices for over 60 years. Several eminent researchers have used concepts from psychology research to explain the effects of budgeting, and one of those have come to be known as goal-setting theory (Birnberg et al., 2006).

## 2.3 Goal-setting theory

Goal-setting theory is based on the idea that conscious goals have an impact on actions. Locke & Latham (2002) address the relationship between the conscious performance goals and the

level of task performance. They examine 35 years of empirical research on the subject in order to create a theory of goal-setting and task motivation. Locke & Latham (2002) assume that goals affect performance by one or several of four mechanisms:

Goals direct attention and effort toward goal-relevant activities. High goals can arouse effort to achieve goals. Goals leads to increased effort persistence. Goals affect action indirectly by leading to the arousal, discovery, and/or use of task relevant knowledge and strategies.

According to goal-setting theory, budgeting is not only perceived as a financial plan but also as a device for control, coordination, communication, performance evaluation and motivation. By communicating budgeted goals, top management informs employees what it is expected from them. In return, top management learns about how employees work, problems they encounter and how to accomplish goals. A budget works as a motivational factor since it can be used to distribute rewards or punishment based on how well goals are achieved (Kenis, 1979). Kenis (1979) studies how budgetary goals affect the characteristics of managerial attitudes and performance. He finds four variables which are believed to be linked to performance; budget participation, budget clarity, budget feedback and budget difficulty. The independent variable is referred to as budget performance and is measured on a self-estimated basis. Budgetary goals are considered an important part in improving performance since the process involves communication, expectations and evaluation. However, if the process of budgeting is unfitting for the task, this can lead to a dysfunctional behaviour that affects performance and attitude in negative aspects (Argyris, 1952; Kenis, 1979). The subject of identifying the characteristics within budgeting and its effects has been the main reasons for research.

Budgetary participation refers to the degree to which employees are allowed to be involved in the process of creating budgets and setting goals. The process of assigning goals is analysed by Locke & Latham (2002) by studying participative goal setting. By examining several studies on the topic they find that the relationship between involving people in the process of goal setting and performance is ambiguous. Latham, Erez & Locke (1988) find that the difference between where top managers assign goals and participative goal setting seems to have little to none effect on performance as long as the purpose of the assigned goals is properly explained. This is because participative goal setting is assumed to be linked to cognitive benefits rather than motivational ones. However, if goals are not explained, participative goal setting leads to higher performance.

Budget goal clarity refers to the degree to which employees comprehend their goals. A budget with high goal clarity is specific and clear in order to decrease potential uncertainty among employees in what to do and how to achieve it (Kenis, 1978). Locke & Latham (2002) finds evidence that goal clarity is indirectly related to higher performance, especially in a more difficult task setting. Goal specificity does not certainly lead to increased performance but rather decreases variation in performance by specifying what is to be achieved. This conclusion is drawn out of a context where goal specificity is compared to “do-your-best goals”. “Do-your-best goals” are not found to be as effective since they can consist of a larger range of adequate performance levels (Locke & Latham, 2002). Kenis (1979) also finds a significant relationship between increased goal clarity and higher performance.

Budgetary feedback refers to degree to which employees receive feedback when achieving or failing to reach their goals. In order for goals to be effective, people require feedback that reveals how well they are doing in relation to their goals. When people are given feedback they recognize what they need to achieve and direct their effort to match goals. If they fall behind their goals, people tend to increase effort as a consequence of increased motivation. (Locke & Latham, 2002). This gives guidance, not only for when achieving or failing to reach goals, but also to explain variances in performance (Kenis, 1979). According to goal-setting theory, feedback is a necessary condition for goal difficulty to influence performance since employees needs to know how well they are doing in order to adjust direction of effort. The effect of budgetary feedback on performance is in previous research mixed. Against his predictions, Kenis (1979) finds that feedback has no effect on budget performance. As a response to this, Hirst & Lowy (1990) replicated the study. They found that Kenis approach of using an additive model to explain this relationship was insufficient. While still confirming that feedback (independently) has no effect on performance, they use an interaction model to show that budget goal difficulty and feedback are interacting independent variables that has a positive effect on performance when combined.

Budget goal difficulty concerns how big of a challenge it is to achieve certain budget goals. The counter polls of budget goal difficulty are called loose or tight and can affect the motivation among employees. If goals are too loose and therefore easily accomplished, motivation is believed to have a lower impact on performance. If goals, on the other hand, are tighter and therefore more difficult to accomplish they are believed to lead to higher motivation up to a certain limit where employees feel frustration or meet failure (Kenis, 1979). The literature on

the subject of goal difficulty in a budget context is rather extensive and several studies find dissimilar results.

Kenis (1979), using the additive model, finds no relationship between goal difficulty and performance in his approach. As previously mentioned, Hirst & Lowy (1990) counter this approach by using an interaction model that shows that budget goal feedback and goal difficulty can promote budgetary performance when combined. Atkinson (1958) shows that task difficulty is an important factor that is related to performance. He finds that there is a curvilinear, inverse function that describes how the level of effort increases with tasks of moderate difficulty and decreases with higher or lower levels of task difficulty. In a meta-analysis, Locke & Latham (2002) counter-proof the conclusions of Atkinson (1958) and instead find a positive linear relationship with increasing effort and performance as a result of higher task difficulty. Performance level decreased only when goal commitment was inclining or if the ability to complete tasks was insufficient.

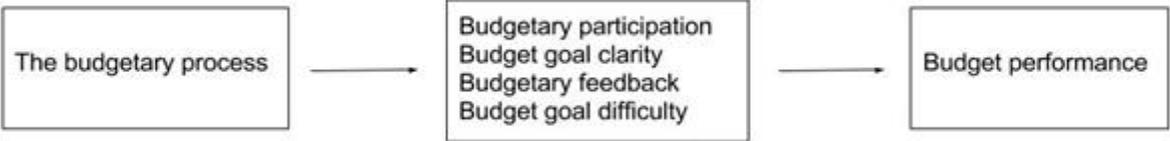


Table 1. Goal-setting theory

2.4 Economics and management accounting

Economics research has been very influential in management accounting research (Mensah et al., 2004). The number of economics based management accounting has declined in later years following its peak during the 1970s and the breakthrough of information- and transaction cost economics (Bromwich & Scapens, 2016).

2.5 Agency Theory

Agency theory views firms as a collection of contracts between one or several principals and one or several agents. The principal is someone who contracts an agent to perform a task, for example an employer who hires an employee. The principal-agent relationship is not restricted to the realm of business but is applicable to any relationship or cooperation where ownership and control is separated (Jensen & Meckling, 1976). The agency problems stem from the assumed differences of interests between the principal and the agent. What is in the best interest

of the principal may not necessarily be in the best interest of the agent. This incongruence can be explained by how agency theory analyses the individual behaviour and preference.

Agency theory has its roots in the early 1970s and is based on developments in the fields of information economics and micro economic theory (Jensen & Meckling, 1976; Lambert, 2001). Agency has since branched out and today it can be said that there exist many different types of agency theory. Baiman (1990) identifies two main fields of agency research, positive and principal-agent theory. Both are based on the same theoretical foundation, assuming rational self-interested individuals striving for maximized utility. The differences lie mainly in research focus. Principal-agent research is focused on theoretical-mathematical models to construct optimal contracts and utility functions in the principal-agent relationship. The positivist research field aims to identify situations and under which agency problems could arise and how to solve them. Both fields have been used to provide the framework for empirical research (Eisenhardt, 1989; Lambert, 2006). The main contribution of agency theory to management accounting research and practice has been to supply models from which optimal performance, incentive systems and compensation plans can be calculated (Bromwich, 2006). Developments in agency theory by Holmström (1979) provided an analytical explanation to why performance measures in budgeting are valuable even if an outcome, e.g. budget outcome, is observable. Performance measures help the principal in determining the effort exerted by the agent. Thus, making it possible to better distinguish to which degree the outcome is due to agent performance or other factors. The use of such performance measures is a method to reduce the information asymmetry between the principal and agent. The agent's private information about the effort exerted to achieve goals becomes available to the principal by means of performance metrics and key performance indicators (Lambert, 2006).

