

## PhD THESIS DECLARATION

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Thesis title:

A Stakeholder Based View of Firm Growth:
Stakeholder Orientation and Limits to Value Creation from Growth

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## ABSTRACT

This thesis shows that the extent to which the firm orients itself towards its stakeholders has a large impact on the growth process. The second chapter shows empirically that firms experience limits to the amount of value firms can create from growth in a given year, as at high rates of growth they lack the managerial resources to plan, coordinate, and integrate growth, but that the growth rate at which firms run into this limit is highly firm specific. Then, the third chapter shows that the extent to which firms orient themselves towards their stakeholders is one determinant of this heterogeneity. It affects both the ability to sense and seize growth opportunities and with that the limits to value creation from growth. Stakeholder orientation allows firms to use stakeholder resources as slack resources to fuel organizational growth and thus create more value, but at high rates of growth, this benefit is overshadowed by the effects of escalating commitment. The fourth chapter shows that stakeholder orientation reduces the rate at which firms grow. Furthermore, additional tests are provided that together indicate that this effect is due to more stringent selection criteria that are applied to potential growth opportunities.

Together, these papers indicate that firms face limits to value creation from growth, and that firms that orient themselves towards their stakeholders are less constrained by these limits, but only when they do not orient themselves too much towards their stakeholders. Furthermore, it shows that firms that orient themselves towards their stakeholders choose different growth opportunities that benefit a wider selection of stakeholders than just the firm's shareholders. Stakeholder orientation can thus be seen as a management tool that can both enable and constrain value creation from growth, and that also really affects the amount firms grow through more selective selection procedures.

According to the results in this thesis, managers that want to maximize overall firm growth should limit the amount of stakeholder orientation. Managers that want to maximize profitability through growth however, should orient themselves towards their stakeholders, but again be careful not to rely on stakeholders too much. Finally, managers that aim to maximize stakeholder orientation might want to limit ambitions for organizational growth, as at very high levels of stakeholder orientation, firms grow less on average, and also are less profitable when they do decide to grow.

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## 1. INTRODUCTION

Growth is seen as an important goal by the media which keep lists of fast growing firms (Nicholls-Nixon, 2005), policy makers that hope to achieve increases in available jobs and tax income (Storey, 1994), managers that set goals for growth (Shane, 1996), as well as academics who use growth as a measure of performance (Steffens, Davidsson, & Fitzsimmons, 2009). However, the outcomes associated with operations growth differ greatly across firms and increase at a slower rate than do inputs (Coad, 2009). Furthermore, growth has been called one of the cornerstones of the resource based view (See the debate held by Kor & Mahoney, 2004; Lockett & Thompson, 2004; Rugman & Verbeke, 2001). The resource based view is heavily inspired by Penrose's (1959) work that broke with the traditional view that growth was just a move along the production function, as in Cobb-Douglas (1928), and instead observed that growth is a complex process that requires managerial attention and other slack resources (Kor, Mahoney, Siemsen, & Tan, 2016).

Theoretically, Penrose (1959) argued that at high rates of growth, firms start to lose efficiency when they do not have enough managerial capacity and slack resources required to plan, coordinate, and integrate growth. That is, the dynamic adjustment costs of growth are increasing in the rate of growth with increasing marginal costs, so that at a certain rate of growth, the costs of growth are higher than the associated benefits and thus firms run into limits to profitable growth (Tan & Mahoney, 2005). Penrose already reserved a large role for stakeholders in the growth process (Pitelis & Wahl, 1998), and stated amongst others that "firms are institutions that are created by people to serve the purposes of people" (Kor & Mahoney, 2000, p.114). In subsequent works, we have furthermore learned that firms can leverage stakeholder resources that are outside of the firm's boundaries (Bettinazzi, 2016; Dyer

& Singh, 1998; Gulati, 1995; Kotabe, Martin, & Domoto, 2003; Mesquita, Anand, & Brush, 2008; Teece, 1986).

The overall framework of this thesis can be seen in figure 1.1. In the third and fourth chapter of this dissertation, I examine the impact of stakeholder orientation on the likelihood and outcomes of growth. Stakeholder orientation is the extent to which decision makers consider stakeholder resources and interests when making decisions. Before this, in the second chapter, I examine the relationship between growth and value creation empirically to establish a baseline to assess the impact of stakeholder orientation on the ability of firms to generate value from growth.

In the second chapter of this dissertation, "The limits to value creation from growth", it is argued that almost sixty years after Penrose's (1959) theory of limits to growth rate, it is time to re-establish that high growth rates are detrimental to performance. The effect of operations growth consists of what in this study is referred to as an input increase effect and an efficiency loss effect, that together create an inverse-U shaped relationship between growth and profits. The input increase effect can be traced back to neoclassical economics and their tradition of the production function (Cobb & Douglas, 1928), and argues that as firm size increases, profits will increase with decreasing marginal returns. The second mechanism is the efficiency loss effect, that is the heart of Penrose's (1959) theory. She noticed that growth is not just a move along the production function, but an actual process to which (managerial) resources need to be allocated. Since the firm only has a finite amount of managerial resources, at high rates of growth, managers cannot plan, coordinate, and integrate growth efficiently anymore, and therefore efficiency starts to decline. Empirical results show that an inverse U-shaped relationship exists between operations growth and profits, and that this finding is robust to using different time periods, different dependent variables, and different specifications. At high

growth rates, not only does the average performance start to decline, but returns also starts to become riskier. But first and foremost, this study confirms Penrose's assertion that the limits to value creation from growth differ greatly across firms, so that there is ample opportunity to research the determinants of this firm heterogeneity.

One such a determinant is investigated in the third chapter: "Stakeholder orientation and limits to profitable growth". Stakeholders play a major role in the growth process, as they possess resources, knowledge, and social capital, that the firm could use as slack resources in order to fuel their growth while maintaining the ability to create value. They can get access to these resources by improving their stakeholder orientation, which causes a reciprocity effect that making stakeholders more likely to share their resources and knowledge with the firm (Bosse, Phillips, & Harrison, 2009). However, stakeholder orientation in this case is a double-edged sword, as stakeholder orientation can cause escalating commitment as it shifts managerial attention to their current stakeholders and draw attention away from value creating opportunities involving other parties than the firm's current stakeholders. Using coarsened exact matching techniques, this study shows that these limits differ with the extent to which firms orient themselves towards their stakeholders. In fact, firms with moderate levels of stakeholder orientation perform best in terms of value creation from growth as at moderate levels the reciprocity effect dominates, whereas firms with high levels of stakeholder orientation generally perform worst, because at high levels of stakeholder orientation the escalating commitment effect dominates.

Lastly, in the fourth chapter stakeholder orientation is shown to reduce growth rate using a difference-in-difference approach identified by Flammer and Kacperczyk (2016), which exploits a series of staggered implementations of constituency statutes that allow firms to take stakeholder interests into account when making strategic decisions. Theoretically, stakeholder



orientation can affect operations growth rates through increased variation in observed opportunities, increased selection pressures due to a variety in stakeholder interests in growth, or through resource consumption by stakeholders. By exploiting contradictory predictions for growth and downsizing among these mechanisms, I can pinpoint that stakeholder orientation likely affects growth predominantly through increased selection pressures, which is most consistent with the set of findings that stakeholder orientation attenuates both growth and downsizing so that firms become more stable over time.

Together, these three studies make several contributions to the literatures on the resource based view, stakeholder theory, and organizational growth. The first study shows empirically that limits to growth exist, and thereby confirms one of Penrose's main predictions. These findings are robust to alternative measures of operations growth and value creation, alternative specifications, and alternative time periods. This result is in line with Penrose's (1955, 1959) theory, subsequent theoretical models (Baumol, 1962; Richardson, 1964; Slater, 1980; Treadway, 1970; Uzawa, 1969), and empirical findings in this literature (Ferlic, 2008; Markman & Gartner, 2002; Ramachandran, Pant, & Pani, 2012; Voss, Sirdeshmukh, & Voss, 2008). But what is more, this work confirms empirically that the limits to value creation from growth vary across firms. The standard deviation of the coefficient of the squared term of growth across firms is estimated to be twenty percent of the average size of this coefficient. This finding begs the question what determines this firm heterogeneity, and shows that there is ample opportunity for empirical research into these determinants.

The second study shows that one of these determinants is the extent to which firms orient themselves towards their stakeholders. This shows that core managerial decisions such as the extent to which firm consider stakeholder resources and interests into their decision making can affect the amount of value firms can create from growth, which is one of the cornerstones

of the resource based view (Kor & Mahoney, 2000, 2004; Mahoney & Pandian, 1992). The third study shows that stakeholder orientation reduces growth rates predominantly through increased selective pressures on growth opportunities. This furthermore shows that some resources and capabilities can differentially affect separate parts of the growth process, such as variation and selection, which each has different implications for transformation and for performance outcomes.

To the literature on stakeholder theory, this thesis shows predominantly the role that stakeholder orientation plays in transformation of the firm (Teece, 2007). Research on stakeholder theory is already accumulating a significant amount of research showing that stakeholder orientation can help firms access valuable resources and higher levels of performance (Cheng, Ioannou, & Serafeim, 2014; Flammer & Kacperczyk, 2016; Hawn & Ioannou, 2016; Ioannou & Serafeim, 2015). This thesis shows that stakeholder orientation also plays a major role in the way that firms transform these resources and invest into growth opportunities. Namely, this thesis shows that stakeholder orientation reduces growth rates on average, but when firms do decide to grow at high rates, they are able to create more value from growth. The most likely explanation for this is a selection of different higher quality growth opportunities that are more likely to benefit multiple stakeholder groups, for which stakeholders are subsequently also more likely to direct effort towards total value creation rather than selfish value capture, as will be discussed more thoroughly in the fifth chapter of this dissertation.

Lastly, this study contributes to the literature on firm growth some indications that at least in some contexts, positive growth and downsizing (negative growth) relate should be treated differently. Therefore, this field could benefit from a methodological correction that is already making headway in research on aspiration levels, where a similar situation occurs as

performance higher than the aspiration level is expected to lead to different behavior than performance below the aspiration level (Baum, Rowley, Shipilov, & Chuang, 2005; Greve, 2008; Park, 2007). Luckily such non-linear effects can be corrected for by using splines at the point of zero growth, so that the slope of the regression line is allowed to be different for growth and downsizing (Greene, 1993). In the rest of this thesis, first the three studies that comprise this dissertation are set out in the chapters 2 to 4. Subsequently, I conclude with several implications of the overall work.

## 2. THE LIMITS TO VALUE CREATION FROM GROWTH

**Abstract:** This study provides robust empirical evidence that limits to value creation from growth exist. The relationship between operations growth and value creation is inverse-U shaped, so that firms that grow at high rates have negative marginal returns to an increase in growth rate. These findings are robust to alternative measures, time periods, and specifications. Furthermore, results indicate that growth relates differently to performance than downsizing does, that not only the average marginal effect on performance becomes negative but also the risk increases at high rates of growth. Moreover, the limits to value creation from growth differ greatly across firms, which provides opportunity for future research as to how these firm differences arise.

## 2.1 INTRODUCTION

Increasing size can help firms by increasing their ability to attract talent, and funds for reinvestment (Mishina, Pollock, & Porac, 2004). Furthermore, they can achieve economies of scale or scope which can help them create value (Cobb & Douglas, 1928). The numerous advantages ascribed to growth seem to imply that few perils to growth exist. Yet, we also know that far from all firms that attempt to create value through operations growth achieve this goal (Ramezani, Soenen, & Jung, 2002). Theoretically we know that firms have difficulty creating value from growth especially when they grow at high rates (Baumol, 1962; Penrose, 1955). The process of growth is so complicated that at high rates of growth firms do not have enough managerial capacity to plan, coordinate and integrate growth successfully, so that they run into (dynamic) adjustment costs (Tan & Mahoney, 2007), and firms face limits to the amount of value they can create from growth (Penrose, 1955, 1959). Yet, even though profitable growth is seen as one of the cornerstones of the resource based view (Kor & Mahoney, 2004), empirically, this topic has been understudied. This study shows robust evidence for the existence of limits to profitable growth, and that these limits differ greatly across firms, so that it is worthwhile to study the antecedents of this inter-firm heterogeneity.

Operations growth has two separate effects on value creation. In Neo-classical economics, growth is seen as a move along the production curve, and dynamics are not taken into account (Cobb & Douglas, 1928). This stream of literature finds that larger firms also have higher performance, but that decreasing marginal returns exist. In this study, this effect is called the input increase effect. Penrose was one of the first to notice, however, that growth is not just a change in size, but that dynamics matter because the process through which firms grow is so difficult, and therefore dynamic adjustment costs of labor increase in growth rate with increasing marginal costs. These costs arise because firms need to plan, coordinate, and

integrate growth, and their ability to do so depends on their ability to sense and seize growth opportunities. According to Penrose (1959), these abilities reside in entrepreneurial and managerial resources. When firms grow too fast, these resources are depleted and managers can no longer successfully complete both the growth process and their day-to-day activities so that when firms grow, they lose efficiency with increasing marginal losses. In this study, the latter is called the efficiency loss effect.

The main contribution of this study is to provide an empirical fact, that firms face limits to the amount of value they can create from growth, and highlight the research opportunities that this finding provides. This study provides robust evidence that these limits to profitable growth exist using the full sample of firms that are covered by Asset4. These results are robust to using different measures for value creation and operations growth, and to different specifications. Growing too fast has negative effects not only in the short term, but effects remain visible in the long run. Furthermore, at these high rates of growth, not only does average performance go down, risk also increases, making these high rates of growth even more unattractive. However, the most striking finding is that the extent to which firms are constrained by limits to profitable growth are highly firm specific, so that some firms would not face limits to growth even at extreme levels of growth, whereas others face limits even when they grow at average rates. This invites future research to empirically identify and theorize on why some firms are able to create value even at high rates of growth while others are not.

Furthermore, this study indicates that the relationship between growth and performance is different for growth than it is for downsizing. This has implications for future research as many scholars that investigate this relationship treat downsizing as a linear extension of growth. Instead, findings suggest that the slope of the relationship between growth and performance is

different from that of the relationship between downsizing and performance, which should empirically be controlled for.

## 2.2 THEORY

### **The limits to value creating growth**

Adding to work in neoclassical economics that found that firm size is related to performance (Cobb & Douglas, 1928), Penrose (1959) maintained that growth is more complex than a move along a production function, and instead is a complex process that involves planning and coordinating and integrating resources. The limits to profitable growth rate are determined by the firm specific ability to sense and seize growth opportunities, and the amount of slack resources the firm has available to allocate to the growth process (Penrose, 1959; Teece, 2007)<sup>1</sup>. These abilities are partially embedded in routines, and partially depend on managerial skill (Teece, 2007, 2012; Zollo & Winter, 2002). Furthermore, managerial and other slack resources have to be allocated to the growth process in order to create value from growth (George, 2005; Pitelis, 2007; Voss et al., 2008). These resources are finite and cannot be replenished in the short term, as it takes time to train additional managers insofar as that they are able to oversee the growth process (Kor et al., 2016; Mortensen, Mortensen, & Dale, 1973; Slater, 1980; Treadway, 1970; Uzawa, 1969). When firms grow at a higher rate than their firm-specific capacity to grow allows, they run into dynamic adjustment costs, that are incurred when ‘adjustments of productive resources (such as hiring new employees and new managers) disrupt current operations’ (Tan & Mahoney, 2005, p. 114). Current organizational

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<sup>1</sup> Penrose (1959) attributes these to what she respectively calls entrepreneurial and managerial resources, however I adopt more recent terminology, which is consistent with Teece (2007).

structures might not support an infinite amount of growth (Chen, Williams, & Agarwal, 2012), and the more a firm grows, the less well the firm is able to integrate all new growth into its organizational structure (Barkema & Schijven, 2008a). Moreover, the managerial attention required in order to monitor the growth process will reduce the time these managers have to complete their day-to-day routine tasks (Cyert & March, 1963; March & Simon, 1958; Ocasio, 1997). Thus, at high rates of growth, firms will lose efficiency, so that the relationship between growth rate and value creation is inverse-U shaped (Baumol, 1962; Hay & Morris, 1991; Hill & Jones, 2009; Markman & Gartner, 2002; Penrose, 1959; Richardson, 1964).

In summary, the baseline relationship between operations growth and profit growth thus consists of two mechanisms, in one growth increases value creation, in the other growth reduces value creation. In this study the first mechanism is referred to as the input increase effect. This effect is inspired by neoclassical economics works such as Cobb and Douglas (1928), and argues that firms that increase their operations can manufacture more products or deliver more services, and therefore we expect them to move along the production function and thus increase their performance (Cobb & Douglas, 1928). This effect is dominated by the firm's ability to sense opportunities. Each period, firms are able to identify a number of growth opportunities given their ability to sense opportunities. The higher the ability to sense opportunities, the higher the expected return on investment at each rate of growth, and thus the stronger the input



increase effect. The second mechanism affects performance negatively, and in this study is referred to as the efficiency loss effect. This is the penrosian effect discussed above.

Combined, the input increase effect and the efficiency loss effect from an inverse-U shaped relationship between operations growth rate and profit (Haans, Pieters, & He, 2015). This is the baseline relationship that will be investigated in this paper.

### **Firm heterogeneity in limits to value creating growth**

Firm heterogeneity in the limits to value creating growth can have both external and internal factors. Among external factor are for example supply, demand, and finance constraints (Hay & Morris, 1991; Marris, 1963, 1964). However, in this study these constraints are not considered as they are most likely not affected by the extent to which a firm orients itself to its stakeholders.

With respect to internal limits to profitable growth, Baumol (1962) is the first to show using formal modeling that under some basic assumptions, firms have an optimum rate of growth. Most important of these assumptions, is that at a certain rate of growth costs of integration become higher than the benefits. Later, these rising costs were shown to be attributable to managerial limitations (Richardson, 1964; Slater, 1980). Since that model, several authors have found empirical evidence that extreme levels of growth reduce profitability (Ferlic, 2008; Markman & Gartner, 2002; Ramezani et al., 2002).

In a similar vein, the literature on the Penrose effect shows that growth in one period is negatively correlated with growth in the next period. This is highly consistent with Penrosian growth, since if firms grow at high rates in one year, they deplete their managerial resources, and cannot grow as fast in the next year (Shen, 1970). Gander (1991) finds that managerial resources do not need to limit growth as long as they grow at least as fast as the population on an industry level. Yet, in the literature on dynamic adjustment costs, it becomes clear that this

is not necessarily possible. as costs are incurred when adjustments of productive resources are made, and current operations are adjusted (Ingham, 1992; Lucas, 1967; Mortensen et al., 1973; Tan & Mahoney, 2005; Treadway, 1970; Uzawa, 1969). These dynamic adjustment costs are a major driver of what in this study is called the efficiency loss effect, and thus a major driver of firm heterogeneity in the limits to value creating growth.

The literature on dynamic adjustment costs finds several internal factors that influence the limits to profitable growth. First, this literature finds that firms with more slack managerial resources can achieve higher growth rates (Tan, 2003). Furthermore, growth mode influences these limits, and firms that grow predominantly through franchising are less affected by the Penrose effect (Shane, 1996; Thompson, 1994). Furthermore, Tan and Mahoney (2005, 2007) find several factors that can either strengthen or weaken limits to value creating growth. They find in the context of multinational firms, that the Penrose effect is more pronounced when firms rely heavily on tacit knowledge as this increases demands on training new productive resources. Furthermore, the Penrose effect is stronger for global industries as coordinating and integrating resources across the globe requires much more managerial attention. The same holds when employees are more unionized, as this complicates the integration process. On the other side, they find that several types of managerial experience that allows them to integrate growth with less managerial attention alleviate the Penrose effect. Lastly, the amount of time spent on managerial training (which is indeed the adjustment that this literature talks about), also determines the limits to profitable growth (Kor et al., 2016). All of these studies have in common that they pinpoint factors internal to the firm, or on an industry level as affecting the limits to value creating growth. This study builds on this work by investigating whether firms

can use the resources, knowledge and social capital in their relationship with stakeholders can be used to fuel growth.

The strategic management literature also investigates the challenges inherent in generating profits from growth, but these studies mostly concern individual corporate development initiatives. For instance, we know that firms differ in their ability to profit from alliances and acquisitions through building experience or organizational structures (Barkema & Schijven, 2008b; Haspeslagh & Jemison, 1991; see for example Kale, Dyer, & Singh, 2002; Zollo, Reuer, & Singh, 2002). However, research suggests that in order to understand growth fully, we should look beyond individual initiatives and consider the firm's overall growth strategy. Firms gain different types of knowledge and resources from different modes of growth, and a firm's overall growth strategy has performance implications above and beyond individual corporate development initiatives (Capron & Mitchell, 2009; Haspeslagh & Jemison, 1991; Laamanen & Keil, 2008; Zollo & Reuer, 2009). This paper builds on this literature by investigating the effect of the total amount of growth on performance while controlling for growth mode.

### 2.3 METHODS

To examine the relationship between profits and growth, the full sample of companies that Thomson Reuters rates in the Asset4 database has been collected. It consists of an unbalanced panel of 4,800 public companies in multiple countries and industries over the period of maximum 10 years. The dataset covers sixty-five countries and all twenty two-digit NAICS industries, and the companies are selected from popular indices such as MSCI World, Europe, and Emerging Market, STOXX 600, Nasdaq 100, Russell 1000, S&P 500, FTSE 100, ASX 300. The broadness of this sample helps ensure generalizability with respect to industry and country differences. Furthermore, the sample is comprised of firms that are highly successful

as they are covered by these major indices, so that we cannot say for certain whether results hold for firms that are less successful. This information is then supplemented the information in the Asset4 database with accounting data gathered from the Orbis database, and acquisition data from the zephyr database, both by Bureau van Dijk, with which measures are computed for input and output growth, size, industry, country, acquisition activity, and age.

The final dataset is what remains after merging these datasets, dropping observations with missing variables and extreme outliers (above 99<sup>th</sup> percentile employee and asset growth, as well as earnings before interest and tax), which results in a drop of approximately two and a half percent of the data, and deleting observations with negative growth<sup>2</sup>. This leaves an unbalanced panel of 9,427 observations from 2,810 firms that have non-missing values for at least three observations over the period of 2005-2014.