### **2.5.1. The economic man**

Both strands of agency research have similar assumptions of the behaviour and capabilities of individuals. These assumptions apply both to agents and principals and can be summarized as the assumption of the *economic man* (Fama, 1980; Baiman, 1990), whose main source of motivation is the pursuit of wealth and therefore the pursuit of economic self-interest. This assumption can be traced back to Adam Smith who argued that the pursuit of individual self-interest would benefit not only the individual but also society as efficient markets and economies guided by the principle of self-interest and the invisible hand would benefit the society as a whole (Smith, 2005). Individuals are also assumed to prefer leisure over work, and to have the ability to calculate the expected utility of any action (Lambert, 2001; Demski &

Feltham, 1978). In the principal-agent relationship this means that the agent will be able to compare the utility gained from leisure, i.e. not performing a task, to the expected utility of performing the task. To motivate a person to perform a task or a job, it is therefore important to provide financial incentives, i.e. compensation, so as to motivate the agent to act in the interest of the principal (Lambert, 2001). These assumptions on how individuals behave help explain the concepts of information asymmetry and moral hazard which are two of the main issues principals are faced with in agency theory.

### **2.5.2 Risk attitude**

In agency theory, the individual's attitude towards risk is an essential factor, which influences decision-making. This idea is derived from decision theory and theory of expected utility which are both used in economics (Lambert, 2006). This posits that when choosing between alternatives an individual will regard the expected utility of any action available to them and choose the alternative with the highest expected utility. However, agency theory assumes that principals and agents have different attitudes towards risk (Baiman, 1990), and therefore will behave differently when faced with decisions that involve risk. The assumptions can be summarized as follows:

- The principal is risk neutral: this means that the principal does not experience either increased or decreased utility in relation to an increase or decrease in risk. Therefore, the highest expected utility is the preferred option.
- The agent is risk averse: this means that the agent is risk avoidant, willing to sacrifice higher expected wealth in favour of an option with less but certain wealth.

### **2.5.3 Agency problems**

The moral hazard problem and information asymmetry are two of the main problems addressed by agency theory. Information asymmetry occurs when the agent and principal have different access to information. The agent might have better information about his skill-set, the effort him or her exercises and other factors that might influence the outcome. In such a scenario, the agent has private information to which the principal does not have, but would need, access to the budget contract to be optimal (Demski & Feltham, 1978). In a perfect market, all information is available to both the principal and the agent. In such a setting, there would be no need for budgeting contracts and control since that information would be complete and available. In a non-perfect market, where either the agent's skills or effort is unknown or

uncertain, the principal has an endogenous information need, from which the need for management controls such as budgeting arise (Demski & Feltham, 1978).

Moral Hazard addresses the possibility that the agent will not act as agreed or in the interest of the principal but will instead act in his or her own self-interest. This becomes possible if the principal cannot observe the agent's behaviour or effort. To avoid moral hazard problems in budgeting, the principal needs to provide the agent with sufficient incentives, have proper information about the agent's efforts and capabilities and have the possibility to observe the effort of the agent.

Budget slack is an example that contains both moral hazard and information asymmetry. If there is information asymmetry in the budget setting process the agent will have no interest to supply information to the principal. Instead the agent might prefer to induce slack in order to avoid effort. The budget goal might therefore be set too low in regard to what is actually achievable due to the conflicts of interest between the principal and the agent. The solution would be to provide an incentive based contract in order to motivate the agent to perform well (Eisenhardt, 1989).

The process can be described in the following way:

1. The agent and principal agree upon a budget contract.
2. The agent performs a set of actions, thereby providing effort to achieve the budget goals
3. The outcome (x) and performance measures (y) is evaluated.
4. The agent is paid, in accordance with the contract and the observed outcome (x) and performance (y).
5. The principal retains the outcome minus the agent's compensation.

Empirical studies based on insights from agency research has focused on the relationship between budget participation, information asymmetry and slack. Young (1985) found that experiment participants built in slack in their budget targets. The amount of slack was found to be positively related to the risk attitude of the agent. The more risk averse an individual was the higher the level of slack built into the budget. An experiment study by Chow et al (1988) found that a truth inducing budget contract based on rewarding agents for sharing information to set higher budget target goals. This result supports the idea that budget contracts based on economic incentives are useful to control behaviour and information sharing in budget participation contexts where there is high information asymmetry between principals and agents. In a study by Dunk (1993) further support for the relationship between information

asymmetry and slack was found, where low information asymmetry was related to low slack and vice versa. In a survey study by Shields & Young (1993) budget participation and budget incentives had a positive relationship with firm wide performance.

## 2.6 Propositions

The following section will provide a summary of the assumptions of goal-setting and agency theory, which are then formulated to the propositions that are subject of examination.

### 2.6.1 Goal-setting theory

Budgetary participation has no clear relationship with budget performance since it depends on the situation where the participation takes place. If assigned goals are not fully understood by employees, offering a participatory setting can potentially lead to increased performance (Lock & Latham, 2002; Latham, Erez & Locke, 1988). This means that budgetary participation can lead to increased performance when comparable goals in a non-participatory setting are not properly explained. Budget goal clarity is by Lock & Latham (2002) found to lead to decreasing variation in performance, which indirectly affects performance positively. Especially in combination with a more difficult task setting. Kenis (1978) finds a direct relationship between goal clarity and higher performance. This implies that budget goal clarity can lead to increased performance and decreased variation in performance. Budgetary feedback does not lead to increased performance when independently examined. Hirst & Lowy (1990) finds that budgetary feedback and budget goal difficulty are interactive independent variables that leads to increased budget performance when combined. This means that budgetary feedback can lead to increased performance when goal difficulty is set on a high level. Atkinson (1958), Hirst & Lowy (1990) and Locke & Latham (2002) finds that budget goal difficulty has an effect on budget performance in different ways. It either affects performance when combined with budgetary feedback or it independently increases performance up to a certain point. This concludes that budget goal difficulty can lead to increased performance.

### 2.6.2. Agency theory

Although the relationship between performance and incentives is complex in the agency literature, there is a fundamental connection between receiving some financial benefit for exerting effort, so fundamentally budget based incentives will have a positive effect on

performance (Eisenhardt, 1989), even if the budget contract is not optimally constructed (Lambert, 2001). However high performance does not eliminate the possibility that there is considerable slack in the budget, caused by information asymmetry and low information sharing as indicated by Dunk (1993). Therefore, high performance, relative to budget goals might indicate too low set goals, due to slack and moral hazard. Risk aversion also plays into the, as higher difficulty might lead risk averse agents to respond negatively by increasing slack, share less information and perform in a suboptimal manner.

### 2.6.3 Propositions

Based on the theoretical framework, this study will be based on three propositions:

1. *The variables from agency theory can explain budget behavior and performance*
2. *The variables from goal-setting theory can explain budget behavior and performance*

Based on agency theory there should be a link between compensation and satisfaction with compensation and budget performance.

3. *There is a relationship between variables from Agency theory and goal-setting theory*

Both theories have variables that are based on different forms of information and communication in the budget process. Agency problems arising such as slack and moral hazard problems might have connection with goal-setting theory variables such as budget goal difficulty or participation.

### 3. Methodology

The third chapter will describe the strategy that has been chosen to examine the research question. The thesis will take a quantitative approach and data will be collected by issuing a survey. The chapter will cover how the survey has been designed, how respondents have been picked and how the data has been processed. Further, it will discuss the validity and reliability of the thesis, and is concluded with potential sources of error.

#### 3.1 Research design

The purpose of this thesis is to examine what theoretical approach is best suited for explaining performance resulting from the budgetary process within companies. In order to draw such conclusions this study will take a quantitative approach based on a survey that will be sent to employees that are working after or with budgets. The results of the survey will then be used as a basis for analysing the propositions that was previously constructed. The choice of taking a survey-approach to examining the phenomenon is because it is considered a well-functioning way in the context of making comparisons (Hagevi & Viscovi, 2016). It also fits the question at issue and has been used in eminent previous research.

When testing such hypothesizes, it is appropriate to use a quantitative approach. A quantitative approach is a standardized method where respondents are answering the same questions. This simplifies the process of collecting and comparing data between respondents. The research design is characterized by a deductive perspective based on the relationship between theory and research. Deductive theory refers to the way researchers, based on existing knowledge and theory, deduces hypotheses that are then tested against the collected empirical data. This approach is best suited when there are several sources that can be used to assume propositions based on the existing material (Bryman & Bell, 2015). We have found various different research on both theories examined. Much of this research is written from a perspective where budgeting is used to explain the outcome. On the other hand, we have not found research targeted to compare the two different perspectives, or combining them to explain why certain variables are better fitted in a budget-outcome context.

We have chosen to use a cross-sectional design, meaning that the study will analyse data gathered from a group of individuals at a specific point in time. This design has been chosen in order to examine the effects of independent variables upon a dependent variable of interest (Bryman & Bell, 2015).

### 3.2 Data acquisition

During the process of acquiring information on the subject, we used search engines like Lubsearch and Google Scholar to find what previous research had already established. We found a need for comparing and combining different perspectives on the subject of budgeting. By using keywords as budgeting, goal-setting theory and principal agent in the above mentioned databases we examined secondary data and built a solid theoretical framework based on previous research articles. This was complemented with books and articles that described preferable ways of designing a study of this character. The primary data was collected from the respondents of the survey. Before the survey was sent out to the respondents, a pilot-study was sent out to a smaller group of respondents in order to make sure it was easily interpretable by non-professionals in the area of budgeting. The survey was then somewhat revised to better suit the prospective respondents.

### 3.3 Selection of companies and respondents

The survey was sent to employees working at a larger number of companies operating in different branches. The reason for picking such respondents is the opportunity to capture a wider range in order to make implications for the greater population. The employees that were given the opportunity to answer the survey was employees that operated after a budget in their line of work. In the course of choosing respondents, we contacted 64 employees that fitted the criteria of this study. These respondents were contacted via email, phone and social media such as Facebook. Out of the 64 employees, we received 33 responses which concluded a response rate of 52%.

The sample of the study was not chosen by the process of simple random selection. A convenience sample is used since there is no conceivable technique for identifying every member of the population that is being examined. Instead, respondents have been chosen after pre-set criteria. We acknowledge the fact that using a non-probability sample will have an impact on the generalizability of this study and therefore choose to interpret the result as indicators (Lundahl & Skärvad, 1999; Van der Stede et al, 2006). The respondents that was contacted was in many cases chosen because of availability. It is important to consider this fact since the result can be affected by such a method (Bryman & Bell, 2015).

### 3.4 Survey and variables

The variables that are examined are believed to have an effect on the outcome of the budgetary process and have previously been established and used in eminent research. One of the reasons

for using existing variables is because the cause and effect relationship has already been established. Seeing as the results will be analysed with mathematical methods for proving statistical significance, this study will not be concerned with the common problem of separating cause and effect relationships with statistical significance. Based on the variables that were identified and considered central, the survey questions were formulated in order to collect primary data. The respondents were sent a survey consisting 15 questions which was estimated to take four to six minutes to answer. In the process of designing the survey, the number of questions and the length of the questions was balanced against how time-consuming the survey would be to answer and the number of responses that was estimated. With a greater number of responses, the statistical certainty is of greater quality (Lundahl & Skärvad, 1999).

The purpose of a survey is to collect data with a standardized approach, meaning that every respondent will answer the same questions. The preferable way of conducting a survey would be if all respondents also answered the questions under similar circumstances. The survey was created with Google forms and was distributed via email, so there is no opportunity to control such circumstances. However, by using email the respondent can themselves chose the time and place and are therefore believed to answer the survey in a comfortable state. When respondents are asked the same questions under the same circumstances, the results are believed to be of superior quality for the upcoming quantitative processing and analysis (Lundahl & Skärvad, 1999).

The survey is mostly based on closed questions with predetermined response categories on a scale from one to seven, where the middle option provide the respondents with a neutral choice. This type of Likert scale is optimal to use when the purpose is to capture the opinion of the respondents (Hagevi & Viscovi, 2016; Krosnick & Presser, 2010). With closed response options, the statistical processing will be straightforward and simplify comparison between respondents. The survey also contained one open question in order to capture data that would otherwise been lost. The questions of the survey were, when possible, taken from previous research (see appendix for a full presentation of the survey). By replicating already used questions we make sure to utilize what previous research has already established in order to capture the relevant variables. This also opens up the possibility of comparing results with previous research (Hagevi & Viscovi, 2016; Krosnick & Presser, 2010). The survey does not contain questions of a sensitive nature, but we have still chosen to give every respondent the opportunity of anonymity to collect a greater quantity of answers as well as more honest answers (Andersson & Halvorsen, 1992).

### **3.4.1 The variables of goal-setting theory**

To measure the effects of goal-setting theory, questions from Kenis (1978) study was replicated. The questionnaire of Kenis (1978) was more extensive and our assessment based on the scope of this study was that choosing one question per variable was appropriate. Seeing as the questions used have already been subject to thorough analysis, we saw no need in the operationalization of new questions to measure the chosen variables. The variables are expected to be linked to performance and a short explanation of each will be presented below.

#### ***Budgetary participation***

Budgetary participation was measured with the statement “I am allowed a high degree of influence in the determination of my budget goals”. This variable is intended to measure to what degree employees are involved in the process of setting budget goals. Budget participation is believed to lead to increased performance when goals are not fully understood by employees.

#### ***Budget goal difficulty***

Budget goal difficulty was measured with “My budget goals are quite difficult to attain”. This variable measures to what degree employees interpret their existing goals as difficult or easy to accomplish. Budget goal difficulty is believed to lead to increased performance if combined with feedback. Independently examined, difficulty leads to performance only up to a certain point. Seeing as the relationship between difficulty and performance seems to be highly affected by other factors, we also chose to reverse the budget goal difficulty variable into a new variable. The new variable, named budget goal easy, that was created consists of the same data but the scale has been reversed so that a higher answer on the Likert scale now represents easier goals instead of the opposite.

#### ***Budgetary feedback***

Budgetary feedback was measured with “I receive a considerable amount of feedback about my achievements concerning by budget goals”. This variable measures the degree to which employees receive feedback in their work of achieving goals in their budgets. Budgetary feedback is believed to lead to increased performance if the level of difficulty is high.

#### ***Budget goal clarity***

Budget goal clarity was measured with “My budget goals are very clear and specific”. I know exactly what my budget goals are”. This variable intends to measure to what degree employees comprehend their goals. Meaning if the budget and the goals linked to budgeting is easily

interpreted by employees. Budget goal clarity is believed to lead to increased performance and decreased variation in performance.

#### ***The combined goal-setting theory variable***

A variable consisting of the average of all the above mentioned variables was also merged into a new variable. It was created in two versions, one including the budget goal difficulty variable and one including the budget goal easy variable.

### **2.4.2 The variables of the principal agent theory**

#### ***Budget based economic incentives***

For the agent to exert sufficient effort, agency theory poses that some form of economic incentive or compensation must be available to the agent. This variable measure whether there are any economic compensation tied to budget performance. The statement is based on a question used by Shields & Young (1993) to measure incentives: “I receive economic compensation based upon my fulfillment of budget goals”.

#### ***Incentive driven***

This variable is intended to measure the extent to which the respondent is motivated by economic incentives. The primacy of economic incentives to motivate effort and performance is a central part of agency theory (Demski & Feltham, 1978). The statement “In my work I become increasingly motivated to perform if my performance increases my economic compensation”.

#### ***Economic satisfaction***

If the agent is satisfied with his or her economic compensation he or she will exert higher effort to achieve budget goals (Demski & Feltham, 1978; Eisenhardt, 1989). Thus, this variable is intended to measure how the level of satisfaction among the respondents of the survey. The statement that is used is: “I am satisfied with my economic compensation”.

#### ***Risk attitude***

This variable measures the risk attitude of the respondents. The statement used in the survey is a translation and interpretation of a question previously used in survey research on risk behavior by Wärneryd (1996): “I prefer investments with lower but certain return to investments that are potentially more profitable but with higher risk”.

### ***Information asymmetry***

This variable is the information asymmetry between the agent and the principal. According to agency theory information asymmetry gives rise to slack and dysfunctional behavior from the agent, which in turn has detrimental effects on performance and budget effort. The statement is a translation and adaptation of a question used by Dunk (1993): “I have superior information compared to my superiors regarding how close my budget goals are to my performance capacity limit”.