### **Measures for Dependent Variables**

**Value creation:** The main measure of value creation is EBIT, which represents the value that is directed towards the firm's shareholder (Jensen & Meckling, 1976). Increasing profits

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<sup>2</sup> This theory considers organizational growth, not downsizing. The process and motivation underlying operations growth are different from those underlying downsizing, and it has a different impact on virtually all stakeholders involved (Karim, 2009; Whetten, 1980, 1987). This is not to say that these two processes cannot have a symbiotic relationship in which firms downsize in order to free up resources for growth. Instead, I want to point out the fact that it is unlikely that for two identical rational firms with the same goal, one firm will choose to grow, and another firm will choose to downsize. Nevertheless, results are identical for positive growth when using all observations and interacting the independent variables with a dummy for positive growth (this also clearly shows different relations and interactions for positive growth, as is theoretically expected). The reason these analyses are not shown as the main analyses is that they have many interaction variables and are therefore less intuitive

is often a priority for firms, and operational growth is often a means for firms to increase profits. The log of EBIT is taken to minimize the effect of outliers, because EBIT has negative values, in order for the log to be defined, a linear transformation has to be applied, so that the final measure is  $\log(1+\text{ebit}-\min(\text{ebit}))$ .

As a robustness check, other accounting and financial measures are used: EBITDA, gross profit and Sales, which gradually incorporate a smaller percentage of the costs incurred and therefore focus less on the cost efficiency with which the firm produces. It is expected that limits to profitable growth occur at higher rates of growth as measures do not take into account costs, as a main part of the dynamic adjustment costs associated with growth are related to a loss in cost-efficiency. These measures are transformed in the same way as the main measure.

Possible concerns with accounting variables are that they might be susceptible to different accounting standards across countries. Although this remains a concern, the regression includes firm fixed effects, which should control for stable differences across accounting procedures. Nonetheless, robustness checks are done with financial measures: market value (MV) (Stettner & Lavie, 2013) and, market value added(MVA) (Hillman & Keim, 2001), and return on equity (ROE). Market value represents the total market valuation of the firm, and market value added represents the market value compared to the total capital invested in the firm, reflecting the extent to which managers can transform capital into market value, and thus is a good financial measure of long term shareholder returns. Return on equity represents the net income as a proportion of shareholder equity, and is thus a measure of how much profit a firm generates with shareholder's equity. The financial measures also undergo the same transformation as ebit.

### **Measures for Independent Variables**

***Operations growth:*** To measure growth, researchers have used many measures, such as asset growth, employee growth, and sales growth (Delmar, Davidsson, & Gartner, 2003).

Because the hypotheses are specifically about operations growth, the growth of firm resources, which are inputs and is consistent with the resource based view, sales growth is excluded. Sales growth is an outcome, and is instead used as an alternative dependent variable in auxiliary analyses. This leaves two measures for operations growth, tangible fixed assets, and employee growth. In this study, employee growth is closer to the theoretical mechanisms as this variable captures better the growth in organizational complexity of the firm. Instead, the integration of tangible fixed assets is generally easier to coordinate, and thus does not require as much managerial resources. Therefore, compared to alternative measures of operations growth (for instance tangible fixed asset growth), employees are most difficult to integrate and thus we are most likely to see limits to operations growth. The measure used for employee growth is the employees in period  $t$  over the employees in period  $t-1$ . However, asset growth is also used as an alternative measure.

Another consideration is whether to use proportional or absolute measures of growth. Proportional and absolute measures of growth make two different assumptions about how managerial resources per employee evolve with size. In the limits to growth this assumption is crucial as this limit is mainly determined by managerial resources. In absolute measures of growth, it is necessary to assume that the amount of managerial resources available to coordinate growth is equal across firms independent of size, whereas in proportional measures of growth, it is necessary to assume that these managerial resources increase with size and therefore the latter is closer to reality.

### **Control variables**

In order to reduce the effect of spurious relationships as much as possible, we should control for a number of variables. First and foremost is the importance of size at  $t-1$ . This size can affect both performance at time  $t$  and the rate of growth. Furthermore, the integration of fifteen

percent growth for a firm that at t-1 has a hundred employees is much more complex than that of a firm that has a thousand employees, even if the larger firm is expected to have more slack managerial capacity in absolute amounts. Furthermore, a control is added for the amount of assets the firm has, as asset intensive firms might have encounter different problems in coordinating the integration of new employees as more service oriented firms will. The number of majority acquisitions the firm conducted is also controlled for, since growth mode determines the outcomes the firm receives, and the integration of an acquisition follows a different process from the integration of organic growth. Labor productivity at time t-1 controls for the fact that some firms might transform inputs into outputs at different levels of efficiency in their existing organization, and might thus be more capable of generating profit from growth based on that. Firm fixed effects are added, which amongst others control for factors such as firm age, industry, and country effects, which reduce the impact of differing accounting standards, different growth opportunities, and firm experience, which all might relate both stakeholder orientation and value creation from growth. Lastly, year fixed effects are included in the regression, which control for macroeconomic events such as the financial crisis that can affect both stakeholder orientation and value creation from growth.

## 2.4 RESULTS

Descriptive statistics are shown in Table 2.1.

---- INSERT TABLE 2.1 ABOUT HERE ----

### **The limits to growth**

To estimate the relationship between employee growth and profit, fixed effects estimation is used after Coad (2007a). In Table 2.2, model (1) we see that the effect of employee growth rate on EBIT is inverse-U shaped, so that an optimum rate of growth exists after which a

marginal increase in the rate of growth is associated with a decrease in profits. In Figure 1, we can see that this effect occurs within the range of the data at about 30 % growth, which is reached by thirty percent of the firms in the sample at least one year that they are in the sample (which is on average 7 years).

---- INSERT TABLE 2.2 ABOUT HERE ----

Taking alternative measures for operations growth and value creation also results in an inverse-U shaped relationship. The patterns for these results are consistent with the mechanism underlying the theory on limits to profitable growth.

---- INSERT FIGURE 2.1 ABOUT HERE ----

***Alternative measure for value creation:*** Firstly, when taking sales as a dependent variable representing value creation (as seen in Table 2.2, model (2) and also graphed in Figure 2.1), the average limits to value creating growth shift to the right (at about 60% growth), so that firms will have positive marginal returns to additional growth even at higher growth rates. This is consistent with theory since the biggest limit to value creation from growth is due to a loss in efficiency due to coordination and attention problems. This efficiency loss is obviously more visible in profits than in sales, as a large part of this is that costs go up. In fact, it is even slightly surprising that growth has such a large efficiency loss in terms of the raw payments that the firm receives. Also noteworthy is that Baumol (1962) finds that even when assuming that sales increases exponentially in growth rate, firms will have an optimum growth rate. So, if sales



instead is maximized at an optimum level of growth, this means that in Baumol's model firms will reach the optimum profitable growth rate even faster.

*Alternative measure for operations growth:* When changing the measure for operations growth to asset growth, and keep the original dependent variable of profit, we also see that the limits to profitable growth shift to the right, even further than when looking at sales as a dependent variable (to about 70 percent). This can be seen in Table 2.1, Model (3) and graphed in Figure 2.1. Again, this is consistent with growth theory, as assets require much less managerial resources to integrate than employees as there are fewer coordination issues than are present with employee growth.

Lastly, what is interesting is that for sales as an outcome variable, the difference between asset growth or employee growth as a measure of operations growth is much smaller than for profit as an outcome variable. This can be seen in Table 2.1, Model (4) and Figure 2.1. This indicates that the additional difficulties in coordination that are present when growing in terms of employees are more likely to affect cost-efficiency rather than the efficiency with which the firm is able to generate payments with the same amount of resources.

In order to assess the robustness of this finding, several additional tests follow that add to our knowledge about the phenomenon of limits to profitable growth.

### **Efficiency Loss Effect**

It is to some extent possible to isolate the efficiency loss effect in the theory of organizational growth. When we control for operational size at time  $t$  instead of operational size at time  $t-1$ , we also change the interpretation of the result. Initially we were in essence comparing firms that have the same starting point in terms of operational size, and then add more or fewer employees. Instead, when controlling for operational size at time  $t$ , we in compare firms that have the same size, but got there from different starting points. This helps

isolating the efficiency effect because when controlling for size at time  $t$  there is no more difference in the input for these two firms at time  $t$ . Therefore, we can see for firms that have the same size now, whether efficiency is smaller when they have grown more in the year before. The results in Figure 2.3 show that this is indeed the case, so that firms that grow more indeed incur some efficiency loss.

---- INSERT FIGURE 2.3 ABOUT HERE ----

### **Positive versus Negative Growth**

Although current research on organizational growth treats decreases in size as a linear extension of increases in size, these two instances actually occur through distinct organizational processes. The process and motivation underlying operations growth are different from those underlying downsizing, and it has a different impact on virtually all stakeholders involved (Karim, 2009; Whetten, 1980, 1987). Operations growth often has a revenue increase motivation, whereas downsizing has a cost reduction motivation (Vidal, 2013). The growth process is focused on factors outside the firm as firms need to understand demand and supply conditions and involves creation of new organizational structures and routines. Downsizing instead focuses on factors inside the firm as firms need to understand the value creating potential of parts of the current organization, and involved the destruction of organizational structures and routines. Therefore, the routines and skills underlying both processes are probably not the same. These theoretical differences are supported by empirical evidence that positive growth behaves differently from negative growth (Coad, Rao, & Tamagni, 2011). Furthermore, in research on acquisitions, strong evidence is found that firms choose to do acquisitions for different reasons than divestitures (Villalonga & McGahan, 2005), and that the performance outcomes are different. In Figure 2, we see that the relationship between positive operational growth and profit has a different functional form than the relationship between

negative operational growth and profit (i.e. the slope is different for positive than for negative growth), and therefore researchers should distinguish between these two types of organizational evolution in empirical work. In fact, we see that the shape of the relationship between employee growth and profit is inverse-u shaped for growth, but almost U shaped for downsizing.

---- INSERT FIGURE 2.2 ABOUT HERE ----

### **Medium to Long Term**

In the main tables, immediate effect of operational growth on performance is investigated, however, this begs the question of what are the medium to long term effects of increasing growth rate on performance. The medium term is investigated by taking the effect of the rate of growth from time  $t-1$  to  $t$ , on the average performance from  $t$  to  $t+2$ . We see that in the medium term, the functional form of the relationship between operations growth and profits has decreasing marginal returns, but marginal returns do not become negative, indicating that to some extent, firms can absorb the efficiency losses due to high growth rates to at least some extent. However, the firm is not able to recuperate all these losses in the long term. If there would be no long term consequences of high growth rates in a given year, there would be no difference in observed average profits in the long run between two firms that both grow the same amount over a long period, but grows moderately each year, and the other grows a lot in one year, and not much in the others. If there are long term consequences, the latter is expected to perform worse. In order to test this, variables are aggregated across years to the firm level. The average profits over all years that each firm is in the sample is regressed on the gini-coefficient of growth rates over all these years, average growth rate over all years and several other control variables. The results of this can be seen in Table 2.3. We see that firms that grow

gradually over time (i.e. have a low gini-coefficient) perform much better than those firms that grew sharply in one year, and then less in other years (which leads to a high gini-coefficient).

---- INSERT TABLE 2.3 ABOUT HERE ----

### **Risk Analysis**

In order to assess how extreme growth rates relate to the risk firms incur, multiplicative heteroscedasticity models are used. These models can help understand whether certain strategies are more risky than others (Sørensen, 2002; Sorenson & Sørensen, 2001). Multiplicative heteroscedasticity models are two step models. The first step is a normal regression equation which is used to predict the expected profit of a firm, given the independent variables used in earlier models. However, this prediction is not perfect and still has an observation-specific error. This error is examined in the second step, and factors are identified that cause this error to be bigger, which indicates riskiness. Here we see that extremely high levels of growth provide firms with lower returns that are actually more risky, so that these extreme growth strategies are even less attractive when incorporating risk in the analyses. In Table 2.4, the left column is the first stage equation, which is the same as the main model in the main table. The right column is the second stage, which includes employee growth and employee growth squared, in which we can see that risk is highest for firms with negative levels of growth and for firms with high levels of growth, whereas it is smallest for firms that are stable or grow only little.

---- INSERT TABLE 2.4 ABOUT HERE ----

### **Differences across firms**

Last, but not least, we can see that these limits differ greatly across firms. Using random coefficient models (Bliese, Chan, & Ployhart, 2007; Bliese & Ployhart, 2002), which allow for the coefficients of growth and the squared term of growth to differ across firms, we see that the

squared term of growth varies greatly across firms. This can be seen in Table 2.5. In this table, the first column represents the same regression as that in Model (1) of Table 2.2. The second column represents the variation across firms in terms of growth and the squared term of growth. This squared term represents the extent to which firms are faced with limits to profitable growth. In fact, the standard deviation of the variance of this coefficient across firms is about 20 percent of the average size, which is a huge variance. This indicates that some firms have limits to growth that will practically never serve as a constraint to growth because the limit occurs past 100% growth, whereas others face stringent constraints. This results provides the most promising avenues for future research.

---- INSERT TABLE 2.5 ABOUT HERE ----

### **Identification**

Several possible threats to causal identification exist that might bias the coefficient estimates in this paper. In this section however, I argue that if these biases exist, which for at least one is likely, they bias the estimate of the squared term of growth towards zero. Thus, the fact that the null hypothesis is rejected is in fact stronger evidence for the existence of a limit to growth than it would have been in the absence of these threats.

One concern is that firms select their rate of operations growth on the basis of their ability to create value from growth. If this effect exists, it strengthens confidence in the existence of limits to growth as it leads to overestimation of the average limits to profitable growth. If firms stop growing at or before the point where the marginal effect of growth becomes negative, we would not see limits to profitable growth, but this does not happen for all firms. But, keep in

mind that results should be interpreted as the average limits to value creation from growth in a particular period, given the firms' ability to sense and seize opportunities.

A second possible threat to identification in the baseline relationship is reverse causality. However, this is not a serious threat because the hypothesized effect is non-linear and constructed of an input increase effect and an efficiency loss effect. The reverse causality effect would work on the input increase effect, but if present, would strengthen results on the efficiency loss argument as this would bias results towards zero. The hypothesis that profits relate to further growth due to the input increase effect have been researched extensively. This research has established that the way firms determine their growth is relatively random conditional on many factors, including prior profits (Geroski, 2005), which means that this bias might only be small. Furthermore, in particular a stream of research in economics exists that have actively tried to identify a causal effect of profit on future growth, and have found no evidence of such a causal linkage (Coad, 2009). However, even if prior performance would increase the ability to grow due to slack resources, this does not threaten the main thesis of this study, since the efficiency loss effect brings about the limits to growth (i.e. without this mechanism the effect of growth would be positive). And this reverse causality mechanism actually attenuates this efficiency loss mechanism at high levels of growth, as firms would have more slack resources to fuel their growth. Thus, if this reverse causality exists, it is expected to overestimate the limits to profitable growth, and thus increases confidence that the null hypothesis can be rejected.

### **Robustness**

To assess the robustness of the findings, I have undertaken several steps (Haans et al., 2015). First, when estimating an inverse U shaped relationship, the researcher should verify that the inflection point lies within the sample. This can be seen from Figure 1. Furthermore,

when running the regression on only the part of the sample that is characterized by the downwards sloping part of the curve, the relationship between the independent variable and the dependent variable has to be negative. In unreported analyses, these tests are indeed found to be negative. Furthermore, a test was run with several dummy variables for various ranges of growth rates, and this generally shows an inverted U shaped relationship, although negative coefficients are not always statistically significant especially in the extreme ranges of growth, due to low numbers of observations in each batch. These tests were also run with different specifications. Results are qualitatively similar when not including firm or year fixed effects, and when using random effects or even random coefficient models.

Furthermore, the main results have not only been assessed with ebit and sales, but with several more dependent variables. These results are displayed in Table 2.6. Here, Models (1) through (4) show the limits to value creation from growth shift gradually to the right when taking respectively ebit, ebitda, gross profit, or sales as dependent variables. This confirms the initial idea that the efficiency loss effect predominantly works on the costs that the firm makes, though for extreme growth rates, it also becomes apparent that even in the absence of costs, such growth rates additional growth also starts to reduce the total amount of sales. When investigating financial measures of value creation it can be seen that growth rates show an inverted U shaped relationship with return on equity and market value, but that the relationship is insignificantly negative for the relationship between market value added, meaning that capital invested in growth even at relatively low rates of growth does not seem to lead to a larger increase in additional increase in market value on top of that capital invested.

Another possible confounding factor is that firms with high growth rates follow different growth strategies. To control for this, the analysis were ran only including firm-year observations in which firms do not engage in acquisition activity. This analysis shows that the

results are not driven by growth through acquisitions, as results are similar for these firm-year observations

## 2.5 DISCUSSION

In this study, the relationship between the rate of operations growth in terms of employees or tangible fixed assets as an independent variable, and value creation in terms of profits or sales as dependent variable is inverse-U shaped. This finding indicates that firms face limits to the rate at which they can grow their operations without compromising on value creation. Results are shown to be robust to alternative specifications, alternative time horizons, and alternative specifications, and is extremely consistent with Penrose's theory of the growth of the firm.

These findings make several contributions to and has several implications for future research in the resource based view. First, this study tests hypotheses derived straight from one of the cornerstones of the resource based view. Even though other aspects of the resource based view have evolved greatly since Barney's seminal work (Barney, 1991, 1986), Penrose's main proposition that firms face limits to the rate at which they can grow profitably has not evolved to the same extent. This study provides robust evidence for limits to profitable growth, and highlights several aspects of growth that are understudied.

My findings indicate that in order to study the effects of operational growth, it is at least in some cases necessary to distinguish between growth and downsizing which are both theoretically and empirically different. In research on general growth, researchers often theorize only on growth, they do not reflect this in their empirics and instead lump downsizing and growth together without empirically correcting for this. In future research, this could be



remedied by interacting independent variables of interest with a dummy for positive or negative growth in order to allow for different slopes.

Second, using different measures of operations growth and performance, we can learn something about the mechanisms through which these measures theoretically differ from each other, and the mechanisms through which they influence each other. The results indicate that even at high growth rates, firms can convert operations growth into sales, but this task is much more difficult for profits. Also, firms are better able to integrate tangible fixed assets than they are able to integrate employees. Both these findings are consistent with Penrose's theory, indicating that some part of the decrease in efficiency is due to rapidly increasing costs at high growth rates, and part is due to the firm's inability to convert inputs into sales. Furthermore, hiring employees is more likely to affect costs rather than sales, whereas tangible fixed assets seem mostly to cause problems for the firm in their ability convert additional assets into additional sales. These nuances between different types of operations growth and different outcomes of this growth can greatly help research on growth, which often does not theoretically distinguish between different types of growth (Delmar et al., 2003), and future research can help uncover in what ways these different measures differ from each other empirically and theoretically.

What is more, is that we can empirically isolate the efficiency loss effect from the input increase effect. This provides additional confidence that the mechanisms through which operations growth theoretically influences performance are truly underlying this relationship. When comparing firms of the same size so that the input increase effect is controlled for, firms that grew more the year before on average perform worse. Furthermore, we see that the negative effects of growth are pervasive over time, even though firms are able to recuperate some of the losses in the medium term, even in the long term the effects of one year of extreme

growth are negative. Moreover, the returns at high growth rates, which are already lower than moderate growth rates on average, are also much riskier.

Also, we find that not only do high rates of growth affect the average performance negatively, they also increase risk. This makes these high growth rates even more unattractive. This is interesting as often high risk ventures are associated with higher returns. In the case of high rates of growth, both the risk and return is negatively affected.

Lastly, results indicate that firms differ greatly in the extent to which they face limits to the rate at which they can grow their operations in a profitable way. This indicates that firms differ in their ability to sense and seize growth opportunities, which provides major opportunities for future research. What are the factors that determine firm heterogeneity in the firm's abilities to sense and seize opportunities, and thus in their ability to grow profitably? Even though the other results in this study have several implications for theory and empirical work on growth, this finding is the most thought provoking, and in this area research on growth is least developed.

One factor that can greatly affect the extent to which firms can profit from growth is the extent to which firms orient themselves towards their stakeholders. The firm's stakeholders possess resources, knowledge, and social capital that can help the firm create slack resources that they can then use to fuel their growth, thus allowing them to grow larger while still being able to create value from growth.

Other factors that we could consider is the mode of growth that firms pursue. Do firms that pursue growth using alliances differ in their ability to generate profits from firms that do so using acquisitions or organic growth? Each type of growth has different characteristics, and require more or less managerial resources in order to successfully execute these strategies.

Thus, given that we find strong support that this mechanism is underlying the inverse U-shaped curve, we should see that these factors greatly affect the ability to generate profits from growth.

### 3. STAKEHOLDER ORIENTATION AND LIMITS TO VALUE CREATION FROM GROWTH

**Abstract:** This study examines how the firm's ability to create value from growth is affected by the extent to which decision makers consider stakeholder resources, knowledge, and interests when making strategic decisions. It is generally accepted that profitable growth is limited by the extent to which firms are able to sense and seize growth opportunities, and that these abilities reside within the legal boundaries of the firm. However, a stakeholder approach suggests that a variety of internal and external stakeholders possess resources and knowledge that can affect the process underlying the ability to sense and seize opportunities. By increasing stakeholder orientation, decision makers can increase stakeholder reciprocity, so that these resources can be leveraged as slack resources that can fuel firm growth. However, it also makes firms less willing and able to pursue growth opportunities involving non-current stakeholders. Empirical results indicate that limits to profitable growth exist, and firms with moderate levels of stakeholder orientation are least constrained by these limits. Stakeholder orientation thus serves as a management tool that can both enable and constrain profitable growth.

### 3.1 INTRODUCTION

Growth is often seen as a valuable firm goal. For example, managers stand to gain status (Marris, 1963; Morck & Yeung, 1998), governments seek to increase employment (Coad, 2007b), and the media publish lists of fastest growing firms (Nicholls-Nixon, 2005). From a vantage point of strategy theory, profitable growth can be seen as one of the cornerstones of the resource based view (Kor & Mahoney, 2004; Mahoney & Pandian, 1992). Despite these perceived and actual benefits, we know that high rates of growth can have severely negative consequences for the firm. Firms run into limits to value creation from growth when they start to lose operational efficiency because they do not have enough managerial resources to conduct day-to-day activities and oversee growth (Baumol, 1962; Kor et al., 2016; Markman & Gartner, 2002; Penrose, 1959; Ramezani et al., 2002; Richardson, 1964). These limits to growth differ across firms with among other the extent to which resources are allocated to training new managers and slack resources (Hay & Morris, 1991; Hill & Jones, 2009; Kor et al., 2016; Mishina et al., 2004; Penrose, 1959; Uzawa, 1969). These studies have in common that they assume that resources and capabilities that allow firms to grow profitably must be present within the boundaries of the firm, in this paper I expand this on this body of work and investigate whether these resources can also be present in relationships and relational capital, as an abundance of research in the relational view and stakeholder theory points to the fact that firms can leverage resources outside of the firm's boundaries (Dyer & Singh, 1998; Gulati, 1995; Kotabe et al., 2003; Mesquita et al., 2008; Teece, 1986).