### ***Information sharing***

This variable measures the degree to which the agent communicates information to the principle. One of the positive effects of a functional budgeting process according to agency theory is the flow of valuable information from the agent to the principle. This is indicative of low agency problems, and is a variable that is based on Chow et al (1988) and Dunk (1993) and is stated: “In the budget process I share information to my superiors regarding how my budget goals corresponds to my performance capacity”.

### ***The combined agency theory variable***

Mimics the combined goal-setting theory variable in that it combined and averaged the agency theory variables to examine if the combined variable better correlated with budget performance or any other variables.

### **3.4.3 The dependent variable of performance**

The dependent variable used in this thesis is also replicated from the research of Kenis (1978). It is self-estimated and measured with the following statement: “I reach my budget goals”. The variable is intended to measure the performance of each respondent. Performance have been operationalized and defined similarly in studies based on agency theory (e.g Shields & Young, 1993).

### **3.4.4 Other variables**

#### **Gender of respondents**

The respondents were asked to state their gender. This question is asked to examine if the respondents are evenly distributed between sexes and that the sample replicates the population.

#### **Age of respondents**

The respondents were asked to state their age. As for gender, this question is also meant to examine if there is an even distribution that replicates the population. With increased age there

could potentially be differences in the type of work and position at the work place of the respondents.

### **Top-down/Bottom-up budgeting**

The respondents were asked to make a general classification of the budget process in their organizations in top-down or bottom-up budgeting. This was to conclude if the hierarchical structure of budgeting would have any impact on the results. If the respondents set their own budget goals that might have an effect on the difficulty as well as reflect differences in information.

### **3.5 Data processing**

Since the survey used in this study generate ordinal discrete data, the appropriate statistical test to use are nonparametric tests. These types of tests have been frequently used to analyse the results from surveys that yield non-continuous data (Newbold et al., 2012). Another reason to use nonparametric tests is that they do not require the assumption of normally distributed data. Furthermore, these tests are appropriate when there is little available data to analyze, which is the case for this study which has a total of 33 responses. Spearman's ranked correlation test was used to investigate the relationships, correlation, between the studied variables. The Mann Whitney U-test, which is also a rank test, was further used to test groups of respondents based on categorical variables such as gender, if the respondents had budget based incentives or top-down bottom-up budget processes. The Kruskal-Wallis test, a test where more than two categories can be examined, e.g "Top-down/Bottom-up budgeting" which had three categories, was considered. However, since the data was insufficient, only one respondent was found in the bottom-up category of the test, and the one observation, was discarded in favor of the Mann Whitney U-test. The tests were chosen after their appropriateness based on the gathered data and that they could explore and test the propositions of the study. The tests were performed in the software package SPSS and the output was then processed into tables in excel and later migrated to the report.

### **3.6 Measurement of variables**

One of the most central criteria in research is validity. It is an assessment of whether the results obtained in a study meets the requirement of the research method. Validity can be divided into external, internal and construct validity.

### **3.6.1 Internal validity**

Internal validity determines the confidence that can be placed on a cause and effect relationship. Therefore, it is important to question if there are any alternative causes that may explain the observations being made (Bryman & Bell, 2015; Lundahl & Skärvad, 1999; Van der Stede et al., 2006). A way of increasing the internal validity is to assess confounding variables in order to control or eliminate those from the study. These variables can also be called a mediator variable and affects the relationship between the independent variable and the dependent variable. This can potentially lead to false correlation between variables and therefore have an impact on the analysis of the results (Schlesselman, 1978). To eliminate these variables when examining such a broad spectrum is difficult. In this study, variables that are in previous research already proven to be of importance are chosen. This is expected to increase the internal validity of the study since many of the examined constructs are already operationalized into variables.

### **3.6.2 Construct validity**

Construct validity concerns the question whether a measure of a concept actually measures what it is intended to measure (Bryman & Bell, 2015; Van der Stede et al., 2006). By basing this study on the results of a survey this becomes especially important since the measures involve a great deal of subjectivity. Again, this is to the uttermost limit controlled by using variables that has already been established in previous research. However, the survey questions related to each of the variables are in some cases self-constructed. To control the effects of construct validity, each construct will be examined and well-defined before being put into context. The construct validity was tested by executing a minor pilot-study of the survey before sending it out to the respondents. This is important since there are no interviewers to report potential problems with the questions when distributing a survey via email (Van der Stede et al., 2006). When executing a survey study there are several factors that can have an effect on the validity. Evaluation apprehension concerns the fact that respondents may act differently when under pressure and provide answers that are false (Rosenberg, 1965). By giving each of the participants the opportunity to be anonymous and by sending out the survey via email where there is no pressuring time limit, the results are believed to carry little effect from evaluation apprehension. Another positive effect with letting respondents provide their answers via a Google form is that this excludes potential effects from researcher expectancies and bias, as the respondents will have no such influence during the survey.

### 3.6.3 External validity

External validity is concerned with the possibility of generalizing the results of a study, meaning if the results are valid outside of the specific context that is being examined. In order for the results to be taken seriously any research design must justify the choices made (Bryman & Bell, 2015; Lundahl & Skärvad, 1999). Seeing as the process of budgeting differs considerably between companies it is most difficult to maintain external validity. There are countless of factors that affect budgets both within and between companies. Examples of these factors are the reasons behind budgeting, the people involved in the process, how the company is governed and the overall goals of budgeting to name a few. Seeing as these differences are so many, the external validity of any study examining budgeting can be questioned. This is due to the fact that the sample that has been chosen is considered a convenience sample. Due to a limited timeframe, we do not intend for the results to be generalizable to the whole population but rather to open up an area of research that has previously been overlooked, and provide different stakeholders with indications. The purpose of this study is to examine what theoretical perspective that better explains the process of budgeting. In order to achieve a higher degree of external validity and to provide conclusions that can be extended to make predictions about the entire population, more respondents are called for. Because of the narrow timeframe, this study will not be able to cover the full spectra of potential respondents. Although the sample size can be considered relatively small, our emphasis has been placed on picking a fewer number of employees that are spread across different branches and companies.

### 3.7 Reliability

The reliability of a study is concerned with if the results would be the same if replicated. If the result is affected by coincidence the study is not considered to have produced reliable results. When taking a quantitative approach, the question about reliability becomes central since a major concern is to assess if the measures used are stable (Bryman & Bell, 2015; Lundahl & Skärvad, 1999). This study clearly describes the data acquisition process and how the data has been processed, thanks to which the reliability is expected to be satisfactory. Although seeing as the results are based on a survey where respondents subjectively assess questions, there is still reason for concern about future attempts to replicate the results. This matter is somewhat out of the grasp of the researchers since random influences cannot be controlled. The variables used are, as previously mentioned, already established and the propositions are based on the findings of several other researchers. Seeing as the reliability of the expected relationships has already been confirmed, the difficulty instead lies in operationalizing these variables into survey

questions. The questions in a survey can be referred to as instruments for measuring a certain variable, and need to give an accurate result which shows consistency when replicated. In order to achieve high internal reliability, researchers repeat the experiment on the same and different samples, but because of lack of time this test-retest method is not within the scope of this study. There will always be some disparities when examining a phenomenon within the realm of social science because of random factors and natural fluctuation (Hagevi & Viscovi, 2016).

### 3.8 Methodological considerations

A potential source of error due to the survey approach can arise if the respondents give untruthful answers. This may be a consequence because employees are afraid of criticizing the company and its leadership. Respondents may also have been affected by time pressure and therefore answered the survey without greater consideration. This can have an effect on both internal and external validity, and reliability (Lundahl & Skärvad, 1999). A problem with using a Likert scale in the survey is related to acquiescence. Respondents have a tendency of providing positive answers that they believe the researchers wants to obtain (Hagevi & Viscovi, 2016). To a great extent, this has been covered by offering respondents anonymity and the possibility to finish the survey at a time of their own liking, but it is still important to consider.

Another potential source of error was discovered before the survey was sent to the respondents. During the process of the pilot-study, we realized that some of the respondents had issues with interpreting some of the questions. In order to hedge for the risk of receiving answers for questions that was not fully understood, we revised some questions in order to make it easier to understand.

As previously discussed, the response rate was 52%. According to Van der Stede et al. (2006), a response rate between 75% and 90% usually provides reliable results and should be regarded with caution if below 50%. This can potentially have a negative effect on the external validity of the study since a low response rate can produce biased samples. To achieve a higher response rate, researchers can employ follow-up procedures. In the case of this study this is not considered due to the narrow timeframe.

The survey is based on a subjective measurement of performance. This does not necessarily mean that it is to be viewed as a poor indicator of performance compared to objective measures, but should still be taken into consideration. It could potentially have an effect on the reliability of the study (Van der Stede et al., 2006). The effect is considered to be small as previous research on the area also utilizes subjective measures of performance.

## 4. Results

The fourth chapter will present the findings from the statistical methods chosen, starting with descriptive statistics for the respondents. This chapter will then present the findings for each theoretical perspective by exhibiting charts for correlation between variables. The chapter will be concluded with a presentation of the results of the Mann-Whitney tests.

### 4.1 Descriptive statistics

The survey was answered by 33 respondents and all the responses was fully completed, which means that there was no loss of respondents due to incomplete surveys.

#### *Age of respondents*

	N	Minimum	Maximum	Mean	Std. Deviation
2. Age	33	23	60	33,70	12,246
Valid N (listwise)	33				

The survey was answered by 33 respondents whose age differed between 23 and 60 years old. The mean of the age of the respondents was close to 34 years old.

#### *Gender of respondents*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Woman	14	42,4	42,4	42,4
	Man	19	57,6	57,6	100,0
	Total	33	100,0	100,0	

Of the 33 respondents, 14 (57,6%) were men and 19 (42,4%) were women. This shows that the gender distribution was relatively spread between sexes.

### ***Bottom-up / Top-down***

		Frequency	Percent	Valid Percent	Cumulative Percent
<i>Valid</i>	Bottom Up	1	3,0	3,0	3,0
	Mixed	8	24,2	24,2	27,3
	Top-Down	24	72,7	72,7	100,0
	Total	33	100,0	100,0	

The question about how budget goals are determined in the companies reveals that most of the respondents (72,7%) are given goals that are assigned by top-management. Few of the respondents (3%) are allowed to determine their goals by their selves and 24,2% decide their budget goals together with top-management.

### **4.2 Goal-setting**

The responses reveal a relatively small spread in the results of the survey. The standard deviation is similar for the variables that measure budget participation, budget feedback and budget goal clarity. Budget goal difficulty shows a lower standard deviation. The mean is similar for each of the variables and varies above four.

### ***Descriptive Statistics***

	N	Minimum	Maximum	Mean	Std. Deviation
<i>Budget Participation</i>	33	1,0	7,0	4,364	1,7106
<i>Budget Goal Difficulty</i>	33	2,0	7,0	4,030	1,2621
<i>Budgetary Feedback</i>	33	1,0	7,0	4,182	1,6669
<i>Budget Goal Clarity</i>	33	1,0	7,0	4,606	1,6572
<i>Valid N (listwise)</i>	33				

## Correlation

			Budget Participation	Budget Goal Difficulty	Budgetary Feedback	Budget Goal Clarity	Budget Performance	Goal Setting
Spearman's rho	Budget Participation	Correlation	1	-0,033	-0,018	0,047	-0,074	,467**
		Sig.	.	0,855	0,921	0,795	0,682	0,006
		N	33	33	33	33	33	33
	Budget Goal Difficulty	Correlation	-0,033	1	0,096	-0,079	-0,135	,363*
		Sig.	0,855	.	0,595	0,663	0,455	0,038
		N	33	33	33	33	33	33
	Budgetary Feedback	Correlation	-0,018	0,096	1	,446**	0,343	,703**
		Sig.	0,921	0,595	.	0,009	0,051	0
		N	33	33	33	33	33	33
	Budget Goal Clarity	Correlation	0,047	-0,079	,446**	1	,391*	,641**
		Sig.	0,795	0,663	0,009	.	0,024	0
		N	33	33	33	33	33	33
	Budget Performance	Correlation	-0,074	-0,135	0,343	,391*	1	0,245
		Sig.	0,682	0,455	0,051	0,024	.	0,17
		N	33	33	33	33	33	33
	Goal Setting	Correlation	,467**	,363*	,703**	,641**	0,245	1
		Sig.	0,006	0,038	0	0	0,17	.
		N	33	33	33	33	33	33

When examining how the independent variables correlate to the dependent variable the results display one variable that has a significant correlation at a 0.05 level, while the rest shows no significance.

The variable that is measuring budget participation displays a negative relationship with performance but at with a p-value of 0,682. Meaning there is no statistical significance.

Budget goal difficulty also shows a negative relationship without significance with a p-value of 0,455.

Budgetary feedback shows a relatively high positive relationship with performance, with a correlation coefficient that equals to 0,343. The p-value is 0,051, meaning that the variable is very close to statistical significance at a 5% level.

Budget goal clarity also shows a high positive relationship with performance, with a correlation coefficient that equals to 0,391. The p-value is 0,024, which shows that the relationship is of statistical significance at a 5% level. The correlation also reveals a relationship between budget goal clarity and budgetary feedback. The variables have a positive relationship with a correlation coefficient of 0,446 and a p-value of 0,009. This result is significant at a 1% level and thus indicates that they are connected.

The merged variable which represents the average overall variable for the goal-setting theory (including the budget goal difficulty variable) shows no significance with performance with a correlation coefficient of 0,245 and a p-value of 0,170.

**Correlation**

		Budget Performance	Goalsetting easy	Budget Participation	Budgetary Feedback	Budget Goal Clarity	Budget Goal easy
Goalsetting easy	Correlation	,359*	1	,447**	,646**	,704**	0,312
	Sig.	0,04	.	0,009	0	0	0,077
	N	33	33	33	33	33	33
Budget Goal easy	Correlation	0,135	0,312	0,033	-0,096	0,079	1
	Sig.	0,455	0,077	0,855	0,595	0,663	.
	N	33	33	33	33	33	33

When examining the reversed variable of budget goal difficulty that is called budget goal easy, the results show no significant correlation with either performance or the other variables. Although when the merged overall average variable of goal-setting theory includes budget goal easy instead of difficulty the results indicates a significant relationship between the goal-setting

theory and performance. The results display a correlation coefficient of 0,359 with a p-value of 0,40.

### 4.3 Agency theory

The variables from agency theory have median and mean values that are relatively high, ranging from 4 to 6 out of the possible maximum of 7.

The variables Incentive driven and Risk aversion both have median values of 6, which is high considering the maximum possible value of 7. The variable incentive driven shows the highest median and mean values at the same time having the lowest standard deviation of 1,1315 of the variables. The low standard deviation is indicative of a relatively low spread in answers between the respondents. The economic satisfaction variable shows lower median and mean values while having the second lowest standard deviation of 1,2371. The two information related variables, information sharing and information asymmetry both have the highest range between answers, between 1 and 7 but with information asymmetry having a higher standard deviation as well as having a higher mean and median value.

### Descriptive Statistics

	<i>Incentive Driven</i>	<i>Economic Satisfaction</i>	<i>Risk Aversion</i>	<i>Information Asymmetry</i>	<i>Information Sharing</i>
<i>N</i>	33	33	33	33	33
<i>Mean</i>	6,03	4,303	5	4,727	4,333
<i>Std. Error of Mean</i>	0,197	0,2153	0,2752	0,2863	0,2289
<i>Median</i>	6	4	6	5	4
<i>Std. Deviation</i>	1,1315	1,2371	1,5811	1,6446	1,315
<i>Variance</i>	1,28	1,53	2,5	2,705	1,729
<i>Range</i>	4	4	5	6	6
<i>Minimum</i>	3	3	2	1	1
<i>Maximum</i>	7	7	7	7	7

## Correlation

<i>Spearman's rho</i>		<i>Incentive Driven</i>	<i>Economic Satisfaction</i>	<i>Risk Aversion</i>	<i>Information Asymmetry</i>	<i>Information Sharing</i>	<i>Budget performance</i>
<i>Incentive Driven</i>	Correlation	1,000	,288	-,222	,208	,183	,034
	Sig.		,104	,214	,245	,307	,853
	N	33	33	33	33	33	33
<i>Economic Satisfaction</i>	Correlation	,288	1,000	-,112	-,088	,320	,095
	Sig.	,104		,534	,626	,070	,598
	N	33	33	33	33	33	33
<i>Risk Aversion</i>	Correlation	-,222	-,112	1,000	,122	,057	-,004
	Sig.	,214	,534		,501	,752	,982
	N	33	33	33	33	33	33
<i>Information Asymmetry</i>	Correlation	,208	-,088	,122	1,000	,169	,126
	Sig.	,245	,626	,501		,347	,484
	N	33	33	33	33	33	33
<i>Information Sharing</i>	Correlation	,183	,320	,057	,169	1,000	-,150
	Sig.	,307	,070	,752	,347		,404
	N	33	33	33	33	33	33
<i>Budget performance.</i>	Correlation	,034	,095	-,004	,126	-,150	1,000
	Sig.	,853	,598	,982	,484	,404	
	N	33	33	33	33	33	33

The results do not show a significant correlation between any of the agency theory variables and budget performance. Thus, the proposition that agency theory can explain budget performance is not supported by the results from this test.