A useful perspective to investigate whether managers can utilize resources outside of the firm boundaries to fuel profitable growth is the stakeholder based view. In 1959, Penrose already highlighted the role of stakeholders in the process of growth (Pitelis & Wahl, 1998), and in this study, this aspect of her analysis is further developed. Penrose (1959) noted that

“firms are institutions that are created by people to serve the purposes of people” (Kor & Mahoney, 2000, p.114). Stakeholder theory sees firms in a similar vein as a group of internal and external stakeholders that cooperate in and compete in complex ways in order to create value (Blair & Stout, 1999; Freeman, 1984; Hill & Jones, 1992), putting less emphasis on firm boundaries. When we see firms like this, it becomes immediately clear that not just the firm, but all groups of stakeholders possess physical resources, knowledge, and social capital that can help firms sense and seize growth opportunities, and thus create value from growth (See for example Barringer, 2000; Bettinazzi, 2016; Cording, Harrison, Hoskisson, & Jonsen, 2013; Haspeslagh & Jemison, 1991).

One way firms can increase the likelihood that stakeholders share their resources with the firm is to increase their stakeholder orientation (Bosse et al., 2009). Stakeholder orientation is defined as the extent to which decision makers consider stakeholder resources, knowledge, and interests when making strategic decisions (Crilly, 2011; Flammer & Kacperczyk, 2016), for instance by putting stakeholders on the board, involving them in committees, or giving them voice in other ways. Stakeholder orientation is shown to increase stakeholder reciprocity (Bosse et al., 2009), and therefore makes stakeholders more likely to direct their effort, knowledge and resources towards total value creation rather than selfish value capture (Coff, 1999), so that managers can use them as slack resources to fuel value creating growth. On the other hand, at high levels of stakeholder orientation, managerial attention might be overly focused on current stakeholders (Cyert & March, 1963; March & Simon, 1958; Ocasio, 1997), so that firms miss profitable opportunities or try to seize them involving current stakeholders even if they are not in the best position to create value. Therefore, this study address the

following Question: Does stakeholder orientation affect the limit to value creation from growth?

To investigate the research question, I use a sample of more than 4800 firms over 10 years covered by the Asset4 database by Thomson Reuters, which rates firms based on more than 1200 items, using all external public communication by these companies. Results indicate that the inverted U shaped relationship between operations growth rate and profits is indeed moderated by stakeholder orientation: Firms with moderate levels of stakeholder orientation are able to create more profits from growth than firms with low or high levels of stakeholder orientation.

By studying whether stakeholder orientation affects limits to profitable growth, this study joins and extends the literatures on the resource based view and stakeholder theory. Profitable growth is one of the cornerstones of the resource based view (Kor & Mahoney, 2004), and this study adds to this literature by showing that managers can utilize slack resources inside and outside firm boundaries to fuel profitable growth. This study clarifies that these limits relate to core strategic choices such as the extent to which firm orient themselves towards their stakeholders, which can help them firms grow faster while maintaining their ability to create value.

Furthermore, this study extends stakeholder theory, which so far has focused on how stakeholder orientation affects the firm's access to certain resources, or achieve certain outcomes. Examples of these resources are increased access to finance (Cheng et al., 2014) and innovativeness (Flammer & Kacperczyk, 2016), which provide firms with strategic options to grow their organization. Yet, little research investigates the effect of stakeholder orientation on the firm's capability to use stakeholder resources and transform them into value creating opportunities. This study shows that stakeholder orientation in fact does affect the firm's ability

to transform their organization in a profitable way, since stakeholder orientation can be seen as a managerial tool that can both enable and constrain profitable growth. Moreover, stakeholder oriented firms seem to follow growth strategies that maximize sales growth rather than profits.

Lastly, this study indicates that although moderate levels of stakeholder orientation can boost limits to profitable growth, high levels of stakeholder orientation have a consistently negative effect on value creation from growth. This finding seems to indicate that for firms that aim to maximize profits, as we generally posit in strategic management research, an optimum level of stakeholder orientation exists. However, if firms instead choose to strive for stakeholder orientation as a goal in itself rather than a means to an end, they might want to reduce their ambitions in terms of high growth rates.

### 3.2 THEORY

Research on organizational growth knows a long tradition starting from Gibrat (1931), and several of the major foundational theories underlying strategic management research make predictions about growth and their performance effects. Neoclassical economics argues that larger firms have advantages of scale and scope (Cobb & Douglas, 1928). Agency theory posits that managers might prioritize growth over other performance measurements as they stand to increase their status (Jensen & Meckling, 1976; Morck & Yeung, 1998), population ecology posits that larger firms are more rigid and therefore more likely to survive in fluctuating dynamic environments (Hannan & Freeman, 1977, 1984). However, Penrose (1959) firmly established a strong tradition of research that takes into account the process of organizational growth, that was later added upon by works in evolutionary theory (Nelson & Winter, 1982),



the resource based view (Barney, 1991, 1986), and the dynamic capabilities literature (Helfat et al., 2007; Teece, Pisano, & Shuen, 1997).

### **The limits to value creating growth**

Adding to work in neoclassical economics that found that firm size is related to performance (Cobb & Douglas, 1928), Penrose (1959) maintained that growth is more complex than a move along a production function, and instead is a complex process that involves planning and coordinating and integrating resources. The limits to profitable growth rate are determined by the firm specific ability to sense and seize growth opportunities, and the amount of slack resources the firm has available to allocate to the growth process (Penrose, 1959; Teece, 2007)<sup>3</sup>. These abilities are partially embedded in routines, and partially depend on managerial skill (Teece, 2007, 2012; Zollo & Winter, 2002). Furthermore, managerial and other slack resources have to be allocated to the growth process in order to create value from growth (George, 2005; Pitelis, 2007; Voss et al., 2008). These resources are finite and cannot be replenished in the short term, as it takes time to train additional managers insofar as that they are able to oversee the growth process (Kor et al., 2016; Mortensen et al., 1973; Slater, 1980; Treadway, 1970; Uzawa, 1969). When firms grow at a higher rate than their firm-specific capacity to grow allows, they run into dynamic adjustment costs, that are incurred when ‘adjustments of productive resources (such as hiring new employees and new managers) disrupt current operations’ (Tan & Mahoney, 2005, p. 114). Current organizational structures might not support an infinite amount of growth (Chen et al., 2012), and the more a firm grows, the less well the firm is able to integrate all new growth into its organizational structure

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<sup>3</sup> Penrose (1959) attributes these to what she respectively calls entrepreneurial and managerial resources, however I adopt more recent terminology, which is consistent with Teece (2007).

(Barkema & Schijven, 2008a). Moreover, the managerial attention required in order to monitor the growth process will reduce the time these managers have to complete their day-to-day routine tasks (Cyert & March, 1963; March & Simon, 1958; Ocasio, 1997). Thus, at high rates of growth, firms will lose efficiency, so that the relationship between growth rate and value creation is inverse-U shaped (Baumol, 1962; Hay & Morris, 1991; Hill & Jones, 2009; Markman & Gartner, 2002; Penrose, 1959; Richardson, 1964).

In summary, the baseline relationship between operations growth and profit growth thus consists of two mechanisms, in one growth increases value creation, in the other growth reduces value creation. In this study the first mechanism is referred to as the input increase effect. This effect is inspired by neoclassical economics works such as Cobb and Douglas (1928), and argues that firms that increase their operations can manufacture more products or deliver more services, and therefore we expect them to move along the production function and thus increase their performance (Cobb & Douglas, 1928). This effect is dominated by the firm's ability to sense opportunities. Each period, firms are able to identify a number of growth opportunities given their ability to sense opportunities. The higher the ability to sense opportunities, the higher the expected return on investment at each rate of growth, and thus the stronger the input increase effect. The second mechanism affects performance negatively, and in this study is referred to as the efficiency loss effect. This is the penrosian effect discussed above.

Combined, the input increase effect and the efficiency loss effect form an inverse-U shaped relationship between operations growth rate and profit (Haans et al., 2015). This is the baseline relationship between operations growth and profits. The two effects are displayed on the

horizontal axis in the two-by-two in Figure 3.1, that will be used in the next section to summarize the effect that stakeholder orientation has on this relationship.

---- INSERT FIGURE 3.1 ABOUT HERE ----

### **Firm heterogeneity in limits to value creating growth**

Firm heterogeneity in the limits to value creating growth can have both external and internal factors. Among external factor are for example supply, demand, and finance constraints (Hay & Morris, 1991; Marris, 1963, 1964). However, in this study these constraints are not considered as they are most likely not affected by the extent to which a firm orients itself to its stakeholders.

With respect to internal limits to profitable growth, Baumol (1962) is the first to show using formal modeling that under some basic assumptions, firms have an optimum rate of growth. Most important of these assumptions, is that at a certain rate of growth costs of integration become higher than the benefits. Later, these rising costs were shown to be attributable to managerial limitations (Richardson, 1964; Slater, 1980). Since that model, several authors have found empirical evidence that extreme levels of growth reduce profitability (Ferlic, 2008; Markman & Gartner, 2002; Ramezani et al., 2002).

In a similar vein, the literature on the Penrose effect shows that growth in one period is negatively correlated with growth in the next period. This is highly consistent with Penrosian growth, since if firms grow at high rates in one year, they deplete their managerial resources, and cannot grow as fast in the next year (Shen, 1970). Gander (1991) finds that managerial resources do not need to limit growth as long as they grow at least as fast as the population on an industry level. Yet, in the literature on dynamic adjustment costs, it becomes clear that this is not necessarily possible. as costs are incurred when adjustments of productive resources are made, and current operations are adjusted (Ingham, 1992; Lucas, 1967; Mortensen et al., 1973;

Tan & Mahoney, 2005; Treadway, 1970; Uzawa, 1969). These dynamic adjustment costs are a major driver of what in this study is called the efficiency loss effect, and thus a major driver of firm heterogeneity in the limits to value creating growth.

The literature on dynamic adjustment costs finds several internal factors that influence the limits to profitable growth. First, this literature finds that firms with more slack managerial resources can achieve higher growth rates (Tan, 2003). Furthermore, growth mode influences these limits, and firms that grow predominantly through franchising are less affected by the Penrose effect (Shane, 1996; Thompson, 1994). Furthermore, Tan and Mahoney (2005, 2007) find several factors that can either strengthen or weaken limits to value creating growth. They find in the context of multinational firms, that the Penrose effect is more pronounced when firms rely heavily on tacit knowledge as this increases demands on training new productive resources. Furthermore, the Penrose effect is stronger for global industries as coordinating and integrating resources across the globe requires much more managerial attention. The same holds when employees are more unionized, as this complicates the integration process. On the other side, they find that several types of managerial experience that allows them to integrate growth with less managerial attention alleviate the Penrose effect. Lastly, the amount of time spent on managerial training (which is indeed the adjustment that this literature talks about), also determines the limits to profitable growth (Kor et al., 2016). All of these studies have in common that they pinpoint factors internal to the firm, or on an industry level as affecting the limits to value creating growth. This study builds on this work by investigating whether firms can use the resources, knowledge and social capital in their relationship with stakeholders can be used to fuel growth.

The strategic management literature also investigates the challenges inherent in generating profits from growth, but these studies mostly concern individual corporate development

initiatives. For instance, we know that firms differ in their ability to profit from alliances and acquisitions through building experience or organizational structures (Barkema & Schijven, 2008b; Haspeslagh & Jemison, 1991; see for example Kale et al., 2002; Zollo et al., 2002). However, research suggests that in order to understand growth fully, we should look beyond individual initiatives and consider the firm's overall growth strategy. Firms gain different types of knowledge and resources from different modes of growth, and a firm's overall growth strategy has performance implications above and beyond individual corporate development initiatives (Capron & Mitchell, 2009; Haspeslagh & Jemison, 1991; Laamanen & Keil, 2008; Zollo & Reuer, 2009). This paper builds on this literature by investigating the effect of the total amount of growth on performance while controlling for growth mode.

### **Stakeholder Theory, Operations Growth, and Value Creation**

Stakeholder theory is a useful perspective to understand how the firm's ability to create value from growth differs across firms. Stakeholders are defined as "any group or individual who can affect or is affected by the achievement of the organization's objectives" (Freeman, 1984, p.46). Stakeholder theory shows that descriptively (Barney, 2015; Bosse et al., 2009; Harrison, Bosse, & Phillips, 2010; Mitchell, Agle, & Wood, 1997; Parmar et al., 2010), prescriptively (Freeman, 1984; Hill & Jones, 1992), as well as legally (Blair & Stout, 1999), firms can be seen as a team of internal and external stakeholders that cooperate in order to create value, and managers can choose to prioritize other stakeholders than only shareholders. This is not to say that these groups of stakeholders cannot cooperate in a self-interested way, while cooperating, each stakeholder makes a decision how much effort to spend respectively on increasing total value creation and on increasing their share of that total value (Asher, Mahoney, & Mahoney, 2005; Coff, 2010; Hill & Jones, 1992; Pitelis, 2009). The relative amount of effort directed towards value creation and value capture, might be influenced by

stakeholder orientation, which increases stakeholder reciprocity (Bosse et al., 2009). To increase their stakeholder orientation, firms can for instance appoint employees to the board of directors, as often happens in Germany, or organize a customer advocacy department charged with the task of looking after customer interests, which Cisco has done.

Various stakeholders have resources that can help firms create value from growth. These include customers that demand new products, services, and functionality, and are often willing to design or adapt products, or provide functionality requirements (Baldwin, Hienerth, & von Hippel, 2006; Hippel, 1998; von Hippel, 1976). Furthermore, suppliers provide resources and knowledge for growth (Kotabe et al., 2003; McEvily & Marcus, 2005; Uzzi, 1996), and employees integrate information from customers and suppliers and they execute the growth strategy (Chakravarthy & Gargiulo, 1998; Haspeslagh & Jemison, 1991). Lastly, local communities can provide political support for or opposition to growth (see for example Kang, 2013), and shareholders evaluate growth opportunities and select initiatives for implementation.

However, stakeholders will not necessarily share their resources with the firm, and can even use them to block growth strategies. For instance, stakeholders can bring lawsuits (Eesley & Lenox, 2006), and governments can refuse to grant permits (Kang, 2013). Thus, managers can boost their ability to sense and seize growth opportunities if they can to convince stakeholders to pool their resources to create value together, instead of use them for (potentially opportunistic) value capture (Frooman, 1999; Phillips, Berman, Elms, & Johnson-Cramer, 2010; v. Werder, 2011). For managers, strategically orienting themselves towards stakeholders is one way to leverage stakeholder resources as stakeholders that feel their concerns are taken into account are more likely to reciprocate (Bosse et al., 2009; Harrison et al., 2010). In the

next section, a proposition is developed regarding the effect of stakeholder orientation on the ability of the firm to create value from growth.

Stakeholder orientation is thus expected to affect the decision process through enhanced information, access to resources, and commitment to these stakeholders. In stakeholder theory, the decision maker is not a unitary actor, instead, decisions come to be through a complex interactions between stakeholders, managers, and the board. Each stakeholder has diverse interests, and managers must satisfy these stakeholders, who form coalitions in order to influence strategic decision making (Cyert & March, 1963). One of their main tasks of managers is to prioritize stakeholder concerns based on their urgency, legitimacy and power (Mitchell et al., 1997), and then come up with a strategy that does justice to these claims. Eventually, the board functions as an arbiter to control the governance of the firm, and can influence strategy significantly if they believe that the manager does not fulfill this task.

### **3.3 HYPOTHESES**

Stakeholder orientation is expected to moderate the relationship between operations growth rate and profit through two mechanisms, a positive reciprocity effect and a negative escalating commitment effect. In order to understand how this moderation will occur we need to understand the effect that these two mechanisms have on both the input increase and efficiency loss mechanisms underlying the baseline relationship (Haans et al., 2015). These four mechanisms are summarized in the two by two in Figure 3.1, where the vertical axis differentiates between the reciprocity and escalating commitment effects.

#### **Stakeholder reciprocity**

Stakeholder involvement in organizational decision making can affect profit positively by increasing stakeholder reciprocity (Bosse et al., 2009), both by strengthening the input increase

effect, and by weakening the escalating commitment effect. When stakeholder orientation is increased, stakeholders become more likely to direct their knowledge, resources, effort and social capital towards value creation rather than selfish value capture (Asher et al., 2005; Coff, 1999). First, stakeholders have intimate knowledge about their own preferences (Harrison et al., 2010), if stakeholders share this knowledge, decision makers can use this to identify value creating growth opportunities. Keeping fixed managerial resources, this should thus increase the firm's ability to sense opportunities. Stakeholder reciprocity thus enhances the input increase effect. For example, customers can provide the firm with product enhancements or designs, that the firm can subsequently start to produce (Baldwin et al., 2006; Hippel, 1998). This mechanism is summarized in block two of Figure 3.1.

Furthermore, stakeholder reciprocity can reduce the efficiency loss effect by boosting the ability to seize growth opportunities. When stakeholder orientation is higher, stakeholders are more likely direct effort, physical resources and technical know-how towards maximizing total value creation rather than value capture (Coff, 1999, 2010), since they would expect the ex post division of total value to be more fair. Similar to this mechanism, Gulati & Nickerson (2008) find that firms in the automobile industry that had higher levels of pre-existing trust, which is highly related to trust, were more likely to govern their relationships with suppliers using less formal and less costly governance modes. Because managers have to put less effort into monitoring the growth process for the same amount of growth, they can handle a higher rate of growth with the same managerial attention. This mechanism is summarized in block two of Figure 3.1.

For the reciprocity affect in general, it holds that this mechanism is characterized by decreasing marginal returns. Increasing stakeholder orientation is only beneficial until a certain amount of reciprocity has been built and stakeholders start to share their knowledge, resources,



and social capital. Although at this point increasing stakeholder orientation further might have small gains in the extent to which they share these resources, gains will not be as large.

### **Escalating commitment**

However, stakeholder orientation can also lead to escalating commitment and influence both the input increase and the efficiency loss effect negatively. As managers have to divide their attention between day-to-day operations and organizational growth, managers also have to make decisions as to how much attention to direct towards current stakeholders and opportunities that involve parties that are not currently stakeholders (Ocasio, 1997). As stakeholder orientation increases, firms might become focused on the knowledge and resources that their current stakeholders possess (Christensen & Bower, 1996). When sensing opportunities, firms might focus on information regarding the utility functions of their current stakeholders, irrespective of whether other parties exist for which the firm is in a better position to create value. Thus, the firm might miss opportunities with high returns on investment, weakening the input increase effect as they become less able to sense growth opportunities. For example, Christensen and Bower (1996) find that some firms in the disk drive industry overly focused on the demands of their current customers. These firms subsequently overlooked other possible technologies that were at that point only interesting to other consumers, but ended up creating more value. This mechanism is summarized in block 3 of Figure 3.1.

Analogously, stakeholder orientation might strengthen the efficiency loss effect by reducing their ability to seize opportunities. Decision makers might be more likely to source their growth using current stakeholders when they orient themselves more towards them, irrespective of whether other parties are in a better position to create value. For instance, Uzzi (1997) finds that firms that are embedded into dense networks in the apparel industry are more

likely to stay with their business partners (suppliers and buyers) even when this is not the best choice financially. This mechanism is summarized in block 4 of Figure 3.1.

The escalating commitment mechanism in general is characterized by increasing marginal losses. Only at relatively high levels of stakeholder orientation will decision makers within the firm start to become so committed to their current stakeholders that they would forego, or worse, become oblivious to, potentially value creating opportunities that do not involve the firms current stakeholders.

Due to the functional form of these two mechanisms, the reciprocity effect dominates for firms with moderate levels of stakeholder orientation, when the firm is able to relevant stakeholder resources as slack in order to fuel their growth, but is not yet too committed to their current stakeholders. Instead, at high levels of stakeholder orientation, firms are starting to become too committed to their stakeholders so that the escalating commitment effect dominates.

*Proposition 1: firms with medium levels of stakeholder orientation are able to create more value from growth than firms with low or high levels of stakeholder orientation.*

two variables separately provides more information than only investigating its effect on the ratio.

### 3.4 METHODS

#### Data requirements

In order to be able to understand the effect that stakeholder orientation has on the limits to profitable growth, we need a measure of stakeholder orientation, but also a way to model the limits to profitable growth. This requires data on operations growth and on value creation. Next

to this, in order to reduce the effect of spurious correlations, various firm characteristics need to be controlled for.

### **Sample**

To test proposition 1, the full sample of companies that Thomson Reuters rates in the Asset4 database is used. This sample allows me to create a measure for stakeholder orientation, as asset4 uses public data to rate firms on their environmental, economic, and social performance using 1200 individual items. It consists of an unbalanced panel of 4,800 public companies in multiple countries and industries over the period of maximum 10 years. The dataset covers sixty-five countries and all twenty two-digit NAICS industries, and the companies are selected from popular indices such as MSCI World, Europe, and Emerging Market, STOXX 600, Nasdaq 100, Russell 1000, S&P 500, FTSE 100, ASX 300. The broadness of this sample helps ensure generalizability with respect to industry and country differences. Furthermore, the sample is comprised of firms that are highly successful as they are covered by these major indices, so that we cannot say for certain whether results hold for firms that are less successful. The information in the Asset4 database is supplemented with accounting data gathered from the Orbis database, and acquisition data from the zephyr database, both by Bureau van Dijk, with which measures for input and output growth, size, industry, country, acquisition activity, and age are computed.

The final dataset is what remains after merging these datasets, dropping observations with missing variables and extreme outliers (above 99<sup>th</sup> percentile employee and asset growth, as well as earnings before interest and tax), which results in a drop of approximately two and a

half percent of the data, and deleting observations with negative growth<sup>4</sup>. This leaves an unbalanced panel of 9,427 observations from 2,810 firms that have non-missing values for at least three observations over the period of 2005-2014.

### Measures for Dependent Variables

**Value creation:** As discussed previously, this study uses two measures for value creation. The main measure of value creation is profit, which represents the value that is directed towards the firm's shareholder (Jensen & Meckling, 1976). This is traditionally used as a measure for value creation, and in this study, measure this as EBIT. Increasing profits is often a priority for firms, and firms grow their operations to increase profits. The log of EBIT is taken to minimize the effect of outliers, because EBIT has negative values, in order for the log to be defined, a linear transformation has to be applied, so that the final measure is  $\log(1+\text{ebit}-\min(\text{ebit}))$ .

An alternative measure to this, that is often predicted to have an inverse U shaped relationship with operations growth, is profitability. First, results hold when using profitability as a dependent variable, and the inflection point is about at the same point as when using profits as a dependent variable. This is logically true in the case where sales grow faster than profit with employee growth rate, and where the limit to value creation in terms of sales is higher than for profit, as is the case in this sample. The disadvantage of using profitability is that it becomes impossible to differentiate the effect of employee growth on total payments from its

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<sup>4</sup> This theory considers organizational growth, not downsizing. The process and motivation underlying operations growth are different from those underlying downsizing, and it has a different impact on virtually all stakeholders involved (Karim, 2009; Whetten, 1980, 1987). This is not to say that these two processes cannot have a symbiotic relationship in which firms downsize in order to free up resources for growth. Instead, I want to point out the fact that it is unlikely that for two identical rational firms with the same goal, one firm will choose to grow, and another firm will choose to downsize. Nevertheless, results are identical for positive growth when using all observations and interacting the independent variables with a dummy for positive growth (this also clearly shows different relations and interactions for positive growth, as is theoretically expected). The reason these analyses are not shown as the main analyses is that they have many interaction variables and are therefore less intuitive.

effect on the payments distributed to the firm's shareholders. Alternative measures for value creation are financial measures, but these are difficult to relate to Penrose (1959), who really focuses on the relationship between inputs and outputs of production. Furthermore, financial measures do not allow an understanding of total payments generated and the amount of payments directed to the shareholders.

As a robustness check, other accounting and financial measures are used: EBITDA, gross profit and Sales, which gradually incorporate a smaller percentage of the costs incurred and therefore focus less on the cost efficiency with which the firm produces. It is expected that limits to profitable growth occur at higher rates of growth as measures do not take into account costs, as a main part of the dynamic adjustment costs associated with growth are related to a loss in cost-efficiency. These measures are transformed in the same way as the main measure.

Possible concerns with accounting variables are that they might be susceptible to different accounting standards across countries. Although this remains a concern, the regression includes firm fixed effects, which should control for stable differences across accounting procedures. Nonetheless, robustness checks are done with financial measures: market value (MV)(Stettner & Lavie, 2013) and, market value added(MVA) (Hillman & Keim, 2001), and return on equity (ROE). Market value represents the total market valuation of the firm, and market value added represents the market value compared to the total capital invested in the firm, reflecting the extent to which managers can transform capital into market value, and thus is a good financial measure of long term shareholder returns. Return on equity represents the net income as a

proportion of shareholder equity, and is thus a measure of how much profit a firm generates with shareholders equity. The financial measures also undergo the same transformation as ebit.

### **Measures for Independent Variables**

*Operations growth:* To measure growth, researchers have used many measures, such as asset growth, employee growth, and sales growth (Delmar et al., 2003). Because the hypotheses are specifically about operations growth, the growth of firm resources, which are inputs and is consistent with the resource based view, sales growth is excluded. Sales growth is an outcome, and is instead used as an alternative dependent variable in auxiliary analyses. This leaves two measures for operations growth, tangible fixed assets, and employee growth. In this study, employee growth is closer to the theoretical mechanisms as this variable captures better the growth in organizational complexity of the firm. Instead, the integration of tangible fixed assets is generally easier to coordinate, and thus does not require as much managerial resources. Therefore, compared to alternative measures of operations growth (for instance tangible fixed asset growth), employees are most difficult to integrate and thus we are most likely to see limits to operations growth. The measure used for employee growth is the employees in period  $t$  over the employees in period  $t-1$ .

Another consideration is whether to use proportional or absolute measures of growth. Proportional and absolute measures of growth make two different assumptions about how managerial resources per employee evolve with size. In the limits to growth this assumption is crucial as this limit is mainly determined by managerial resources. In absolute measures of growth, it is necessary to assume that the amount of managerial resources available to coordinate growth is equal across firms independent of size, whereas in proportional measures

of growth, it is necessary to assume that these managerial resources increase with size and therefore the latter is closer to reality.

***Stakeholder orientation:*** For Stakeholder orientation I use the same measure as is used in Bettinazzi (2016), which uses the Asset4 data. These data in total have more than 1200 individual items (although some are included both in a binary form and a value that Asset4 assigns to either yes and no based on an unknown algorithm), that assess a firm's performance in terms of social, environmental, governance and economic outcomes. From these items, all items that concern local communities, shareholders, customers, suppliers, or employees, and relate to the way the firm perceives the relationship the firm has with these stakeholders were selected. For those items that have both a value and a binary choice, the binary variable was chosen as their values are less frequently missing, and it is not possible to trace back the algorithm Asset4 uses to assign a value to the binary category. This leaves 17 questions for local communities, 8 for shareholders, 8 for customers, 5 for suppliers, and 10 for employees. Examples of these items are: "does the company see suppliers as key business partners", "Does the company monitor relationship with customers?", or "Does the company set targets to improve relationship with local communities?". The full list of questions can be seen in Appendix 3.1. Then, for each firm-year observation, all the items are averaged by stakeholder group, and then the average value is taken over all the stakeholder groups. Subsequently, these measures are standardized by country and industry.

### **Control Variables**

In order to reduce the effect of spurious relationships as much as possible, we should control for a number of variables. First and foremost is the importance of size at t-1. This size can affect both performance at time t and the rate of growth. Furthermore, the integration of fifteen percent growth for a firm that at t-1 has a hundred employees is much more complex than that

of a firm that has a thousand employees, even if the larger firm is expected to have more slack managerial capacity in absolute amounts. Furthermore, a control is added for the amount of assets the firm has, as asset intensive firms might have encounter different problems in coordinating the integration of new employees as more service oriented firms will. The number of majority acquisitions the firm conducted is controlled for, since growth mode partially determines the outcomes the firm receives, and the integration of an acquisition follows a different process from the integration of organic growth. Labor productivity at time t-1 controls for the fact that some firms might transform inputs into outputs at different levels of efficiency in their existing organization, and might thus be more capable of generating profit from growth based on that. Firm fixed effects are included, which amongst others control for factors such as firm age, industry, and country effects, which reduce the impact of differing accounting standards, different growth opportunities, and firm experience, which all might relate both stakeholder orientation and value creation from growth. Lastly, year fixed effects are also included, which control for macroeconomic events such as the financial crisis that can affect both stakeholder orientation and value creation from growth.

### **Statistical model**

Next to the potential spurious correlations that are controlled for by including the variables in the previous section, a threat exists to the identification of the moderating effect of stakeholder orientation on profit from operations growth. Stakeholder orientation might be related both to general managerial capability and to the firm's ability to create value from growth. This is a spurious relationship, and left unchecked, could bias our estimates. To reduce these concerns, coarsened exact matching is used (Iacus & King, 2012; Iacus, King, & Porro, 2011). This technique can be used to correct for unobserved differences in the treated vs. untreated group (in this case the treatment is stakeholder orientation) that affect both the



independent and dependent variable. It is built on the idea that within these two groups, we can compare those firms that are similar on observables, assuming that they are also similar on the unobservables we are worried about. To make these groups more similar on observables, the technique relies on eliminating certain observations and assigning a weight on the remaining ones so that the average values of observables within each bracket are the same.

In order to correct for this potential bias, first the weights of each individual observation are obtained using coarsened exact matching based on three groups with low, medium and high stakeholder orientation. Then coarsened exact matching is used with bins that use Sturge's rule (Sturges, 1926) on several observable variables: Age, Employee size, Tangible fixed assets, and lagged labor productivity. Furthermore, the observations in the three groups are matched exactly on industry and country.

### 3.5 RESULTS

Table 1 displays the summary statistics of the variables used and their correlations, means, standard deviations, and minimum and maximum values.

---- INSERT TABLE 3.1 ABOUT HERE ----

#### **Baseline results**

In Table 3.2, Model (1), shows a model with only control variables, in model (2), variables are added for the employee growth measure. Here we see that employee growth in itself has a positive but statistically non-significant effect on profit.

---- INSERT TABLE 3.2 ABOUT HERE ----

In Model (3), the squared term of employee growth is added. The main term is positive and significant, whereas the squared term is negative and significant. This is consistent the baseline expected relationship that employee growth and profit are inverse-U shaped related.

In Figure 3.1, we can see the magnitude of this effect. It follows that the maximum value firms can create from growth in a given year is about a four percent increase in profits, which is reached at about thirty percent employee growth. For illustration, this means that two firms of the same size at time  $t-1$ , one that does not grow, and the other grows sixty percent will have approximately the same profit increase. More than thirty percent of the firms in the sample had reached this level of growth at least once in the seven years they on average appeared in the dataset. Thus, it is likely that a firm will reach this level of employee growth in its lifetime, especially when the firm is in operations for a long period of time. Furthermore, the average limits to growth rate are expected to be overestimated, so that in reality firm on average reach these limits at lower levels of growth (see section on identification). Moreover, many firms have limits that are lower than the average depending on their ability to sense and seize growth opportunities, which becomes apparent when we look at the moderating effect of stakeholder orientation.

---- INSERT FIGURE 3.1 ABOUT HERE ----

### **Results stakeholder interaction**

In model (4), dummies are added for medium and high stakeholder orientation, and its interaction with employee growth and employee growth squared. One dummy variable equals one for moderate levels of stakeholder orientation, where the score is between the 25<sup>th</sup> and the 75<sup>th</sup> percentile (moderate). The other dummy equals one for high levels of stakeholder orientation, where the score is above the 75<sup>th</sup> percentile (high). Dummies are used because this reduces multicollinearity concerns and eases interpretation. The interaction between moderate stakeholder orientation and employee growth squared is positive and significant, while the interaction between moderate stakeholder orientation and the level growth variable is negative

(though not significant). The interactions with the high stakeholder orientation dummy are both not significant.

However, as discussed before, it is possible that stakeholder orientation is correlated with a general management capability. Therefore, in Model (5) the same analysis is shown using coarsened exact matching, where we see that the results become insignificant but that for moderate levels of stakeholder orientation, both effects become positive, while for high levels of stakeholder orientation the effects are negative. These results are much more easily interpreted when graphed, and it is possible to see the significance level at different rates of growth, the results are graphed in Figure 3.2. Here, we see that for low levels of growth, stakeholder orientation does not seem to provide firms with an advantage, whereas firms that have either low or high levels of stakeholder orientation reach limits to growth much faster.

---- INSERT FIGURE 3.2 ABOUT HERE ----

To truly test for the hypothesis, Model (6) only includes the moderate stakeholder orientation dummy interactions, and graphed them in Figure 3.3. This allows a test for the statistical significance of the difference between firms with moderate levels of stakeholder orientation and those with either high or low levels. Here, we can see that firms with low and high stakeholder orientation reach their limits at about twenty-two percent growth, which is reached by forty-one percent of firms in the seven years they are in the sample on average. On the other hand, firms with medium levels of stakeholder orientation reach these limits only at a growth rate of forty-two percent, which is reached by about twenty percent of the firms. Furthermore, we can see that firms with moderate levels of stakeholder orientation on average create more value from growth than firms with low or high levels of stakeholder orientation over the entire range of growth rates. They statistically significantly start to do so from forty percent growth levels, where the marginal increase in sales from employee growth is about 1

percentage point higher for firms with moderate stakeholder orientation (which is thirty-three percent of the average limits to growth in the entire sample). This difference subsequently increases drastically as firms start to engage in more extreme growth levels.

---- INSERT FIGURE 3.3 ABOUT HERE ----

### **Robustness**

To assess the robustness of the findings presented in this study, several steps were undertaken. First, several steps can be undertaken to identify that a relationship is indeed inverted-U shaped (Haans et al., 2015). First, when estimating an inverse U shaped relationship, the researcher should verify that the inflection point lies within the sample. This can be seen from Figures 1 and 2. Furthermore, when running the regression on only the part of the sample that is characterized by the downwards sloping part of the curve, the relationship between the independent variable and the dependent variable has to be negative. In unreported analyses, these tests indeed provided a negative coefficient. A test was also ran that included several dummy variables for various ranges of growth rates, and this generally shows an inverted U shaped relationship, although this is not always statistically significant, and especially in the extreme ranges of growth the pattern is not visible due to low numbers of observations in each batch.

I also ran these tests with different specifications. Results are qualitatively similar when not including firm or year fixed effects, and when using random effects or even random coefficient models. Another possible confounding factor is that firms with high growth rates follow different growth strategies. To control for this, the analysis was run only including firm-year observations in which firms do not engage in acquisition activity. This allows me to test whether the results are driven by firms growing via acquisitions. This is not the case, as results

are similar for these firm-year observations although here it seems that even high levels of stakeholder orientation can be beneficial to the firm's ability to generate profits from growth.

Furthermore, I also test these relationships using a series of alternative dependent variables. For all these tests, I use the same specification as in Table 2, model (6), but with sales instead of profits as a dependent variable. The effect of moderate levels of stakeholder orientation on output becomes much stronger as measures are taken that do not include costs. When taking respectively ebit, ebitda, gross profit, and sales as an outcome variable, the effect on value creation from growth for firms with moderate levels of stakeholder orientation becomes much bigger in magnitude, as can be seen in figure 3.4. However, when we look at the figure, we see that in fact for high growth rates this difference does become statistically significant for sales, and so does the difference between the optimum growth rate. For ebitda and gross profit, the difference does not become statistically significant at 95% confidence intervals, but it does for 90% confidence intervals. Another striking observation is that in terms of sales, firms with high levels of stakeholder orientation perform similarly to firms with low levels of stakeholder orientation, whereas they perform much worse in terms of creating profits from growth. This might indicate that firms with higher levels of stakeholder orientation do not necessarily aim to generate high levels of profit, but might be more likely to maximize other variables, such as sales growth.

Furthermore, when looking at financial measures in figure 3.5, we see that for ROE and Market value added, the patterns are different though similar though do not become statistically significant. For market value added, firms with moderate levels of stakeholder orientation have a U shaped relationship with stakeholder orientation, but do perform better at high rates of growth. For ROE, moderate and low levels of stakeholder orientation have similar performance

at different growth rates, and firms with high levels of stakeholder orientation have much lower levels of ROE at high growth rates.

Lastly, the limits to profitable growth are also visible in medium to long term performance. The negative effect of a high growth rate in one year can practically be absorbed in the medium term, but not fully. Limits to 3-year average value creation occur only for extreme levels of growth in one year, but firms with medium levels of stakeholder orientation perform much better over this period. The performance effects of a high growth rate in one year on value creation over a long period are also negative. When taking the average performance over the entire sample (an average of 7 years), we see that average growth rate relates positively to performance, but the gini-coefficient of growth rates over this period, which measures the extent to which growth is concentrated in one period (gini-coefficient = 1) or spread evenly across periods (gini-coefficient = 0), relates highly negatively to performance. This indicates that firms in which the growth is concentrated in one year perform much worse in the long run than firms in which growth is completed gradually over time. Also here an effect of stakeholder orientation is apparent, though firms with not moderate but high levels of stakeholder orientation are likely to be best at absorbing such shocks in growth in the long term. Results of all these robustness checks can be found in the appendix.

## **Limitations**

In an ideal experiment, it would be possible to identify the causal structures underlying the correlations by randomly allocating both the level of organizational growth, and the amount of stakeholder orientation. However, this is not possible and in fact for only a small subset of the total population of firms both data on organizational growth, value creation, and stakeholder orientation is available. Therefore, it is impossible to exclude a spurious relation, so that managerial capabilities jointly determine both stakeholder orientation, and the ability to

convert operations growth into value creation. Nevertheless, the results of this study are robust to coarsened exact matching on stakeholder identification so that the firms with low, medium, and high stakeholder orientation are similar on observables. In the best case scenario, if these firms that are similar in terms of average size, age, industry, country, prior labor productivity, and acquisition activity are also similar in terms of their general management capability, the results of the moderating effect of stakeholder orientation can be interpreted causally (Iacus et al., 2011). However, in the least, the results show that stakeholder orientation is highly related to the limits to profitable growth.

Also in the baseline relationship, there is potential concerns related to causality. In this section however, I argue that if these biases exist, which for at least one is likely, they bias the estimate of the squared term of growth towards zero. Thus, the fact that the null hypothesis is rejected is in fact stronger evidence for the existence of a limit to growth than it would have been in the absence of these threats.

One concern is that firms select their rate of operations growth on the basis of their ability to create value from growth. If this effect exists, it strengthens confidence in the existence of limits to growth as it leads to overestimation of the average limits to profitable growth. If firms stop growing at or before the point where the marginal effect of growth becomes negative, we would not see limits to profitable growth, but this does not happen for all firms. But, keep in mind that results should be interpreted as the average limits to value creation from growth in a particular period, given the firms' ability to sense and seize opportunities.

A second possible threat to identification in the baseline relationship is reverse causality. However, this is not a serious threat because the hypothesized effect is non-linear and constructed of an input increase effect and an efficiency loss effect. The reverse causality effect would work on the input increase effect, but if present, would strengthen results on the

efficiency loss argument as this would bias results towards zero. The hypothesis that profits relate to further growth due to the input increase effect have been researched extensively. This research has established that the way firms determine their growth is relatively random conditional on many factors, including prior profits (Geroski, 2005), which means that this bias might only be small. Furthermore, in particular a stream of research in economics exists that have actively tried to identify a causal effect of profit on future growth, and have found no evidence of such a causal linkage (Coad, 2009). However, even if prior performance would increase the ability to grow due to slack resources, this does not threaten the main thesis of this study, since the efficiency loss effect brings about the limits to growth (i.e. without this mechanism the effect of growth would be positive). And this reverse causality mechanism actually attenuates this efficiency loss mechanism at high levels of growth, as firms would have more slack resources to fuel their growth. Thus, if this reverse causality exists, it is expected to overestimate the limits to profitable growth, and thus increases confidence that the null hypothesis can be rejected.

A second limitation is that it was not possible to directly measure the ability to sense and seize opportunities. Even though theoretically, the mechanisms through which stakeholder orientation affects the ability to create value from growth run through the ability to sense and seize opportunities, this mediation remains implicit in the empirical models. For future research, however, it would be a great step forward if the ability to sense and seize opportunities could be explicitly measured, which might be possible given that growth is related to performance in an inverse-U shape. This shape is formed by two separate effects, and the slope of these effects is respectively determined by the ability to sense opportunities and the ability to seize opportunities. Since the respective slopes of these two mechanisms determine the rate of growth at which the inflection point occurs as well as the performance level at that optimum,



it is possible to determine the relative effect on the ability to sense and the ability to seize opportunities using shifts in the inflection point.

Lastly, this study only concerns organizational growth, whereas organizational decline is an equally common phenomenon in which stakeholders play a major role, albeit different from the role they play in organizational growth. Here, stakeholders may influence performance positively by providing the firm with slack resources, or negatively by disengaging with the firm. It would be interesting to investigate whether the extent to which a firm orients itself towards their stakeholders affects the probability of each of these reactions, and therefore should affect the firm's ability to create value even in decline.

### **3.6 DISCUSSION AND CONCLUSION**

This study investigates how the limits to value creation from growth in any given period differ across firms. It takes a stakeholder based view of firm growth, in which a firm is seen as a team of internal and external stakeholders that each contribute resources, knowledge, and social capital in order to create value from growth. This study finds that the extent to which firms strategically consider stakeholder interests and resources into their decision processes both enables and constrains profitable growth. Firms with moderate levels of stakeholder orientation are best positioned to create profits from growth in any given period, as this allows them to leverage stakeholder resources without escalating commitment that causes firms to forego promising growth opportunities that involve non-current stakeholder parties.

The main contribution of this study is that it shows that stakeholders play a central role in the ability to generate profits from organizational growth. In doing so, this study joins the literature on stakeholder theory with the resource based view, which amongst other seeks to understand profitable growth (Kor & Mahoney, 2004). Prior literature already provides a strong

theoretical understanding that slack resources, and the ability to sense and seize growth opportunities determine the internal limits to the firm's growth rate (Penrose, 1955, 1959; Teece, 2007), and several factors that influence firm heterogeneity in this respect (Kor et al., 2016; Shane, 1996; Tan & Mahoney, 2005, 2007). However, these studies do not consider relational factors. This study shows that stakeholders possess resources and knowledge that the firm can use as slack resources to fuel their growth. Core managerial decisions such as the extent to which the firm orients itself to its stakeholders have the potential to boost the firm's ability to sense and seize growth opportunities. In doing so, firms face fewer limits to profitable growth and can thus grow faster without compromising on short term performance goals.

Secondly, the notion that stakeholders play a central role in organizational growth also extends stakeholder theory. Work in this stream so far has investigated the effect of stakeholders or stakeholder orientation the ability to obtain several valuable resources such as access to finance (Ioannou & Serafeim, 2015), and on firm outcomes such as profit or market value (Berman, Wicks, Kotha, & Jones, 1999; Henisz, Dorobantu, & Narthey, 2014), and innovative performance (Flammer & Kacperczyk, 2016). This study adds to this literature by investigating the effect that stakeholder orientation has on the ability of firms to transform these resources into value creating opportunities. Findings indicate that stakeholder orientation can be seen as a management tool that can both enable and constrain profitable growth (Phillips et al., 2010). Thus, stakeholder orientation matters greatly not only in terms of access to resources and current performance, but also can help firms transform their organization by increasing their ability to create value from growth.

Future research could investigate the role stakeholders and stakeholder orientation play in other aspects of firm evolution. How does stakeholder orientation affect the firm's likelihood to diversify or go abroad, how does it affect the firm's likelihood to reorganize? And given the

way it affects the likelihood, how does it affect the performance of such corporate development activities. These questions so far have gone unanswered, but similar to the case of growth, stakeholders have resources, knowledge, and social capital that could help firms succeed in such ventures. Similar to the case of growth, stakeholders also have demands and limitations that might lead firms to forego opportunities involving non-current stakeholders. Therefore, an understanding of these questions could help us understand how stakeholder orientation can enable or constrain firm transformation in general.