No other significant results were found between the agency variables. One correlation was close to being significant at the 5% level. Economic satisfaction and information sharing has a correlation coefficient of 0,320 which would be significant at the 7% level. The correlation would point to a relationship between being satisfied with economic compensation and the willingness to share information in the budget process.

Two of the agency theory variables showed significant correlations with variables from goal-setting theory. Information asymmetry and budget goal clarity have a correlation coefficient of 0,368 which is significant at the 5% level.

**Correlation**

*Budget Goal Clarity*

<i>Information Asymmetry</i>	Correlation	,368*
	Sig.	,035
	N	33

Economic satisfaction and budgetary feedback have a correlation coefficient of 0,347 with a significance at the 5% level.

**Correlation**

*Budgetary Feedback*

<i>Economic Satisfaction</i>	Correlation	,347*
	Sig.	,048
	N	33

These two results indicate connections between the two theories which in part can be said to support proposition 3, that there are connections between the variables of the two theories.

**4.4 Mann Whitney U-test**

The Mann Whitney U-test was used to test whether there was a significant difference in answers between groups of respondents. The first grouping variable that was tested was budget based incentives, in order to see if having an economic compensation tied to achieving the budget goal had any significant impact, corresponding to a significant difference in ranks between the two groups.

<i>Grouping Variable: Budget based incentives</i>	<i>Budget Participation</i>	<i>Budget Goal Difficulty</i>	<i>Budgetary Feedback</i>	<i>Budget Goal Clarity</i>	<i>Incentive Driven</i>	<i>Economic Satisfaction</i>	<i>Risk Aversion</i>	<i>Information Asymmetry</i>	<i>Information Sharing</i>	<i>Budget performance</i>
<i>Mann-Whitney U</i>	52,500	76,000	85,000	79,000	<b>37,000</b>	89,000	86,500	64,500	81,000	76,000
<i>Wilcoxon W</i>	403,500	104,000	436,000	107,000	388,000	117,000	114,500	415,500	432,000	427,000
<i>Z</i>	-1,725	-,688	-,270	-,539	-2,530	-,091	-,206	-1,195	-,453	-,689
<i>Asymp. Sig.</i>	,085	,492	,787	,590	<b>,011</b>	,927	,837	,232	,651	,491
<i>Exact Sig.</i>	,090 <sup>b</sup>	,531 <sup>b</sup>	,813 <sup>b</sup>	,620 <sup>b</sup>	<b>,016<sup>b</sup></b>	,949 <sup>b</sup>	,846 <sup>b</sup>	,249 <sup>b</sup>	,682 <sup>b</sup>	,531 <sup>b</sup>

The results show that there was one case where the null-hypothesis (that there was no significant difference) could be discarded. The respondents who worked with budgets that had some form of economic compensation showed a significantly higher degree of being economically motivated/Incentive driven. The result showed to be significant at 1,6% level, exceeding the 5% level, with a U-score of 37. The mean rank for the group without incentives was 14,92 while it was 24,71 for the group that had incentives tied to the budget. The test revealed that respondents who had budget based incentives also had more budget participation, although not significantly so. The mean rank for budget participation was 22,5 for those with budget based incentives versus 15,52 for those without, with a significance level of 9%. There was no significant impact on budget performance which points against proposition 1, which in line with agency theory posits that budget based incentives are important to motivate performance.

Another test was conducted with gender as a grouping variable to see if there were any significant differences between respondents based on their gender identity. This test rendered no significant results.

A test was conducted to study if those of the respondents who had reported high scores of either a 6 or a 7 on budget performance differed significantly from the other respondents, with a score of 5 or lower. For this a binary variable was created that grouped those that answered 6 or 7 together into one category and the other respondents into one category.

Grouping variable:	Budget Participation	Budget Goal Difficulty	Budgetary Feedback	Budget Goal Clarity	Incentive Driven	Economic Satisfaction	Risk Aversion	Information Asymmetry	Information Sharing
Mann-Whitney U	127,500	115,500	77,000	74,000	127,000	121,000	112,000	101,000	113,500
Wilcoxon W	218,500	206,500	287,000	284,000	337,000	331,000	322,000	311,000	204,500
Z	-,094	-,556	-1,992	-2,106	-,118	-,343	-,688	-1,094	-,625
Asymp. Sig.	,925	,578	<b>,046</b>	<b>,035</b>	,906	,731	,491	,274	,532
Exact Sig.	,928 <sup>b</sup>	,598 <sup>b</sup>	,052 <sup>b</sup>	,040 <sup>b</sup>	,928 <sup>b</sup>	,758 <sup>b</sup>	,524 <sup>b</sup>	,298 <sup>b</sup>	,548 <sup>b</sup>

The results from this test closely resembles the result from the correlation test, where budget goal clarity and budgetary feedback had close correlations with budget performance. The mean

rank for high performers was significantly higher at 21,31 versus 14,20. This test reaffirms the significant relationship between budget goal clarity and budget performance, and show that budgetary feedback and high budget performance have a close to significant relationship. The mean rank for high performers was 21,08 compared to 14,35 for the non-high performers.

## 5. Analysis

The following section will examine how the results are linked to the theoretical framework and the propositions that was previously constructed, as well as any other implications for budgeting.

### 5.1 Goal-setting theory

Budgetary participation has a negative relationship with performance but displays no significant correlation with budget performance. This is somewhat supported by previous research which shows that the effect of the variable is dependent on how clearly goals are presented by top-management. This could potentially imply that the workplaces of the respondents that have been examined have a well-functioning process when it comes to setting informative and well described goals. Previous research has not thoroughly examined the relationship between the variables of goal clarity and budgetary participation but still implies that coherent and understandable goals have an effect on how participation affects budget performance. The descriptive statistics shows budget goal clarity as having the highest mean value in the survey compared to the other variables examined within goal-setting theory. According to what has previously been presented this could theoretically be one of the reasons of why budgetary participation seems to have no impact on budget performance.

Budget goal difficulty shows no significant relationship with budget performance. Previous research is ambivalent in its effect but mostly shows a positive relationship. Some researchers suggest that goal difficulty only has a positive effect up to a certain level and then decreases when the level of difficulty makes budget goals unachievable for employees. Other research indicates that the positive effect only prevails when budget goal difficulty is combined with budgetary feedback. The mean value of budget goal difficulty in the survey is 4,0, which means that the average respondent considers their goals neither as difficult or easy to accomplish. In this case, this could explain why there seem to be no relationship with budget performance. Other research suggest that budget goal difficulty must be combined with budget feedback in order to have a positive effect on budget performance. The results of this thesis does not validate these findings. Budgetary feedback comes very close to showing a significant positive relationship with budget performance but shows no relationship with budget goal difficulty. The reversed variable of budget goal difficulty also shows no relationship to either budget performance or budgetary feedback, which is expected granted the reasoning presented above.

Budgetary feedback shows a positive correlation with budget performance that comes close to a significant level with a p-value of 0, 51. Previous research indicates that feedback has no effect on budgetary performance when examined individually but needs to be combined with higher budget goal difficulty in order to have an effect. The results demonstrate that the respondents budget goal difficulty is not considered high with a mean of 4,0 on the scale. Seeing as using an interactive model to examine these two variables lies outside the scope of this thesis, this cannot be confirmed. Instead, the results show that that budgetary feedback could potentially be an important factor in improving budget performance. This seems reasonable since budgetary feedback can be used to direct employee attention to what is really important in order to achieve goals. Without feedback being present in workplaces, employees might focus on the wrong tasks and fail to consider new approaches to problems that might be occurring in their line of work.