Furthermore, future research could identify other determinants of the ability to sense and seize opportunities. How does firm size affect the firm's ability to sense and seize growth opportunities and thus the limits to profitable growth. Given that for firms with high stakeholder orientation it becomes so difficult to sense and seize growth opportunities, how is this affected by firm size? Although several studies would suggest that larger firms are better able to sense opportunities because they have more resources to do so, it might also become more difficult to select among the different options, and identify the most profitable ones, as not all opportunities that the firm identifies can be evaluated with the same rigor. Therefore, it is likely that large firms are less able to sense growth opportunities. However, larger firms might have more slack resources to seize growth opportunities. It would be interesting to see how these two factors together affect their limits to profitable growth. So far, we know little about these determinants, and therefore there is huge opportunity for research in this area.

This study showed that firms differ in their limits to profitable growth with the extent to which they orient themselves towards their stakeholders. Leveraging stakeholder knowledge, social capital, and resources through stakeholder orientation practices allows firms to sense and seize opportunities that they could otherwise not have sensed. Yet, firms should be wary of

becoming too strongly focused on their current stakeholders, so that they fail to consider novel growth opportunities not recognized by their current team of stakeholders.

#### 4. STAKEHOLDER ORIENTATION AND OPERATIONS GROWTH

**Abstract:** Using a series of staggered law changes that allow firms to take into account stakeholder interests into their strategic decision making, this study identifies a negative causal effect of stakeholder orientation on operations growth. The causal effect of stakeholder orientation on downsizing is also negative, so that firms become more stable in size. This implies that stakeholder orientation affects growth largely through increased selection pressures, where only those opportunities get seized that benefit a larger number of stakeholders than just the firm's shareholders. Alternative explanations, that stakeholder orientation increases the variation in perceived growth opportunities, managerial discretion and resource consumption by stakeholders are ruled out.

## 4.1 INTRODUCTION

Increasing size can help firms by increasing their ability to attract talent, and funds for reinvestment (Mishina et al., 2004). Furthermore, they can achieve economies of scale or scope which can help them create value (Cobb & Douglas, 1928). We know that stakeholders play an important role in the growth process and can therefore affect the rate at which firms grow, because it affects the decision making process and several agency considerations (Blair & Stout, 1999; Bosse et al., 2009; Harrison et al., 2010; Hill & Jones, 1992; Kor et al., 2016; Pitelis & Wahl, 1998). Yet, current theoretical work suggests that consideration of stakeholder knowledge, resources, and interests, called stakeholder orientation (Crilly & Sloan, 2012; Flammer & Kacperczyk, 2016), can affect growth rate through different mechanisms, and consequently can have both a positive and a negative effect on growth rate. In this paper, a natural experiment identified by Flammer and Kacperczyk (2016) is used to show that stakeholder orientation affects growth rate negatively, and that this effect is dominated by a selection mechanism where considering the interests of multiple stakeholders reduces the amount of viable growth opportunities.

Two main processes have been proposed through which stakeholder orientation affects operational growth. The first is that it affects the growth process through information sharing and the objective function (Bosse et al., 2009; Harrison et al., 2010). The second is the effect of stakeholder orientation on agency problems in the organization, as managers might receive more discretion and decide to grow more, but stakeholders might also consume more resources that could otherwise have been used for growth (Blair & Stout, 1999; Hill & Jones, 2009). The arguments put forth in these streams of literature however imply that stakeholder orientation can both increase and decrease organizational growth. In this paper, I show that the causal effect of stakeholder orientation on growth is negative. Moreover, using a series of opposing

predictions, I dig deeper into which of the four possible mechanisms is likely to dominate this relationship.

Through adapting the growth process, stakeholder orientation can either have a positive or a negative effect on operational growth. On the one hand, a variation increase mechanism might occur, as stakeholder orientation can positively affect the identification of growth opportunities that the firm perceives when the firm considers a more diverse set of stakeholders, because stakeholders have information about their utility functions and needs that can help the firm identify relevant growth opportunities (Harrison et al., 2010). On the other hand, a selection pressure effect might occur, as stakeholder orientation can also increase selective pressures on which of these opportunities the firm will seize when the firm considers more stakeholders, given that considering multiple stakeholders with diverse interests increases constraints on managerial decision making and thus reduce the amount of growth opportunities that adhere to these constraints.

Similarly, by increasing agency costs, stakeholder orientation can also have either a positive or a negative effect on operational growth (Hill & Jones, 1992; Jensen & Meckling, 1976). On the one hand a resource consumption effect could occur, as stakeholder orientation could affect growth negatively because stakeholders could selfishly consume firm resources that therefore cannot be used for growth (v. Werder, 2011), so that growth is also negatively impacted. On the other hand a managerial discretion effect could occur, as stakeholder orientation can also affect growth positively since managers might be able to justify a larger number of growth strategies to the board by explaining that these growth strategies benefit a specific stakeholder (Cennamo, Berrone, & Gomez-Mejia, 2009). Since managers stand to gain

a lot from growth, they might use this tactic to grow the firm more than is expected to be profitable (Jensen & Meckling, 1976).

A problem that occurs when only the effect of stakeholder orientation on growth is evaluated, is that this does not allow for differentiation between the agency cost and the growth process arguments proposed, as each theory puts forth mechanisms that can affect growth positively and negatively. To differentiate between these theories, the effect of stakeholder orientation on downsizing is investigated, as the agency theory arguments predict an effect independent of whether the firm is growing or downsizing, whereas the adaptations to the growth process and the downsizing process are different, so that the effect switches sign.

I estimate the effect of stakeholder orientation on performance using the full sample of firms in the compustat database from 1975 to 2015. The effect is estimated using a diff-in-diff approach that utilizes a series of staggered endogenous law-changes occurred that allowed decision-makers not only to maximize shareholder value creation, but also to consider the interests of other stakeholder groups identified by Flammer and Kacperczyk (2016). Results show that stakeholder orientation negatively affects organizational growth and downsizing, so that the selection effect dominates the effect of stakeholder orientation on growth.

The main contributions of this paper are to show that stakeholder orientation causally affects operational growth negatively, and to show that the selection mechanism dominates this effect. Therefore, this study contributes to the resource based view and capabilities literatures an understanding of the mechanism through which stakeholder orientation affects firm growth. Furthermore, this study contributes to the literature on organizational growth by identifying a factor that impacts growth rate, and by showing that stakeholder orientation affects growth differently from downsizing. Furthermore, to stakeholder theory this paper shows that



stakeholder orientation really affects the decision processes within the firm through which decision makers decide how much to grow.

In the remainder of this paper, the literature on growth rate and the growth process is reviewed, and the role of stakeholders in the growth and downsizing processes are discussed. Then, several conflicting hypotheses are put forward that can help determine which mechanism is most likely to underlie the relationship between stakeholder orientation and growth. The third section explains the methodology and subsequently the results are reported on. This paper finishes with a discussion of these results and concluding remarks.

## 4.2 THEORY

### Growth rates

One of the first studies that tried to identify a pattern in growth rates is done by Gibrat (1931). He hypothesized that the rate of growth would be independent of size. This hypothesis sparked a lot of empirical work on the determinants of growth rate. Both Sutton (1997) and Geroski (2002) indicate some stylized facts about growth. Contrary to Gibrat's hypothesis, decades of work trying to understand the distribution of growth rates has found that larger firms are more likely to survive, but their proportional rate of growth is smaller (Sutton, 1997).

Furthermore, firm growth follows a random walk (Geroski, 2002), indicating that it is hard to predict based on observable firm characteristics whether and how much the firm will grow or shrink in a given year. This implies that growth is path dependent, which is highly consistent with theorizing in Penrose (1959) and evolutionary economics (Nelson & Winter, 1982). Furthermore, growth rates are idiosyncratic (Geroski, 2002), meaning that they depend only little on industry or country factors such as industry growth and decline, or more general economic up and downturns, and are mostly firm specific. Thus, firm specific factors, such as

the extent to which they orient themselves towards their stakeholders, might be most instrumental in understanding firm growth rates. In order to understand such firm specific factors, we should first understand the process through which firms grow.

### **The growth process**

Penrose's (1959) theorizing on the process of growth also sparked the concept of capabilities, which then is greatly influenced by evolutionary economics (Nelson, 1995), and eventually formalized in the resource based view (Barney, 1991, 1986) and dynamic capabilities literatures (Teece, 2007; Teece et al., 1997). From these streams we know that the process of growth consists of sensing growth opportunities using the firm's entrepreneurial resources, and the seizing of growth opportunities using the firm's managerial resources (Teece, 2007). Sensing opportunities consists of at least two processes identifying growth opportunities and thus increasing the variation in observed opportunities, and selecting which of those opportunities to seize.

Another determinant of growth rate is the amount of slack resources (Penrose, 1959). In order to grow successfully, managerial and tangible resources have to be allocated to the growth process. Empirical work on the relationship between slack resources and growth have found differing results (Mishina et al., 2004), possibly due to differing effects of different types of slack resources (George, 2005), or that measures for slack resources need to be refined (Ferlic, 2008), so that at least some types of slack resources lead to increased growth. Thus, the growth rate of a firm is theoretically determined by the variety in perceived opportunities, the selection rules, and the amount of slack resources available to conduct this growth.

Even though growth seems random, some firm level factors have been identified that affect growth rates. Penrose (1959) provides a solid theoretical foundation of how growth is shaped. One hypothesis deriving from her work is the 'penrose effect' (Geroski, 2005). Numerous

studies have found support for the ‘penrose effect’, which is the hypothesis that firms that grow now will grow less in the future, since they reach a limit of the amount of growth they are able to manage and therefore opt not to grow in the next period (Penrose, 1955, 1959; Tan & Mahoney, 2005). This is because managerial resources are finite and cannot be replenished in the short term, as it takes time to train additional managers insofar as that they are able to oversee the growth process (Kor et al., 2016; Mortensen et al., 1973; Slater, 1980; Treadway, 1970; Uzawa, 1969). When firms grow at a higher rate than their firm-specific capacity to grow allows, they run into dynamic adjustment costs, that are incurred when ‘adjustments of productive resources (such as hiring new employees and new managers) disrupt current operations’ (Tan & Mahoney, 2005, p. 114).

When deciding how much to grow, firms gather information regarding potentially relevant growth opportunities, decide which of these growth opportunities have the highest potential, develop a business plan for each of these high potential growth opportunities, and then decide which of these final set of opportunities the firm will try to seize (Penrose, 1959). The extent to which firms can do this well, is determined by their ability to sense opportunities (Tece, 2007). The process of sensing opportunities can be subdivided into variation and selection, variation relates to the amount of opportunities that the firm can perceive, and selection relates to the process through which firms filter the perceived opportunities and determine which of them to seize. If the processes related to variation becomes more pronounced, firms are able to identify more growth opportunities with higher value creation potential and will thus grow

more, if the process of selection becomes stronger, they seize fewer opportunities as fewer will adhere to their requirements (Arora & Gambardella, 1994).

### **Stakeholder orientation and the growth process**

Stakeholder theory is a useful perspective to understand how the firm's ability to create value from growth differs across firms. Stakeholders are defined as "any group or individual who can affect or is affected by the achievement of the organization's objectives" (Freeman, 1984, p.46). Stakeholder theory shows that descriptively (Barney, 2015; Bosse et al., 2009; Harrison et al., 2010; Mitchell et al., 1997; Parmar et al., 2010), prescriptively (Freeman, 1984; Hill & Jones, 1992), as well as legally (Blair & Stout, 1999), firms can be seen as a team of internal and external stakeholders that cooperate in order to create value, and managers can choose to prioritize other stakeholders than only shareholders. This is not to say that these groups of stakeholders cannot cooperate in a self-interested way, while cooperating, each stakeholder makes a decision how much effort to spend respectively on increasing total value creation and on increasing their share of that total value (Asher et al., 2005; Coff, 2010; Hill & Jones, 1992; Pitelis, 2009). The more a firm orients itself toward their stakeholders might help decision makers leverage information pertinent to identifying attractive growth opportunities, but might also increase agency costs, as it greatly aggravates the agency problem (Frooman, 1999; Hill & Jones, 1992; v. Werder, 2011). This paper builds on and partially resolves these different effect that stakeholder orientation might have on growth.

### **Downsizing**

Growth and downsizing occur through distinct organizational processes. The process and motivation underlying operations growth are different from those underlying downsizing, and it has a different impact on virtually all stakeholders involved (Karim, 2009; Whetten, 1980, 1987). That is not to say that growth and downsizing cannot be highly synergistic processes,

and in order to grow firms often have to free up resources by downsizing less efficient parts of the organization. Yet, operations growth often has a revenue increase motivation, whereas downsizing has a cost reduction motivation (Vidal, 2013). The growth process is focused on factors outside the firm as firms need to understand demand and supply conditions and involves creation of new organizational structures and routines. Downsizing instead focuses on factors inside the firm as firms need to understand the value creating potential of parts of the current organization, and involved the destruction of organizational structures and routines. Therefore, the routines and skills underlying both processes are probably not the same. These theoretical differences are supported by empirical evidence that positive growth behaves differently from negative growth (Coad et al., 2011).

### 4.3 HYPOTHESES

The hypotheses in this paper are structured as follows, first the four mechanics concerning agency cost and the growth process are laid out and presented as opposing hypotheses for operational growth. Then, in the second section, I lay out four hypotheses that help differentiate between the individual mechanisms proposed in these literatures by also considering their effect on downsizing. The predictions are summarized in Table 4.1.

---- INSERT TABLE 4.1 ABOUT HERE ----

#### **Stakeholder orientation and the process of growth**

***Amplifying growth:*** When the firm orients itself more towards its stakeholders, the firm can receive information about new growth opportunities. Stakeholders can have intimate knowledge about their own preferences (Harrison et al., 2010), about production technologies (Nickerson & Zenger, 2004), and can help firms understand regulatory processes (Kang, 2013). If decision makers can access these diverse sets of knowledge, this can help can help

firms identify more and higher quality growth opportunities with the same managerial resources (For examples of this in other contexts, see for instance Cohen & Levinthal, 1990; Hurst, Rush, & White, 1989). Increasing stakeholder orientation is likely to increase stakeholder reciprocity, and thus make stakeholders more likely to share the information they possess (Bosse et al., 2009). Therefore, when firms increase their strategic orientation towards stakeholders, they are able to perceive a wider variety of growth opportunities and thus observe more high quality opportunities than they would if they would not orient themselves towards their stakeholders (Arora & Gambardella, 1994). For instance, customers often tweak products to improve their functionality (Hippel, 1998; Hippel & Krogh, 2003). When firms orient themselves towards their stakeholders, stakeholders are more likely to share these improved product designs with the firm, and the firm can therefore choose to pursue a business opportunity by commercializing the improvement.

From an agency theory perspective, stakeholder orientation can also increase growth rates. It is possible that a consideration of a diverse set of stakeholder interests allows managers more leeway and strategies that benefit the manager (Cennamo et al., 2009). This is because it is more likely that an individual strategy will benefit at least one stakeholder group, and the manager can argue that it is his goal to benefit this stakeholder group. Even less attractive growth opportunities are likely to benefit a stakeholder group, thus the higher the level of stakeholder orientation, the more opportunities for the manager to justify growth. Knowing that managers are likely to benefit from growth even if shareholders don't (Morck & Yeung, 1998), higher stakeholder orientation should thus lead to higher growth. Both the effects of

stakeholder orientation on the growth process and that on agency costs thus suggest that higher stakeholder orientation leads to higher levels of growth, resulting in the following hypothesis:

*Hypothesis 1a: Stakeholder orientation increases the rate at which firms grow*

**Attenuating growth:** Both of these theories also propose mechanisms through which stakeholder orientation can affect growth negatively. When looking at the growth process, increased diversity of stakeholders considered also brings increased diversity of interests and thus if the decision maker considers these interests, selective pressures will increase. Because the firm takes into account the interests of multiple stakeholders, firms will be more likely to accept “shared value” opportunities (Porter & Kramer, 2006) that benefit multiple stakeholders. Each group of stakeholders has different interests that need to be satisfied, and if all these are taken into consideration, objectively fewer opportunities will satisfy all demands. Decision makers will actively pursue opportunities that are closer to pareto-optimal for the groups of stakeholders that are considered, so that no stakeholder group value will be reduced. If one stakeholder group strongly opposes a growth opportunity, the firm might opt to forego it. These more stringent selection pressures will cause firms to grow at a lower rate (Arora & Gambardella, 1994).

Also agency theory can predict a negative effect of stakeholder orientation on operational growth. When looking at the effect of stakeholder orientation on agency costs. If stakeholder orientation increases, stakeholders can demand more resources to be diverted to them, so that fewer slack resources are available for the firm to fuel their growth, thus lowering growth rates (Hill & Jones, 1992).

Contrary to the effect that would be observed if the variation or managerial discretion mechanisms dominate, if the selection or resource consumption effects dominate, increased

stakeholder orientation should be associated with smaller growth. This leads to the following alternative hypothesis:

*Hypothesis 1b: higher stakeholder orientation is associated with smaller growth in employees.*

It is likely that both all four mechanisms play a role in determining the effect of stakeholder orientation on growth. However, the combined effect is likely to be dominated by one mechanism. If the effect of stakeholder orientation on growth is positive, the selection and resource consumption effects can be ruled out to be dominant. If the effect is negative, the variation and managerial discretion effects can be ruled out to be dominant. However, just looking at the effect of stakeholder orientation on growth doesn't give us information on whether the agency cost explanation or the growth process explanation is dominant. One way to differentiate between these two perspectives when looking at the effect of stakeholder orientation on downsizing. When investigating downsizing, the sign of the effect of agency theory arguments remains the same, whereas the sign of the effect of the process arguments changes.

### **Identifying the mechanism using the process of downsizing**

**Variation mechanism:** If the variation mechanism holds, in the case of downsizing the sign of the effect will change from the case of growth. When decision makers consider the information and resources of a more diverse set of stakeholders, they are also more likely to identify opportunities for downsizing in segments where the value proposition of the firm is not high enough, or where the firm is inefficient in production (Datta, Guthrie, Basuil, & Pandey, 2010). Therefore, in the case of downsizing, the firm is likely to downsize more. In combination with the information in the previous section therefore, if the variation mechanism



dominates the effect of stakeholder orientation on growth, the following hypothesis should hold:

*Hypothesis 2a: Higher stakeholder orientation is associated with higher rates of growth and with higher rates of downsizing (i.e. more negative growth).*

**Resource consumption mechanism:** The resource consumption mechanism has a negative effect on growth rate independent of whether firms grow or downsize. Stakeholders will consume resources independent of the specific situation the firm is in, and therefore also when the firm is downsizing, these stakeholders will continue to consume resources and thus the firm will have to downsize even more. In combination with the information in the previous section, if the resource consumption mechanism dominates the effect of stakeholder orientation on growth, the following hypothesis should hold:

*Hypothesis 2b: Higher stakeholder orientation is associated with lower rates of growth, but with higher rates of downsizing (i.e. more negative growth).*

**Selection Mechanism:** When the selection effect holds, the effect that stakeholder orientation has on firm growth pulls growth rate towards zero independent of whether the firm is growing or downsizing. The downsizing process can have several negative consequences for stakeholders as they might need to move, lose their job, valuable business, or the ability to source a product they need (Datta et al., 2010; Schweiger & Denisi, 1991). The process of downsizing can be proactive or reactive, so that the firm is either influenced by external factors, or internal factors (Datta et al., 2010). In the downsizing process stakeholder orientation has an effect that is analog to the effect on firm growth. When the firm orients themselves towards their stakeholders, fewer opportunities for downsizing (in the case of pro-active downsizing) will satisfy the interests of the broader set of stakeholders than would just the shareholders.

Furthermore, even in the case of reactive downsizing, where downsizing becomes more a necessity, firms might become overly committed to their stakeholders and refrain from downsizing (Uzzi, 1997). Therefore, stakeholder orientation will also attenuate downsizing (i.e. less negative growth is observed). In combination with information from the previous section therefore, if the selection mechanism dominates the effect of stakeholder orientation on growth, the following hypothesis should hold:

*Hypothesis 2c: Higher stakeholder orientation is associated with lower rates of growth and with lower rates of downsizing (i.e. less negative growth).*

**Managerial discretion mechanism:** The agency theory argument of managerial discretion increases growth rates independent of whether the firm is growing or downsizing. If the firm is downsizing, managers that are self-interested and gain status from working for a larger organization will want to minimize downsizing. When stakeholder orientation increases, managers can justify not downsizing because this hurts employees and customers, therefore, as stakeholder orientation increases, downsizing should be attenuated. In combination with the information from the previous section therefore, if the managerial discretion mechanisms dominates, the following hypothesis should hold:

*Hypothesis 2d: Higher stakeholder orientation is associated with higher rates of growth, but with lower rates of downsizing (i.e. less negative growth).*

#### 4.4 METHODS

Several empirical challenges exist in order to identify a causal effect of stakeholder orientation on operational growth since it is possible that a reverse causality effect exists, where firms that grow more generate more slack resources and therefore choose to orient themselves more towards their stakeholders. In order to identify a causal effect of stakeholder orientation

then we need exogenous variation in stakeholder orientation, which is variation that does not relate to the firm growth.

This exogenous variation is identified in Flammer & Kacperczyk (2016). They make use of a series of staggered constituency statues that allow firms to orient themselves more towards their stakeholders, implemented in a total of thirty-four different states in different years from 1984 to 2006. These law changes differ in wording across states, but all have in common that they allow decision makers to consider the interests of non-shareholder stakeholders in any circumstance that they deem appropriate.

Using the exogenous variation in stakeholder orientation due to the implementation of these statutes thus allows me to test the causal effect of stakeholder orientation on growth. In order to do this, data is collected from several sources.

## **Data**

To exploit this natural experiment, the data used by Flammer & Kacperczyk (2015) are replicated. Data is downloaded on constituency states, states of operation, size, age, and R&D investment from all companies that are listed in the Standard and Poor's Compustat database from 1975 to 2015.

## **Dependent Variable**

**Operations growth:** To measure growth, researchers have used many measures, such as asset growth, employee growth, and sales growth (Delmar et al., 2003). The hypotheses specifically concern operations growth, the growth of firm resources, which is consistent with the resource based view. Therefore, sales growth can be excluded as this is a measure of output. This leaves two measures for operations growth, tangible fixed assets, and employee growth. In this paper, employee growth is used, as this variable is more complex to integrate into the organization than tangible fixed assets, and therefore would be more likely to be problematic

if the resource consumption mechanism holds. The measure used for employee growth is the employees in period  $t$  over the employees in period  $t-1$ .

## Method

To identify the effect that stakeholder orientation has on the growth patterns of firms, a difference-in-difference approach is employed that makes use of the staggered implementation of constituency statutes across states in the US. This study closely follows the methodology followed by Flammer & Kacperczyk (2016) and (Bertrand & Mullainathan, 2003). The following regression is estimated:

$$y_{ilst} = \alpha_i + \alpha_t + \alpha_i \times \alpha_t \times \text{Constituency Statutes}_{st} + \gamma' X_{ilst} + \varepsilon_{ilst}$$

Where  $i$  represents individual firms,  $t$  years, and  $l$  locations of operation. This specification has several advantages, as it is less susceptible to confounding effects due to other state level changes in the treatment year, and can help disentangle variation in the effect of the treatment over time. Furthermore, because firms regularly operate in different states as the state they are incorporated in, we can include state of operation-year effects, which control for variations in growth that are specific to a certain state in a certain year. This also controls for firm fixed effects, which control for all factors that are stable across time, but vary across firms.

Further, controls are added for gross profit, earnings before interest and tax, the value of acquisitions as reported by Compustat, sales, total assets, and the log of employees. These variables should be controlled for, as current performance and current size have been indicated as two factors that might influence future growth, although evidence for this is mixed.

## Inclusion and exclusion restrictions

Flammer and Kacperczyk (2016) conduct several tests to assess whether inclusion and exclusion restrictions hold. First, the inclusion restrictions hold when stakeholder orientation is actually affected by the law change. Flammer and Kacperczyk (2016) find that a measure of

stakeholder orientation composed of the KLD scores on employees, customers, the natural environment, and society at large in fact increase by 18% on average after the implementation of constituency statutes. Furthermore, Luoma & Goodstein (1999) find that stakeholder representation on the board of directors increases significantly after the implementation of the statutes. Thus, it seems that the inclusion restrictions hold.

The exclusion restrictions hold when the implementation of these statutes is independent of the relationship between stakeholder orientation and growth. Possible threats to this exclusion restriction might be the political economy of the individual states, unobserved differences between treated and control firms, and other laws being implemented at the same time. The political economy of the individual states could bias results as firms that have a boom in growth might implement these constituency states and subsequently experience a reversion to the mean. This would not affect the results as states of incorporation do not necessarily match the state of operation, and the regression includes firm, year, and location-state-year fixed effects that would control for such issues.

Unobserved differences between firms in states that implement constituency statutes and those that do not could affect the results, but are unlikely to do so. First, the implementation of these laws is staggered, meaning that the control group changes over time. Initially it includes all firms, but as time goes on, firms in fewer and fewer states are in the control group. Furthermore, as a robustness test only states are included that eventually implement a constituency statute, and results remain qualitatively the same. This staggered implementation of constituency statutes also greatly reduces the likelihood of other law changes implemented at the same time to cause the effect on growth, as these laws would have to parallel the

implementation of constituency statutes across all states that implement them over a period of 22 years.

Finally, A scenario that often causes concern when using law changes as exogenous shocks is that firms lobby in order to get these laws passed. Given the results identified, this is a somewhat unlikely scenario as in order for the results to be biased away from 0, firms that wanted to and expect to reduce their growth through stakeholder orientation would have had to lobby for the implementation of constituency statutes. Apart from this being an unlikely scenario, firms in states that never implemented constituency statutes actually grew at a slightly higher rate before the implementation of the constituency statutes, which if anything would bias results towards zero.

#### 4.5 RESULTS

For descriptive statistics, see Table 4.2.

---- INSERT TABLE 4.2 ----

In Figure 1, we can see the uncontrolled effects of the implementation of the constituency statutes on firm growth and downsizing. Here we can see that after the implementation of the constituency statutes, firms that have positive growth grow less, and firms that downsize also downsize less.

---- INSERT FIGURE 4.1 ABOUT HERE ----

In Table 4.3, we see the main regression table. In Model 1, we see the difference in difference estimator of the effect of the implementation of constituency statutes on employee growth. We see that the main effect of an increase in stakeholder orientation is not significant and close to 0 when controlling for the combination of controls in this regression. However, when we allow the estimator to vary between positive and negative growth by including a

dummy for positive growth and the interaction between this dummy and the constituency state in models 2 and 3, we see that the effect of stakeholder orientation is negative for firms with positive levels of growth, and positive for firms with negative levels of growth.

---- INSERT TABLE 4.3 ----

This is consistent with hypothesis 1b and 2c, and therefore suggests that the effect of stakeholder orientation on growth predominantly increases the selection pressures on perceived growth opportunities. The effects are far from trivial. Firms that orient themselves towards their stakeholders have 2 percentage point lower growth given that the firm grows, and 2 percentage point lower downsizing given that the firm downsizes. This translates into about an 11 percent reduction in growth and downsizing as compared to the mean respectively, and even closer to 20 percent reduction in growth and downsizing when compared to the median levels.

### **Robustness**

To test the robustness of the results to alternative specifications and to dig deeper into the mechanisms, several robustness tests are conducted. First, it was tested whether these results hold with the exclusion of the state of Delaware, which so far has not implemented constituency statutes, but incorporates a large portion of all the (especially large) companies that are incorporated in the US. Results hold whether this state is included or excluded from the analyses. Second, it was tested whether results hold when only including firms that eventually implement constituency statutes. Results also hold for this case. Lastly, Bertrand and Mullainathan (2003) suggest a way to correct for a potential bias due to autocorrelation of the results. The test is to first run the regression without including dummies of constituency state and constituency state\*positive growth, then aggregate the residuals in four groups by state, positive and negative growth before and after the implementation of the constituency states and do regress these summed residuals as dependent variable on positive growth, constituency

state, and their interaction on this two period panel. Again, results are consistent as can be seen in Table 4.4.

---- INSERT TABLE 4.4 ABOUT HERE ----

### **Limitations**

The main limitation of the setup of this study is that the law changes do not force firms to take stakeholder interests into account in their decision making, and no direct measure of stakeholder orientation exists over the entire sample. However, anecdotal and empirical evidence suggest that firms do actually increase their orientation towards their stakeholders and even place stakeholders on the board of directors. Secondly, the population of this study is all from a single country, the US, which is generally considered to be a liberal market economy and therefore on average companies do not orient themselves towards multiple stakeholders as much as companies in other countries would (Hall & Soskice, 2001). It is highly possible that firms in the US are better able to use stakeholder orientation to differentiate themselves from other firms and therefore this also affects their growth patterns differently.

## **4.6 CONCLUSIONS**

This study examined the relationship between stakeholder orientation and employee growth rate using a difference in difference approach that exploits a series of staggered law changes that allow firms to orient themselves towards their stakeholders. Theoretically, stakeholder orientation can affect operations growth through changes in the growth process, that cause additional variation in perceived opportunities that cause higher growth, and stronger selection among these opportunities that cause lower growth. Furthermore, it can affect agency costs through allowing managers more discretion that causes more growth, and resource consumption by more stakeholders that causes less growth. Empirically, results indicate that



the selection effect, where stakeholder orientation reduces growth due to a reduction in opportunities that satisfy the interests of all stakeholders considered dominates. This is possible due to a set of opposing predictions of the effect of stakeholder orientation on growth and downsizing.

I find is that when firms increase their level of stakeholder orientation, if they decide to grow, they generally grow less, and when they decide to downsize, they downsize less. I find this by utilizing exogenous variation in stakeholder orientation, and therefore this relationship can be interpreted as causal. This indicates that firms are more stable in size when they orient themselves towards their stakeholders. This has several implications for the literature on growth, firm evolution, and stakeholder orientation.

To the literature on firm evolution, this study contributes a notion that core strategic decisions can guide firm growth, even if these decisions do not directly relate to growth. This has already been shown in the context of pre-adaptation (Cattani, 2005), where firms make the decision to enter a product market, which later turns out to give them an unforeseen competitive advantage in other markets. This study shows that stakeholder orientation alters the entire process through which firms make decisions about growth, so that each opportunity to grow is only seized if a more stringent set of conditions is met, because stakeholders have diverse sets of interests.

The results in this study have even deeper implications for the process of growth as studied in the resource based view and dynamic capabilities theories. These theories claim that a given resource or capability can provide the firm with a sustainable competitive advantage. However, growth entails processes of variation, selection, and retention that each have a different effect on competitive performance levels, as well as on the sustainability of that performance level.

The findings show that these individual aspects of the evolutionary process are differentially

affected by one resource. Stakeholder orientation has the power to affect both variation and selection, but empirically the effect on selection dominates. This indicates that roles of certain VRIN resources or dynamic capabilities might not necessarily be to create a sustainable competitive advantage, but might only affect the sustainability of a given competitive advantage, while other resources might affect the strength of a competitive advantage. Although the evidence in this paper is not enough to make any such claim, future research could try to identify differing effects on current performance as well as on the sustainability of a given performance level over time.

Furthermore, to the literature on stakeholder theory, this study provides insight into the strength of the effect of stakeholder orientation on changes in the growth process versus its effect on agency costs. To do this, this study exploits the fact that in the context of downsizing predictions of the growth process arguments flip in sign when compared to the context of growth, whereas predictions of the agency cost mechanisms have the same sign on growth rates independent of whether the firm is growing or downsizing. This study has shown that it is impossible to increase stakeholder orientation without fundamentally adapting decision-making processes that have a spillover into decisions that are not directly related to issues normally associated with stakeholder orientation.

To the literature on growth, this study has two implications. First, stakeholder orientation is a factor that has a meaningful effect on organizational growth. Furthermore, stakeholder orientation has a different effect on growth than it has on downsizing. This underlines the fact that growth and downsizing are two distinct processes that are usually thought of as separate issues, with separate motivations and challenges underlying these processes. The literature on organizational growth has not done enough to incorporate this distinction in their empirical work, where downsizing is often seen as a linear extension of growth. Instead, findings in this

study indicate that in order to investigate growth it might often make results more theoretically meaningful when researchers empirically treat growth differently from downsizing.

In this study, it is impossible to isolate the different effects of variation, selection, resource consumption, and managerial discretion. Instead, empirical evidence indicates that one of these effects seems to dominate. Future research could attempt to isolate the effects of variation and selection of growth opportunities, and resource consumption and managerial discretion by stakeholders to get a better understanding of the mechanisms behind the result. More generally, researchers could attempt to investigate jointly the effect of a given resource on different aspects of the evolutionary process. A caveat of this is that it is by no means an easy task because data is sparse and often researchers will partially have to infer the mechanisms underlying the results as was necessary in this study. However, the gains in terms of theorizing could be huge. We could understand better what the microfoundations underlying certain dynamic capabilities are by identifying how they affect different aspects of the evolutionary process. Furthermore, this could explain mixed findings in dynamic capabilities research, maybe some capabilities that seem like dynamic capabilities only affect selection, which should increase competitive performance at the time, but might reduce the sustainability of a given competitive advantage especially in dynamic environments, as firms become quick to select out unprofitable ventures that might later become profitable in a pre-adaptation logic. Other resources or capabilities might affect variation, which does not necessarily affect competitive performance at a given time, but should affect the sustainability of the performance, as firms can easily reallocate resources if one of their opportunities becomes profitable.

This study shows that stakeholder orientation attenuates growth given that firms want to grow, and attenuates downsizing given that firms want to downsize. Thus, firms become more stable and are less likely to take growth or downsizing opportunities. This indicates that

stakeholder orientation impacts strategic decision making, even on aspects that are not obviously related to CSR or sustainability goals, but also on core aspects of corporate strategy, such as growth.

## 5. CONCLUSION

This thesis shows that the extent to which the firm orients itself towards its stakeholders has a large impact on the growth process. The second chapter shows empirically that firms experience limits to the amount of value they can create from growth in a given year, as at high rates of growth they lack the managerial resources to plan, coordinate, and integrate growth, but that the growth rate at which firms run into this limit is highly firm specific. Then, the third chapter shows that the extent to which firms orient themselves towards their stakeholders is one determinant of this heterogeneity. It affects both the ability to sense and seize growth opportunities and with that the limits to value creation from growth. Stakeholder orientation allows firms to use stakeholder resources as slack resources to fuel organizational growth and thus create more value, but at high rates of growth, this benefit is overshadowed by the effects of escalating commitment. The fourth chapter shows that stakeholder orientation reduces the rate at which firms grow. Furthermore, additional tests are provided that together indicate that this effect is due to more stringent selection criteria that are applied to potential growth opportunities.

Together, the findings in these three studies have several implications above and beyond the implications of the individual findings. In the third chapter, stakeholder orientation is shown to help firms create value from growth. Yet, in the fourth chapter, findings indicate that when firms orient themselves towards their stakeholders, they are likely to grow at a lower rate. This seems contradictory at first as firms that create more value from growth should rationally grow more.

Three possible explanations exist for these findings. The first is that the constituency changes in the fourth paper shift firms from moderate to high levels of stakeholder orientation, and therefore, they actually show a decline in expected performance at high rates of growth.

To look at this, I investigated the dataset described in the second and third chapter, and find that both when firms move from low to moderate, and from moderate to high levels of stakeholder orientation, the growth rate reduces. This contradicts this theory, as this theory would predict that for a move from low to moderate levels of stakeholder orientation growth should increase, as this increases value creation. Therefore, this explanation is unlikely to be driving the results.

The second is that stakeholder orientation also increases the firm's ability to understand how much to grow. This is consistent with observations that firms on average grow less because they are less likely to grow too much. It is also consistent with the fact that for firms with moderate levels of stakeholder orientation, at high rates of growth we only observe firms that perform very well, because here we observe only firms with high capabilities to sense and seize opportunities. To investigate this, I assessed whether stakeholder orientation impacts the risk firms incur at high rates of growth using multiplicative heteroscedasticity models as described in chapter 2. Risk seems to reduce linearly when firms move from low to moderate levels of stakeholder orientation, and from moderate to high levels of stakeholder orientation. This is consistent with the second explanation. However, this explanation is inconsistent with the fact that at high rates of growth firms have low levels of risk, but perform much worse.

The final possible explanation is that stakeholder orientation affects the value that firms maximize when growing, and thus which types of growth opportunities the firm seized. This is very consistent with the mechanism uncovered in chapter four. This is also consistent with the fact that firms with moderate levels of stakeholder orientation outperform others at high rates of growth especially when looking at output measures that focus less on costs and more on payments. These payments could then be directed towards a wider set of stakeholders.

Therefore, this final explanation seems to be most in line with all the results found in this thesis, as it both fits with the theoretical explanations and the empirical results in this thesis.

As discussed in the individual discussion sessions, these three studies make several contributions to the literature on the resource based view, growth, and stakeholder theory. First and foremost, the findings in this thesis show that empirically the relationship between growth rate and value creation is inverse-U shaped and that these limits differ across firms. Furthermore, these findings show that stakeholders and the strategic integration of their interests into decision making processes influence the growth process. Not only do they influence the amount that firms grow, but they also influence the extent to which firms can create value from growth even at high levels of growth. All three studies combined seem to imply that this is due to a combination of improving capabilities to sense and seize opportunities, and stronger selection effects on growth, where firms select only those opportunities that they expect to create value for multiple stakeholder groups.

According to the results in this thesis, managers that want to maximize overall firm growth should limit the amount of stakeholder orientation. Managers that want to maximize profitability through growth however, should orient themselves towards their stakeholders, but again be careful not to rely on stakeholders too much. Finally, managers that aim to maximize stakeholder orientation might want to limit ambitions for organizational growth, as at very high levels of stakeholder orientation, firms grow less on average, and also are less profitable when they do decide to grow.

Although these aspects of growth have a minor role in the three studies in this dissertation, two findings are confirmed in all three studies that have implications for research on growth. First, all the studies in this dissertation point to the fact that positive growth is different from downsizing. This finding is in line with other studies that compare firms that

grow and downsize, such as Coad et al. (2011) and Whetten (1980, 1987), though these processes can also be complementary (Vidal, 2013). One way to empirically take into account these differences can be found in the literature on aspiration levels. An analog issue is present in this literature where performing above the aspiration level theoretically affects firm behavior differently than performing below the aspiration level. More recently, this literature has adopted the practice of using splines at the point where performance equals the aspiration level (Baum et al., 2005; Greve, 2008; Park, 2007). This method is used in the second and third paper of this dissertation, in both cases, findings indicate that the slope of the coefficient of growth on value creation indeed differs significantly between growth and downsizing.

Second, all studies show that various commonly used measures for growth measures relate to each other differently. This finding is already getting quite a lot of attention with recent studies that separate for instance between different effects of sales, asset growth and employee growth (Coad & Guenther, 2014; Delmar et al., 2003). Similar to this, findings in these studies indicate for instance that employee growth relate to sales growth non-linearly, and therefore it might be difficult to justify using both as a proxy for the same concept. Instead, future research could put effort towards theoretically separating between different measures of growth.

Although the studies in this dissertation show that stakeholder orientation in general affects the growth process, they do not consider the effects of different individual stakeholder groups. In the second paper stakeholder orientation is argued to have an effect on the ability to sense and seize growth opportunities. In reality, it is likely that some stakeholders impact the ability to sense opportunities, while others affect the ability to seize opportunities. Future research can delve deeper into the mechanics underlying how orientation towards various stakeholder groups differentially affects the ability to sense and seize growth opportunities. The inverse U shaped relationship between operations growth and value creation allows us to separate



between the effect on the ability to sense and the ability to seize opportunities. This inverse-U shape is built up from two separate mechanisms. One of these mechanisms, the slope of the input increase effect is driven by the ability to sense opportunities, whereas the slope of the efficiency loss effect is driven by the ability to seize opportunities. Given this, we can study movements in the inflection point of the inverse U shape in order to separate the effects of stakeholder orientation towards individual stakeholder groups on the ability to sense opportunities from the ability to seize them. In future research, I have started analyzing both theoretically and empirically these effects.

A last avenue of research of course is to investigate how stakeholder orientation affects other types of firm transformation. Growth is a particular type of transformation and other transformations, such as building new resources and capabilities, removing them through divestitures, redeploying and recombining them through organizational changes, might also be affected by stakeholder orientation.

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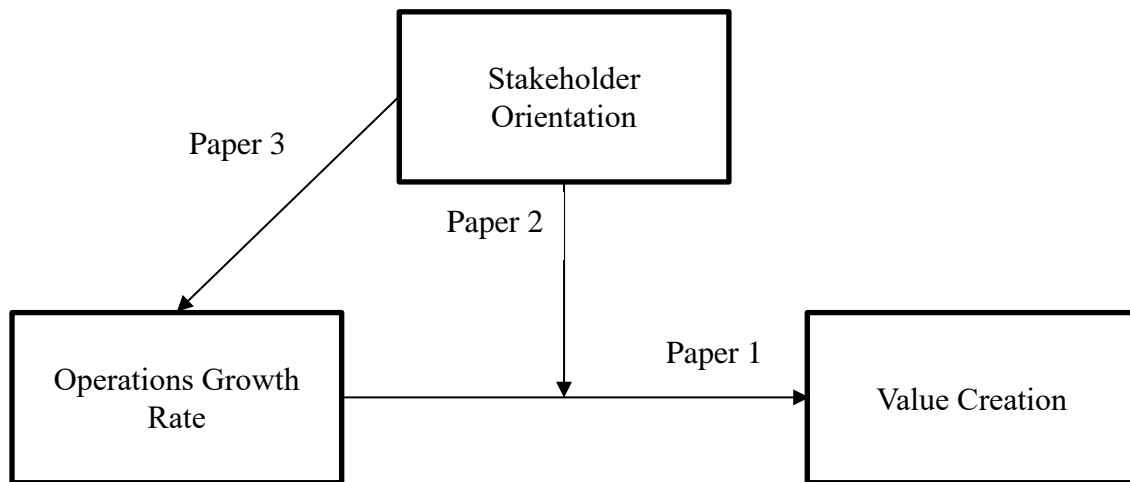
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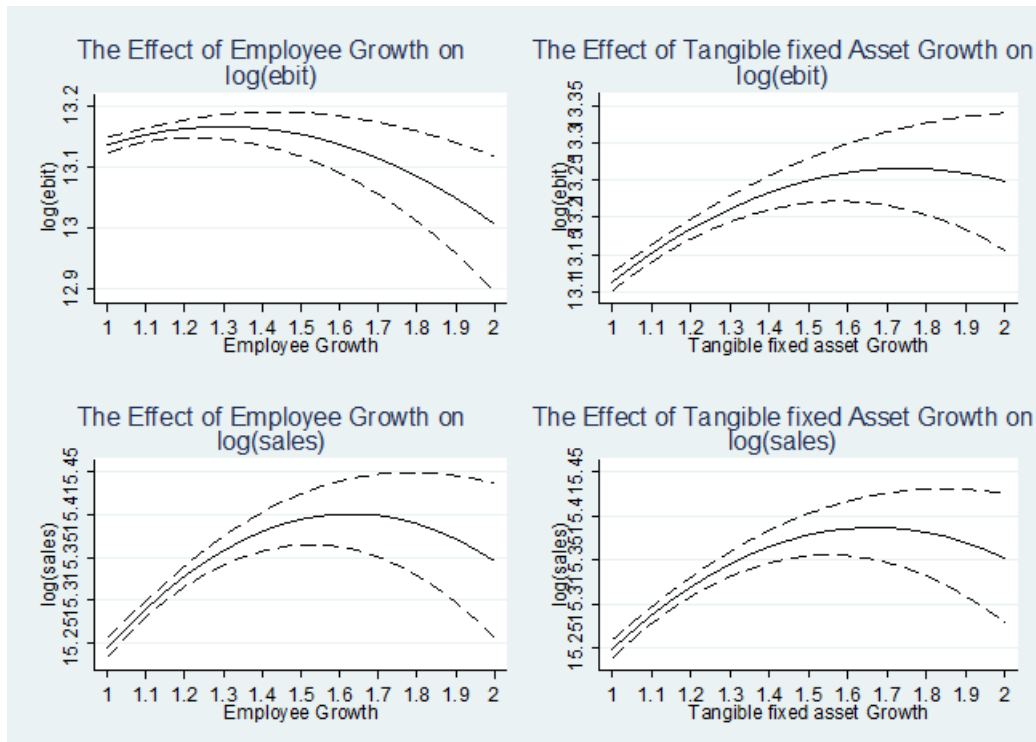
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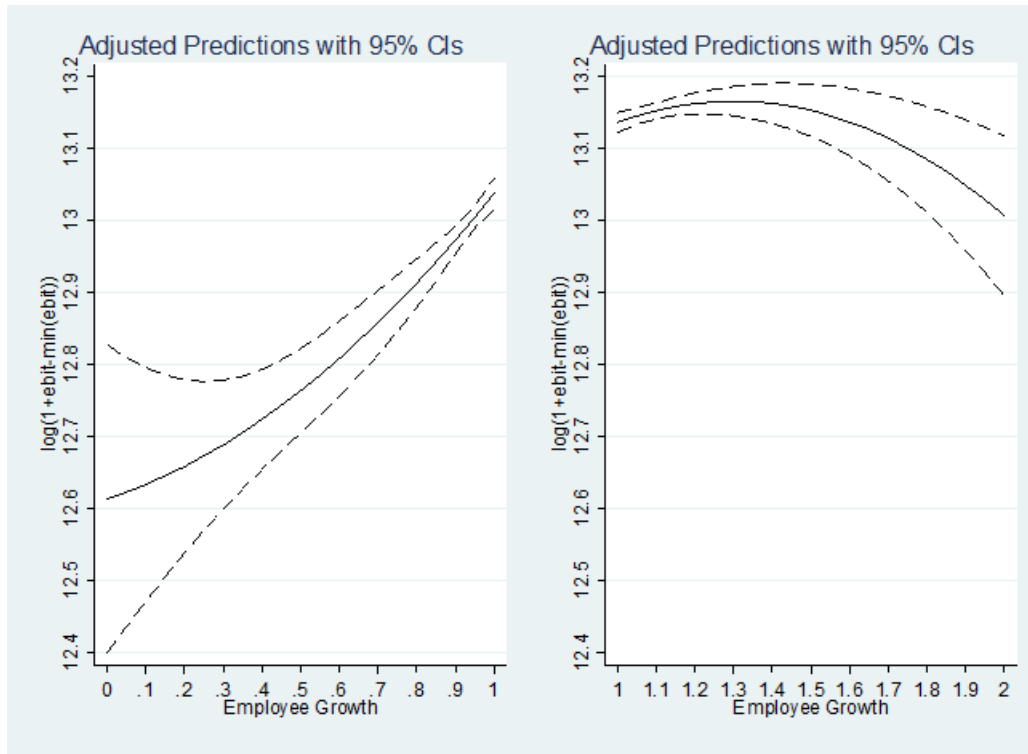