The results show a positive significant correlation between budget goal clarity and budget performance. This is supported by previous research which also finds that budget performance is increased due to both higher performance and lowered variance in performance. This finding was expected since budget goal clarity can be used as a tool to decrease uncertainty. If employees fail to understand what goals they need to achieve it is not unexpected if they fail to meet them, therefore having an effect on performance. Previous research compare specificity in goals with “do-your-best goals” when drawing such conclusions. When employees are given the option to perform at a self-estimated level they might lose motivation since they have a larger variety of goal-levels to choose from that is still considered satisfactory in the eyes of the employee. The results also show a significant positive relationship on a 1% level between budget goal clarity and budgetary feedback. This relationship has not been previously discovered or handled by the literature that has been examined, but budgetary feedback and budget goal clarity is quite similarly described in the literature. The main purpose for them both is to provide employees with sufficient information about their goals. Budgetary feedback is focused on how to achieve goals and budget goal clarity is more focused on what to achieve. It is difficult to determine the cause of this relationship. One suggestion is that budgetary feedback from supervisors might include better information about goals and therefore strengthen budget goal clarity among employees.

As for the merged variable for goal-setting theory, no significant correlation with increased budget performance was found. Previous research has not examined the combination of variables in goal-setting theory but since this thesis compares two different theoretical

frameworks, such an approach could potentially be useful. The correlation coefficient shows a positive correlation between goal-setting theory and performance, but because of its' p-value of 0,17 no legitimate conclusions can be drawn. A very interesting finding on the other hand, is that when the goal-setting variable is constructed with the budget goal easy variable instead of budget goal difficulty, the results shows a correlation coefficient of 0,359 that is significant on a 5 % level. This means that a positive relationship is found between goal-setting theory and budget performance when the survey question is reversed. When examining the budget goal easy variable independently, there is no significant correlation with budget performance though. This might suggest interacting variables that act in different ways then what previous research has found. When looking at goal-setting theory as a whole to explain performance in companies, a lower difficulty level might be favourable when it is combined with the other factors that are being examined in this thesis, but not when used as a way of increasing performance independently. It is problematic to draw conclusions of how goal difficulty works in a practical context. In one way, a lower level of difficulty could make goals easier to reach and therefore increase performance, seeing as the measurement of performance is based on a self-determined variable of how employees consider their performance. On the other hand, some literature suggests that higher difficulty is needed to motivate employees and that they would perform better because of the pressure that is being laid on them. This could in fact depend on the choice of measurement for performance. If the correlation would instead be based on a measurement of performance that is linked to actual objective accomplishment within the employees' line or work, the results could potentially be different.

## 5.2 Agency theory

The results of this study were not able to support the proposition that agency theory can accurately predict or explain budget performance. The results from both the correlation test and Mann Whitney U-test did not show any significant results regarding the agency variables. Previous modeling, as done by Demski & Feltham (1978) and Lambert (2001) are theoretically complex when it comes to the effects of incentives on performance. However, there should be a connection between economic variables and performance according to theory.

Even though the agency variables failed to show any significant correlation with budget performance the variables from agency theory can still be said to be relevant to take into account in budgeting. Agency theory can be said to have done well in providing an understanding of some of the behaviors and motivations present in people working with budgets. Looking at the results from the descriptive statistics the concept of the agency theory's "economic man" is

supported in that the respondents did think economic incentives was an important factor and that there seemed to be a tendency to be risk averse. The high median and mean values of the agency theory variables coupled with the low relationship with performance might suggest that the variables are more useful to explain other elements of budgeting. As previous empirical research has focused more on agency problems in budgeting (Shields, 1985; Dunk, 1993). The finding that respondents who had some form of budget based incentive was also significantly more incentive driven has no direct explanation in theory. Where incentives are held to be a constant drive in all people. In practical terms the implication might be that introducing financial incentives to budget goals might make people more incentive driven, assuming that the casual relationship runs in that direction.

The almost significant relationship between economic satisfaction and information sharing does have support in agency theory. One of the reasons to provide incentives, and improve the agent's financial compensation, is to make the agent more willing to provide valuable information, thus decreasing the information asymmetry.

Proposition 3, that there would be connections and relationships between the two theories was supported in two cases. Two significant results were found in the correlations test. Information asymmetry and budget goal clarity were found to have significant positive relationship. This suggests that respondents who regarded their budget goals as clear and easy to understand also had better information compared to their superiors regarding how well the budget goals corresponded with their performance capacity. This can be said to form a link between the two theories. Both variables deal with information that the parties in a budget setting process has. Having good information about the goal might make it easier to compare it to one's capacity.

According to goal-setting theory high budget goal clarity can result in improved performance, as found in this study. However, in agency theory, high information asymmetry might result in slack and sub-optimal performance. So, the correlation is complex to evaluate from a normative standpoint. The relationship might be important in improving the, stepwise, budget process. As high information asymmetry can be mitigated by information sharing. Further investigation into what might facilitate respondents to share their private information, given that their budget goals are clear, might improve budget performance and form the basis for further research. Because clear understanding leads to higher performance, less information asymmetry might in turn lead to better set goals that, if clearly understood, can further improve performance. This link would have a firm basis in both theories.

Another connection that was found was between budgetary feedback and economic satisfaction. This result is hard to analyse from a theoretical standpoint. According to agency theory economic satisfaction should rather be related to budget based incentives. This result somewhat rejects the notion of the self-interested, economically rational, agent as suggested in agency and economics theory. Where a clear connection between compensation, effort and satisfaction can be said to exist (Jensen & Meckling, 1976; Demski & Feltham, 1978).

However, a possible explanation, although being purely hypothetical, is that receiving feedback improves the general level of satisfaction, which in turn affects *economic satisfaction*. The fact that economic satisfaction might be the result of non-economic factors might indicate that there is further carry over between psychology and economics evident in the theories.

## 6. Conclusion

This paper has studied how psychological and economic theory explains the budgetary process by identifying the most significant variables of each perspective. When examining budget performance out of a goal-setting perspective, the analysis shows results that both align with and contradicts previous research. The proposition for this theory is based on the fact that the variables that are often used within goal-setting theory can to some extent explain budget behaviour and performance. This study does not find a significant connection between goal-setting theory and performance. Budgetary participation and budget goal difficulty shows no significant relationship to budget performance when examined individually but this can in fact be a result of other factors such as the need for a combination of certain variables in order for the individual variables to have an effect. Budgetary feedback comes very close to showing a positive significant relationship to budget performance which implicates that employees can take advantage of feedback in their work. The purpose of budgetary feedback and goal clarity is very similarly defined in goal-setting theory and this study also finds a positive significant correlation between goal clarity and budget performance. These findings indicate that employees are dependent on information and support in order to increase performance. These factors seems to be the key concern to handle when operating in a goal-setting theory perspective.

Agency theory was also not found to have a strong predictive ability to explain budget performance. This might be due to the fact that little previous research has examined this area with a survey approach. Therefore, the authors were forced to operationalize constructs from agency theory into questions without been backed up by previous research. In two cases correlations were found between variables from goal-setting theory and agency theory. Budgetary feedback was found to have a positive relationship with economic satisfaction and budget goal clarity was found to have a positive relationship with information asymmetry. This finding further underlines the important and multifaceted nature of information in budgeting. The results implicate that employees with clearly defined goals have valuable information regarding their performative capabilities that are unknown to their superiors. The variables from agency theory did show high mean and median scores, indicating that the respondents generally agreed with the statements from agency theory about how people behave and act in budget environments. The respondents did tend to prefer lower risk to higher risk and that compensation was important for motivation.

None of the theories seems to fully be able to explain how budget performance is increased even though the ways of goal-setting theory seems to be more connected to increased performance. Both theories have a solid theoretical base which contains both pros and cons. Goal-setting theory has an optimistic view of people in general, where participation, feedback and clarity is intended to motivate people to direct attention and arouse effort by information sharing. Agency theory assumes individuals as self-serving people that strive for their own maximized utility. Therefore, agency theory is more focused on how to control the agents in order to direct interest and effort. Higher budget difficulty is in goal-setting theory used to increase performance, while it according to agency theory might result in slack because of individuals being risk-averse. Both of these outcomes needs to be accounted for in order to control the effect of increased budget goal difficulty. Budget participation is another key factor of goal-setting theory, but can the principal expect agents to share all necessary information? According to agency theory there is need for budget based incentives to lower information asymmetry in the relationship between principal and agent. This is another key point where the theories does not entirely comprehend the whole picture when examined individually. To fully explain budget performance, a combined approach could potentially better model how companies should act to increase performance.