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**FIGURE 1.1: FULL THEORETICAL MODEL**

**FIGURE 2.1: THE LIMITS TO VALUE CREATION FROM GROWTH WITH DIFFERENT METRICS OF GROWTH AND VALUE CREATION**



**FIGURE 2.2: POSIVE VS. NEGATIVE GROWTH**

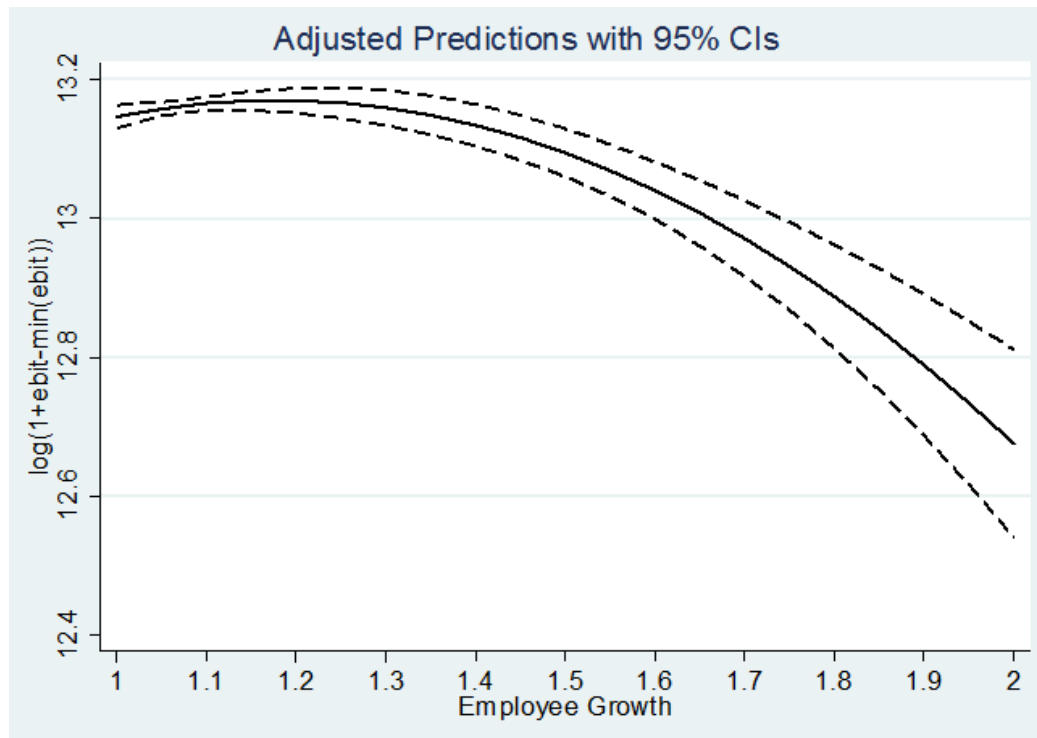
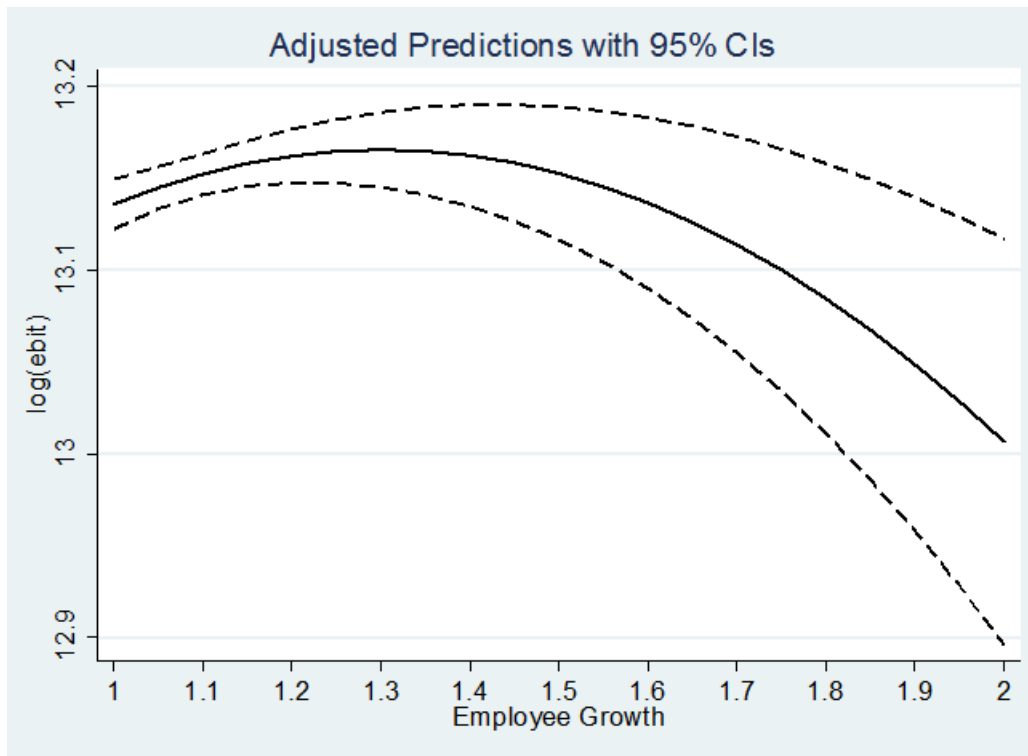
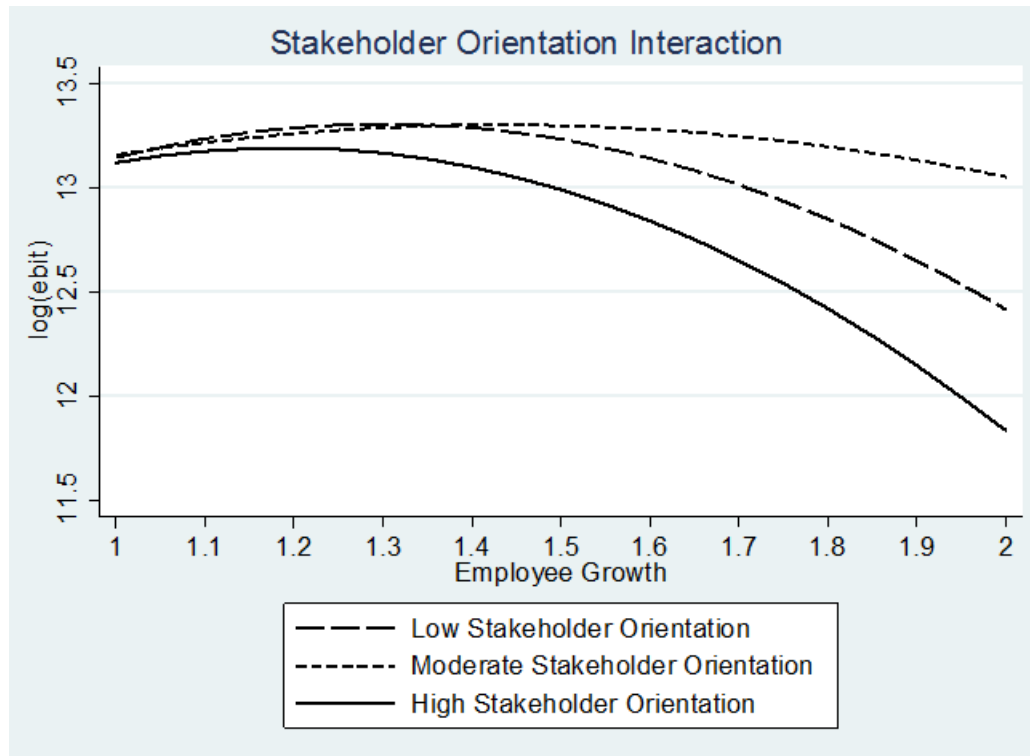
**FIGURE 2.3: THE EFFICIENCY LOSS EFFECT**

FIGURE 3.1: THEORETICAL MECHANISMS

		<b>Relationship between operations growth and value creation</b>	
		Hypothesized shape: Inverse U	
		<b>Input increase effect (Cobb Douglas)</b>	<b>Efficiency loss effect (Penrose)</b>
		Hypothesized shape: Positive with decreasing marginal returns	Hypothesized shape: Negative with increasing marginal losses
<b>Moderating effect of stakeholder orientation</b>	<b>Reciprocity effect (Freeman/Bosse/Phillips)</b> Dominates at moderate SO	(1) <b>Proposed effect:</b> Strengthen input increase effect (effect decreases in the margin)  <b>Mechanism:</b> Stakeholders more likely to share knowledge and resources, so that decision makers can sense more profitable opportunities	(2) <b>Proposed effect:</b> Weaken efficiency loss effect (effect decreases in the margin)  <b>Mechanism:</b> Stakeholders become more willing to focus on total value maximization, so that less managerial attention is required to seize growth opportunities
	<b>Escalating commitment (Gulati/Christensen)</b> Dominates at high SO	(3) <b>Proposed effect:</b> Weaken input increase effect (effect increases in the margin)  <b>Mechanism:</b> Decision makers become unwilling to sense growth opportunities that do not involve current stakeholders	(4) <b>Proposed effect:</b> Strengthen efficiency loss effect (effect increases in the margin)  <b>Mechanism:</b> Decision makers become more likely to involve current stakeholders when seizing growth opportunities, even if they are not in the best position to create value

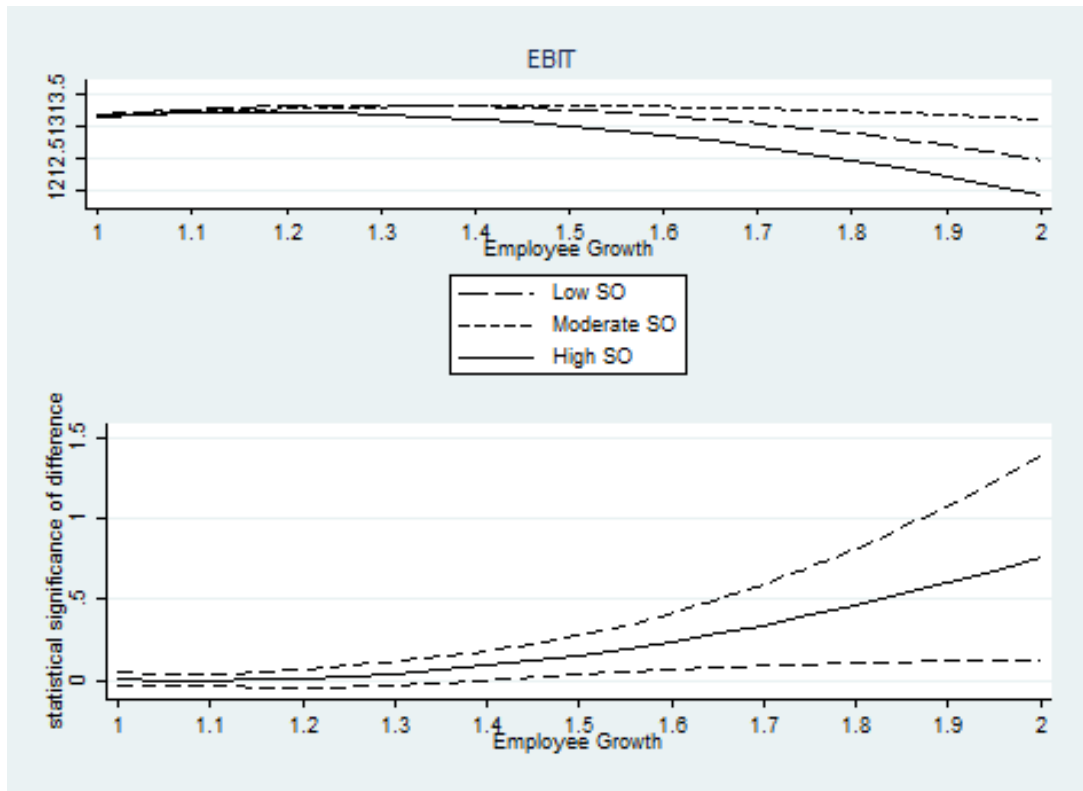
**FIGURE 3.2: LIMITS TO PROFITABLE GROWTH**