The contribution of this study is to provide some evidence of potential interdependencies and connections between elements of agency theory and goal-setting theory, and budget performance. Thereby contributing to bridging the gap between psychology and economics in MAR.

## 6.1 Limitations

There are some factors that can have had an impact on the results of this study. The paper is limited by a simple choice of method when relying on correlations to attain its results. Because of this choice it is not possible to find relationships between the chosen variables that might need to be accounted for. Each variable is instead to a high degree examined only on an individual level. It is also difficult to account for confounding variables. There could potentially exist variables that are not included in the method which have an impact on the results of this study. Both goal-setting and agency theory has an established and well researched theoretical framework but could still suffer from such variables that have been left out. There is also a problem in the fact that the survey was only answered by a limited amount of respondents and the statistical certainty of the results can suffer from such a restricted number. The convenience sample that was used in this study makes it difficult to generalize the results to the greater

population. Therefore, this study is rather meant to present implications of the most important aspects of the chosen theories.

## 6.2 Suggestions for future research

This study has contributed to the MAR literature by bridging the gap between psychology and economics. Since the result is intended to be interpreted as indications it cannot be seen as generalizable, future research could focus on examining similar propositions by using a probability sample with an increased number of respondents. Another improvement would be to expand the statistical method to include an interactive model that not only examines each variable individually but looks at the relationship between them as well.

Goal-setting and agency theory is only two of many theories that has been widely used to describe budgeting within MAR and there are many others that have had an impact on budgeting. There is need for expanding research not only to goal-setting and agency theory, but to also include other eminent theories within the field.

One of the most central discoveries of this paper is that goal-setting and agency theory might present suboptimal ways to understand budget performance when used individually. Future research could do well from experimenting with both theories to form a combined approach which takes the important aspects of both theories into account.

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## 8. Appendix

### 8.1 Appendix A - Tables

Test Statistics<sup>a</sup>

	Age	Budget_Participation	Budget_Goal_Difficulty	Budgetary_Feedback	Budget_Goal_Clarity	Incentive_Driven	Economic_Satisfaction	Risk_Aversion	Information_Asymmetry	Information_Sharing	15. Jag uppnår mina budgetmål.
Mann-Whitney U	48,000	54,500	84,000	76,000	91,500	79,500	93,500	63,000	95,000	88,000	70,000
Wilcoxon W	348,000	354,500	384,000	376,000	391,500	379,500	129,500	363,000	131,000	388,000	370,000
Z	-2,097	-1,840	-,543	-,889	-,200	-,764	-,112	-1,495	-,044	-,358	-1,182
Asymp. Sig. (2-tailed)	,036	,066	,587	,374	,841	,445	,910	,135	,965	,720	,237
Exact Sig. [2*(1-tailed Sig.)]	,037 <sup>b</sup>	,070 <sup>b</sup>	,623 <sup>b</sup>	,404 <sup>b</sup>	,848 <sup>b</sup>	,480 <sup>b</sup>	,915 <sup>b</sup>	,160 <sup>b</sup>	,983 <sup>b</sup>	,749 <sup>b</sup>	,273 <sup>b</sup>

a. Grouping Variable: TD\_BU\_N

b. Not corrected for ties.

Test Statistics<sup>a</sup>

	Age	Budget_Participation	Budget_Goal_Difficulty	Budgetary_Feedback	Budget_Goal_Clarity	Incentive_Driven	Economic_Satisfaction	Risk_Aversion	Information_Asymmetry	Information_Sharing	15. Jag uppnår mina budgetmål.
Mann-Whitney U	81,500	119,500	133,000	107,500	117,500	101,500	91,500	88,500	132,500	121,000	98,500
Wilcoxon W	271,500	224,500	323,000	212,500	222,500	206,500	196,500	278,500	237,500	226,000	203,500
Z	-1,883	-,500	,000	-,948	-,576	-1,221	-1,566	-1,682	-,019	-,449	-1,311
Asymp. Sig. (2-tailed)	,060	,617	1,000	,343	,564	,222	,117	,093	,985	,653	,190
Exact Sig. [2*(1-tailed Sig.)]	,060 <sup>b</sup>	,627 <sup>b</sup>	1,000 <sup>b</sup>	,358 <sup>b</sup>	,577 <sup>b</sup>	,255 <sup>b</sup>	,132 <sup>b</sup>	,106 <sup>b</sup>	,986 <sup>b</sup>	,679 <sup>b</sup>	,212 <sup>b</sup>

a. Grouping Variable: Gender\_N

b. Not corrected for ties.

### 8.2 Appendix B - Survey

<b>Survey</b>
Vänligen ange om du är man eller kvinna (man, kvinna)
Vänligen ange ålder
Jag är delaktig i sättandet av mina budgetmål. ( 1: Instämmer inte alls – 7: Instämmer helt)
Mina budgetmål är svåra att uppnå. (1: Instämmer inte alls – 7: Instämmer helt)
Jag får utförlig återkoppling (feedback) gällande min prestation för att uppnå budgetmål (1: Instämmer inte alls – 7: Instämmer helt)
Mina budgetmål är tydliga och specifika. Jag vet exakt vilka mina budgetmål är(1: Instämmer inte alls – 7: Instämmer helt)
Jag får en prestationsbaserad ersättning baserad på mitt uppfyllande av budgetmål (Ja, Nej)
I mitt arbete blir jag mer motiverad att prestera när min prestation ökar min ekonomiska ersättning (1: Instämmer inte alls – 7: Instämmer helt)
Jag är nöjd med min ekonomiska ersättning
Jag föredrar investeringar med lägre men säker avkastning framför investeringar som är potentiellt lönsammare men mer riskfyllda (1: Instämmer inte alls – 7: Instämmer helt)
Jag har bättre information än mina överordnade om hur nära mina budgetmål är min prestationskapacitet (1: Instämmer inte alls – 7: Instämmer helt)

I budgetarbetet delar jag med mig kunskaper till mina överordnade om hur väl mina budgetmål motsvarar min prestationskapacitet (1: Instämmer inte alls – 7: Instämmer helt)
Vilket av följande alternativ beskriver bäst hur budgetmål sätts på ditt företag (Överordnade sätter budgetmål och kommunicerar dessa neråt i organisationen, Överordnade och underordnade sätter budgetmål tillsammans, Underordnade sätter budgetmål och kommunicerar dessa uppåt i organisationen)
Jag uppnår mina budgetmål. (1: Instämmer inte alls – 7: Instämmer helt)

<b>Survey (translated into English)</b>
Please state your gender (Man, Woman)
Please state your age
I am allowed a high degree of influence in the determination of my budget goals .( 1: I do not agree at all – 7: I Agree completely)
My budget goals are quite difficult to attain ( 1: I do not agree at all – 7: I Agree completely)
I receive a considerable amount of feedback about my achievements concerning by budget goals ( 1: I do not agree at all – 7: I Agree completely)
My budget goals are very clear and specific ( 1: I do not agree at all – 7: I Agree completely)
I receive economic compensation based upon my fulfillment of budget goals (Yes, No)
In my work I become increasingly motivated to perform if my performance increases my economic compensation ( 1: I do not agree at all – 7: I Agree completely)
I am satisfied with my economic compensation ( 1: I do not agree at all – 7: I Agree completely)
I prefer investments with lower but certain return to investments that are potentially more profitable but with higher risk ( 1: I do not agree at all – 7: I Agree completely)
I have superior information compared to my superiors regarding how close my budget goals are to my performance capacity limit ( 1: I do not agree at all – 7: I Agree completely)
In the budget process I share information to my superiors regarding how my budget goals corresponds to my performance capacity ( 1: I do not agree at all – 7: I Agree completely)
What following alternative best describe the budget setting process at your company (Management set budget goals and communicate these downwards in the organization, Management and employees set budget goals together, Employees set budget goals and communicate these upwards in the organization)

I reach my budget goals ( 1: I do not agree at all – 7: I Agree completely)