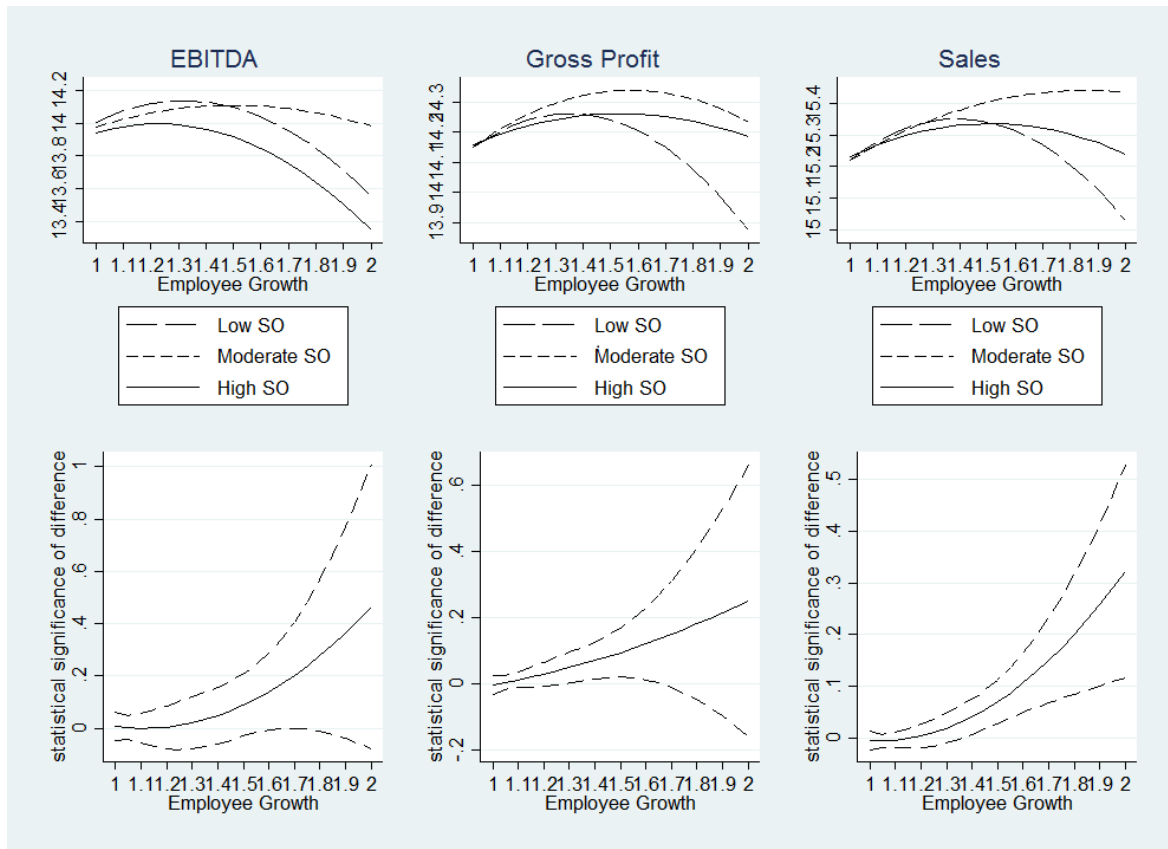
**FIGURE 3.3: STAKEHOLDER ORIENTATION AND LIMITS TO PROFITABLE GROWTH**



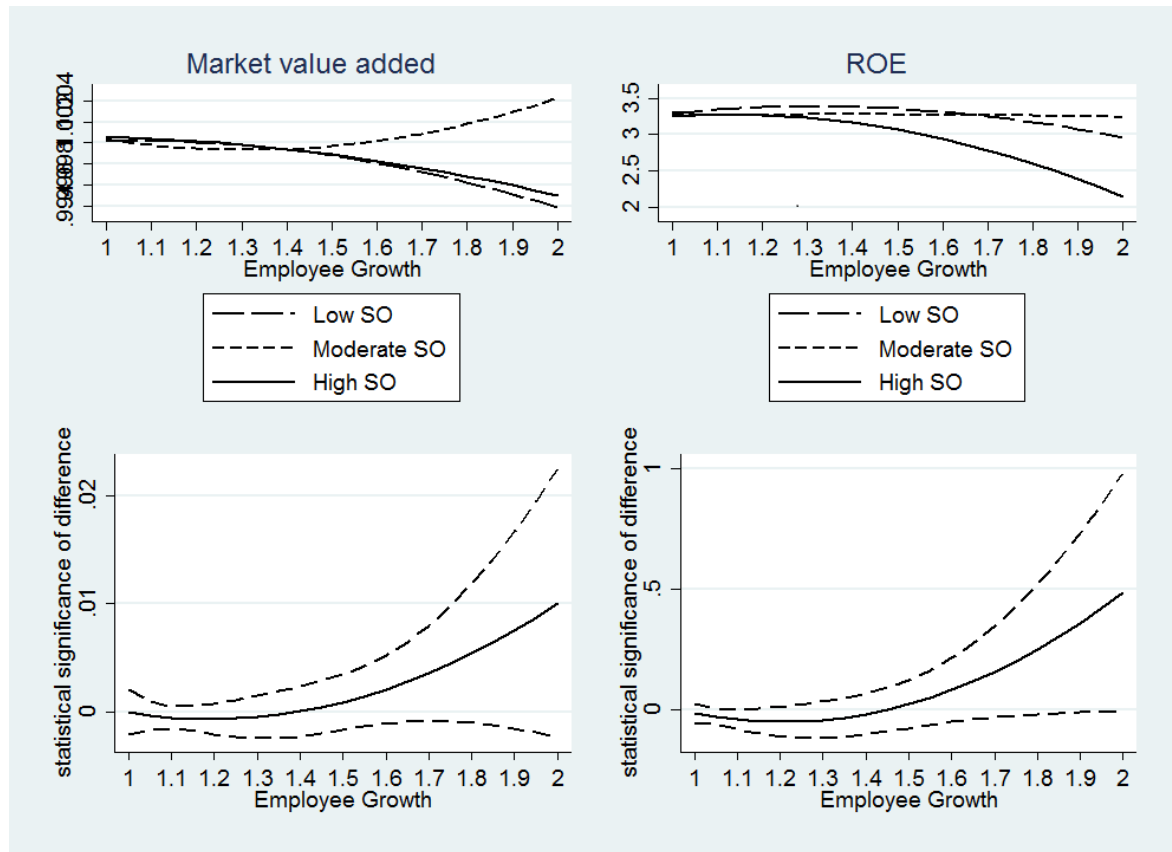


**FIGURE 3.4: STAKEHOLDER ORIENTATION AND LIMITS TO PROFITABLE GROWTH (CONFIDENCE INTERVALS)**

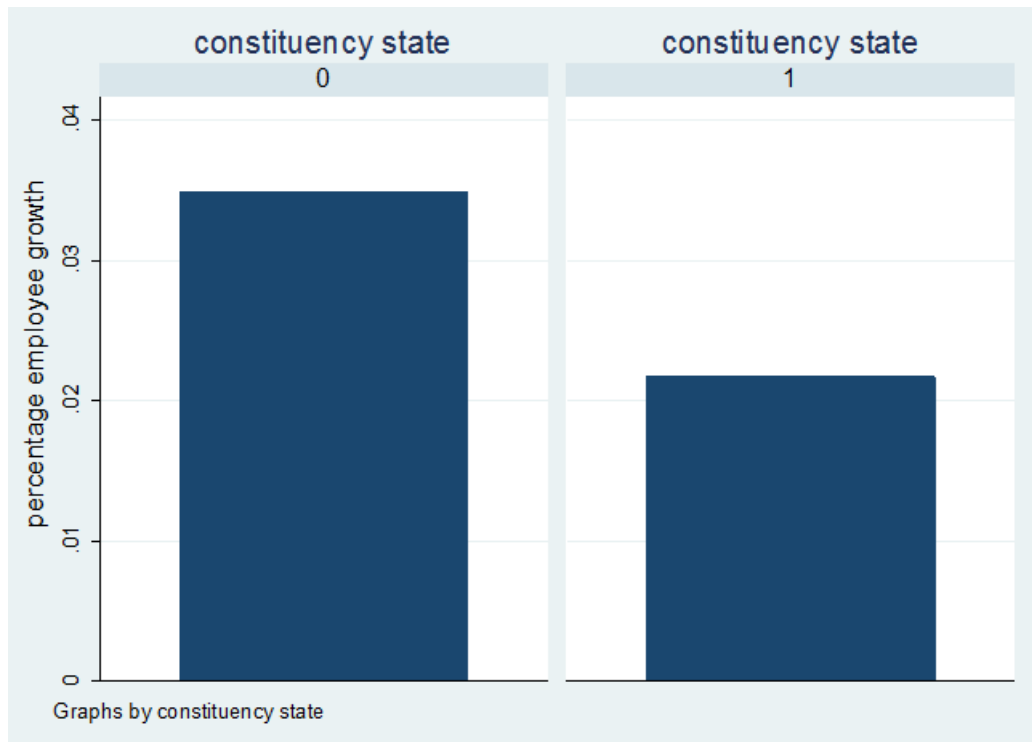


**FIGURE 3.4: ROBUSTNESS WITH ACCOUNTING VARIABLES**

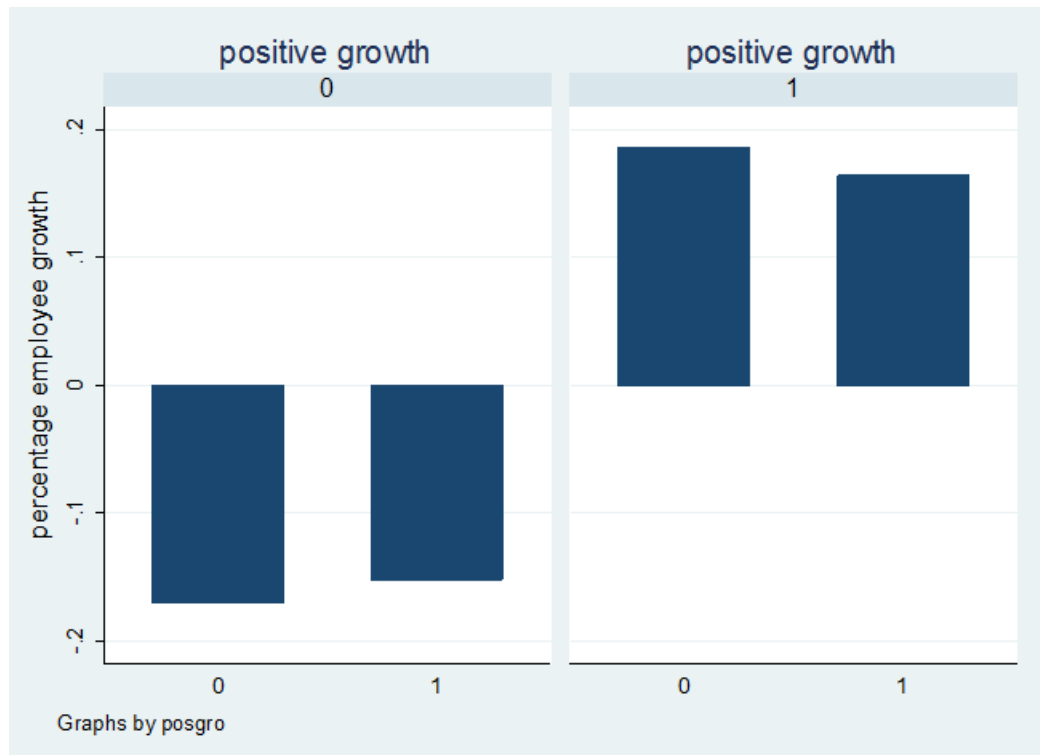
**FIGURE 3.5: ROBUSTNESS CHECKS WITH FINANCIAL VARIABLES**



**FIGURE 4.1: AVERAGE EFFECT OF IMPLEMENTATION OF CONSTITUENCY STATUTES ON GROWTH**



**FIGURE 4.2: CONSTITUENCY CHANGE AND PROPORTION GROWTH  
SEPARATED BY POSITIVE AND NEGATIVE GROWTH**



**TABLE 2.1: CORRELATION TABLE**

Variable	Mean	S.D.	Min	Max	1	2	3	4	5	6
1. Log(ebit) centered employee	13.13	.98	6.58	15.4	1					
2. growth centered employee	-.03	.13	-.14	.86	-.07	1				
3. growth squared	.02	.06	0	.74	-.04	.76	1			
4. lagged employee size log of \$*1000 tangible	9.26	1.54	2.2	13.64	.52	-.15	-.06	1		
5. fixed assets lagged labor	13.9	1.84	0	19.38	.56	-.11	-.01	.53	1	
6. productivity number of	804.51	7085.	11.9	393702.	.01	-.01	0	-.13	.04	1
7. acquisitions	.64	1.54	0	37	.09	.07	.01	.16	0	-.01

**TABLE 2.2: MAIN REGRESSION RESULTS**

VARIABLES	(1) log(EBIT)	(2) log(Sales)	(3) log(EBIT)	(4) log(Sales)
lagged labor productivity	0.00 (0.00)	0.00** (0.00)	0.00** (0.00)	0.00*** (0.00)
number of acquisitions	0.00 (0.00)	-0.00* (0.00)	-0.00 (0.00)	-0.00** (0.00)
log of \$*1000 tangible fixed assets	0.10*** (0.04)	0.21*** (0.05)		
log of nr. of employees			0.21*** (0.04)	0.34*** (0.05)
lagged employee size	0.32*** (0.06)	0.52*** (0.05)		
Centered employee growth	0.37*** (0.08)	0.33*** (0.05)		
centered employee growth squared	-0.94*** (0.21)	-0.27*** (0.07)		
lagged log of \$*1000 tangible fixed Assets			0.12*** (0.05)	0.27*** (0.03)
Growth in tangible fixed assets			1.76*** (0.37)	0.85*** (0.16)
Growth in tangible fixed assets squared			-0.57*** (0.14)	-0.26*** (0.06)
Constant	8.74*** (0.53)	7.36*** (0.46)	8.34*** (0.63)	7.55*** (0.37)
Observations	9,427	10,287	9,668	10,623
R-squared	0.09	0.56	0.08	0.52
Number of firm	2,459	2,570	2,505	2,607
Year FE	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1





**TABLE 2.3: LONG TERM EFFECT OF GROWTH**

VARIABLES	(1) Long term average ebit
Long term average percentage growth	0.15** (0.06)
Gini coefficient of growth	-0.32*** (0.12)
Long term average employee size	0.00*** (0.00)
Long term average tangible fixed asset size	0.00*** (0.00)
Constant	14.90*** (0.20)
Observations	2,805

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

TABLE 2.4: RISK OF GROWTH

<b>log(1+ebit-min(ebit))</b>			
Mean equation		Variance equation	
lagged employee size	0.223*** (0.000)	employee growth	-4.795*** (0.000)
log of \$*1000 tangible fixed assets	0.218*** (0.000)	employee growth squared	1.987*** (0.000)
lagged labor productivity	0.000*** (0.000)	Constant	2.304*** (0.000)
number of acquisitions	0.0371*** (0.000)		
employee growth	3.967*** (0.000)		
employee growth Squared	-1.473*** (0.000)		
Constant	5.529*** (0.000)		
Observations	9,427		
p-values in parentheses			
* p<0.05    ** p<0.01    *** p<0.001"			

**TABLE 2.5: FIRM HETEROGENEITY IN LIMITS TO PROFITABLE GROWTH**

Variables	(1) Log(profits)	(2) sd(var)
Empn	2.72*** (0.42)	0.00*** 0.00
Empnsq	-1.03*** (0.16)	0.20*** -0.02
L.lemp	0.25*** (0.01)	
log of \$*1000 tangible fixed assets	0.19*** (0.01)	
lagged labor productivity	0.00*** (0.00)	
number of acquisitions	0.01 (0.00)	
Constant	6.46*** (0.29)	
Observations	9,681	
Number of groups	2,488	

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**TABLE 2.6: ROBUSTNESS TESTS**

VARIABLES	(1) Log (EBIT)	(2) Log (EBIT DA)	(3) Log (Gross Profit)	(4) Log (Sales)	(5) Log (ROE)	(6) Log (MV)	(7) Log (MVA)
lagged labor Productivity	0.00 (0.00)	0.00 (0.00)	0.00* (0.00)	0.00** (0.00)	-0.00 (0.00)	0.00* (0.00)	0.00 (0.00)
number of Acquisitions	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	-0.00* (0.00)	0.01** (0.00)	0.00 (0.00)	-0.00 (0.00)
log \$*1000 tangible fixed Assets	0.10*** (0.04)	0.17*** (0.04)	0.24*** (0.07)	0.21*** (0.05)	-0.04* (0.02)	0.23*** (0.06)	0.00 (0.00)
lagged employee Size	0.32*** (0.06)	0.51*** (0.06)	0.66*** (0.08)	0.52*** (0.05)	-0.03 (0.03)	0.49*** (0.08)	-0.00 (0.00)
centered employee Growth	0.37*** (0.08)	0.41*** (0.08)	0.46*** (0.08)	0.33*** (0.05)	0.14** (0.06)	0.44*** (0.09)	-0.00 (0.00)
centered employee growth squared	- 0.92*** (0.21)	- 0.71*** (0.19)	- 0.51*** (0.17)	- 0.27*** (0.07)	- 0.48*** (0.12)	- 0.58*** (0.20)	0.00 (0.01)
Constant	8.79*** (0.53)	7.23*** (0.53)	4.56*** (0.69)	7.37*** (0.46)	4.21*** (0.30)	1.72** (0.71)	1.82*** (0.07)
Observations	9,380	9,224	9,351	10,247	9,289	9,246	7,913
R-squared	0.09	0.17	0.35	0.56	0.07	0.27	0.41
Number of firm	2,445	2,426	2,379	2,557	2,423	2,413	2,058
Year FE	YES	YES	YES	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**TABLE 3.1: CORRELATION TABLE**

Variable	Mean	S.D.	Min	Max	1	2	3	4	5	6	7	8	9	10
1. Log(ebit)	13.13	.98	6.58	15.4	1									
2. centered employee growth	-.03	.13	-.14	.86	-.07	1								
3. centered employee growth squared centered employee growth	.02	.06	0	.74	-.04	.76	1							
4. * moderate stakeholder orientation centered employee growth squared	-.02	.09	-.14	.86	-.01	.69	.52	1						
5. * moderate stakeholder orientation centered employee growth *	.01	.04	0	.74	-.01	.51	.69	.67	1					
6. high stakeholder orientation centered employee growth squared	-.01	.06	-.14	.84	-.12	.44	.3	-.03	.04	1				
7. * high stakeholder orientation	0	.02	0	.71	.08	.3	.41	.03	-.04	.57	1			
8. lagged employee size	9.26	1.54	2.2	13.64	.52	-.15	-.06	-.08	-.05	-.15	.08	1		
9. log of \$*1000 tangible fixed assets	13.9	1.84	0	19.38	.56	-.11	-.01	-.04	-.02	-.12	.08	.53	1	
1. lagged labor productivity	804.51	7085.7	11.91	393702.8	.01	-.01	0	.01	0	-.03	.01	-.13	.04	1
11. number of acquisitions	.64	1.54	0	37	.09	.07	.01	.05	0	.03	.04	.16	0	-.01

**TABLE 3.2: MAIN REGRESSION RESULTS: DV = LOG (EBIT)**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Variables	FE	FE	FE	FE	CEM	CEM	DV= LOG (SALES)
lagged labor productivity	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
number of acquisitions	0.01** (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	-0.00 (0.01)	-0.00 (0.01)	-0.00 (0.00)
log of \$*1000 tangible fixed assets	0.15*** (0.01)	0.10*** (0.02)	0.10*** (0.02)	0.10*** (0.02)	0.04 (0.03)	0.04 (0.03)	0.11*** (0.04)
lagged employee size	0.25*** (0.01)	0.32*** (0.03)	0.32*** (0.03)	0.32*** (0.03)	0.51*** (0.05)	0.51*** (0.05)	0.71*** (0.04)
engml1				-0.03 (0.02)	-0.03 (0.03)	-0.00 (0.02)	-0.01 (0.01)
enghl1				-0.04 (0.03)	-0.05 (0.05)		
centered employee growth		0.06 (0.05)	0.37*** (0.07)	0.51*** (0.13)	0.58*** (0.19)	0.53*** (0.15)	0.45*** (0.06)
centered employee growth squared			-0.94*** (0.16)	-1.52*** (0.29)	-1.66*** (0.47)	-1.95*** (0.45)	-0.65*** (0.15)
centered employee growth * moderate stakeholder orientation				-0.13 (0.15)	0.05 (0.22)	0.09 (0.19)	0.09 (0.07)
centered employee growth squared * moderate stakeholder orientation				0.86** (0.35)	0.68 (0.54)	0.99* (0.52)	0.28 (0.18)
centered employee growth * high stakeholder orientation				-0.31 (0.20)	-0.09 (0.30)		
centered employee growth squared * high stakeholder orientation				0.57 (0.51)	-1.38 (1.23)		
Constant	8.65*** (0.1)	8.70*** (0.28)	8.74*** (0.28)	8.76*** (0.28)	7.97*** (0.52)	8.00*** (0.52)	7.03*** (0.38)
Observations	9,427	9,427	9,427	9,427	7,516	7,516	7895
R-squared	0.87	0.87	0.87	0.87	0.87	0.87	0.98
Year FE	YES	YES	YES	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES	YES	YES	YES

Standard errors in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

TABLE 4.1: HYPOTHESES AND MECHANISMS

		Growth	
		Hypothesis 1a supported Growth amplified	Hypothesis 1b supported Growth attenuated
<b>Downsizing</b>	<b>Downsizing amplified</b>	<p><b>H2a: Variation mechanism</b></p> <p>If managers consider stakeholders with more diverse sets of knowledge</p> <p><u>Growth</u>: More growth opportunities can be observed</p> <p><u>Downsizing</u>: More downsizing opportunities can be observed</p>	<p><b>H2b: Resource consumption mechanism</b></p> <p>If more stakeholders get influence in the decision process</p> <p><u>Growth and downsizing</u>: Each stakeholder consumes some resources due to agency problems</p>
	<b>Downsizing attenuated</b>	<p><b>H2d: Managerial Discretion</b></p> <p>If managers can justify their actions based on a more stakeholder with diverse interests</p> <p><u>Growth and downsizing</u>: Managers can justify growth (or failing to downsize) that provides them with status</p>	<p><b>H2c: Selection Mechanism</b></p> <p>If managers consider more stakeholders with diverse interests</p> <p><u>Growth</u>: Fewer growth opportunities satisfy all interests</p> <p><u>Downsizing</u>: Fewer downsizing opportunities satisfy all interests</p>

**TABLE 4.2: CORRELATION TABLE**

		Mean	S.D.	Min	Max	1	2	3	4	5	6	7	8
1	log(employee growth)	0.7	0.12	0	1.1	1							
2	Posgro	0.57	0.5	0	1	0.63	1						
3	constituency state	0.5	0.5	0	1	-0.01	-0.03	1					
4	lagged gross profit	355.4	2406.04	-45026	130622	0	-0.01	0.05	1				
5	lagged ebit	155.59	1463.54	-45026	130622	0	-0.01	0.03	0.89	1			
6	lagged acquisition value	20.24	320.05	-5912	32694	0	0	0.04	0.37	0.27	1		
7	lagged sales	1046.43	6204.71	-1543	433526	0	-0.01	0.06	0.85	0.72	0.3	1	
8	lagged total assets	2646.57	30573.09	0	3.27E+06	0	-0.01	0.02	0.65	0.83	0.19	0.45	1
9	lagged logged employees	0.84	1.02	0	6.75	0.02	0	0.04	0.38	0.26	0.17	0.42	0.17



**TABLE 4.3: REGRESSIONS WITH EMPLOYEE GROWTH AS DV (ONLY INCLUDING UP UNTIL 100% GROWTH)**

VARIABLES	(1) employee growth	(2) employee growth	(3) employee growth
Positive growth dummy	0.31*** (0.00)	0.33*** (0.00)	0.33*** (0.00)
Constituency state	0.00 (0.00)	0.02*** (0.00)	-0.02*** (0.00)
Constituency state * positive growth Dummy		-0.04*** (0.00)	
Constituency state * negative growth Dummy			0.04*** (0.00)
lagged gross profit	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
lagged ebit	-0.00* (0.00)	-0.00* (0.00)	-0.00* (0.00)
lagged acquisition value	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)
lagged sales	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
lagged total assets	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)
lagged logged employees	-0.06*** (0.00)	-0.06*** (0.00)	-0.06*** (0.00)
Observations	76,805	76,805	76,805
R-squared	0.57	0.57	0.57
Year FE	YES	YES	YES
Firm FE	YES	YES	YES
Operation state-year FE	YES	YES	YES

Standard errors in parentheses  
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**TABLE 4.4: ROBUSTNESS USING METHOD PRESCRIBED BY BERTRAND AND MULLAINATHAN (2003)**

VARIABLES	(1) Residuals
Positive growth dummy	1.274 (4.120)
Constituency state	10.57** (4.687)
Positive growth dummy* Constituency state	-19.15*** (6.628)
Constant	-1.023 (2.913)
Observations	176
R-squared	0.065

Standard errors in parentheses  
 \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

### APPENDIX 3.1

nr.	Question	Coding
<b>Customer orientation</b>		
1	Does the company have a policy to improve customer satisfaction?	Positive
2	Does the company describe, claim to have or mention, claim to have or mention processes in place to improve customer satisfaction?	Positive
3	Does the company report data or studies which generally show improvements in the satisfaction and loyalty of its customers?	Positive
4	Does the company report the percentage of customer satisfaction?	Positive
5	Does the company describe processes in place to improve customer satisfaction or to be a fair competitor?	Positive
6	Does the company set specific objectives to be achieved on customer satisfaction or fair competition?	Positive
7	Does the company monitor the customer satisfaction or its reputation and relations with communities through the use of surveys or measurements?	Positive
8	Does the company have a policy to improve customer satisfaction or to strive to be a fair competitor?	Positive
<b>Suppliers</b>		
1	Does the company describe in the code of conduct that it strives to treat suppliers and contractors as key business partners?	Positive
2	Has there been a public commitment from a senior management or board member to treat suppliers and contractors as key business partners?	Positive
3	Does the company have appropriate communication tools (whistle blower, ombudsman, suggestion box, hotline, newsletter, website, etc.) to improve its partnership with suppliers and contractors?	Positive
4	Does the company describe, claim to have or mention processes in place to improve its partnership with suppliers and contractors?	Positive
5	Does the company have a policy to treat suppliers and contractors as key business partners?	Positive
<b>Shareholders</b>		
1	Does the company have an audit committee?	Positive

2	Is the company in the process of a material earnings restatement?	Negative
3	Has the company issued a profit warning during the year?	Negative
4	Is the company under the spotlight of the media because of a controversy linked to aggressive or non-transparent accounting issues?	Negative
5	Does the company report on the number of years after which it rotates its statutory auditor?	Positive
6	Does the company monitor the use of inside information through the use of surveys or measurements?	Positive
7	Does the company have a policy for maintaining a loyal shareholder base through avoiding the divulging of or trading on inside information?	Positive
8	Is the company under the spotlight of the media because of a controversy linked to insider dealings and other share price manipulations?	Negative

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#### Employees

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1	Has the company won an award or any prize related to general employment quality or "Best Company to Work For"?	Positive
2	Does the company claim to provide its employees with a pension fund, health care or other insurances?	Positive
3	Does the company describe the implementation of its employment quality policy?	Positive
4	Does the company set specific objectives to be achieved on employment quality?	Positive
5	Has an important executive management team member or a key team member announced a voluntary departure (other than for retirement) or has been ousted?	Positive
6	Does the company monitor or measure its performance on employment quality?	Positive
7	Does the company claim to provide a bonus plan to at least the middle management level? AND Is the employees' compensation based on personal or company-wide targets?	Positive
8	Does the company have a competitive employee benefits policy or ensuring good employee relations within its supply chain? AND Does the company have a policy for maintaining long term employment growth and stability?	Positive
9	Has there has been a strike or an industrial dispute that led to lost working days?	Negative
10	Is the company under the spotlight of the media because of a controversy linked to the company's employees, contractors or suppliers due to wage, layoff disputes or working conditions?	Negative

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#### Local communities

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1	Does the company describe, claim to have or mention processes in place to improve its good corporate citizenship?	Positive
2	Does the company describe, claim to have or mention processes in place to reduce its activities in undemocratic countries abusing human rights?	Positive
3	Is the company under the spotlight of the media because of a controversy linked to bribery and corruption, political contributions, improper lobbying, money laundering, parallel imports or any tax fraud?	Negative
4	Does the company describe, claim to have or mention processes in place to improve the respecting of rights of indigenous people?	Positive
5	Does the company describe, claim to have or mention processes in place to improve the indirect economic impact it has on local communities?	Positive
6	Does the company describe, claim to have or mention processes in place to improve fair competition?	Positive
7	Does the company describe, claim to have or mention processes in place to avoid bribery and corruption practices at all its operations?	Positive
8	Does the company describe, claim to have or mention processes in place to adhere with local regulations regarding political contributions?	Positive
9	Does the company describe, claim to have or mention processes in place to improve general business ethics?	Positive
10	Does the company have a policy to strive to be a good corporate citizen or endorse the Global Sullivan Principles? AND Does the company have a policy to respect business ethics or has the company signed the UN Global Compact or follow the OECD guidelines?	Positive
11	Does the company describe the implementation of its community policy through a public commitment from a senior management or board member? AND Does the company describe the implementation of its community policy through the processes in place?	Positive
12	Does the company set specific objectives to be achieved on its reputation or its relations with communities?	Positive
13	Does the company monitor its reputation or its relations with communities?	Positive
14	Does the company make cash donations? AND Does the company make in-kind donations, foster employee engagement in voluntary work or provide funding of community-related projects through a corporate foundation?	Positive
15	Has the company received an award for its social, ethical, community, or environmental activities or performance?	Positive
16	Is the company under the spotlight of the media because of a controversy linked to activities in critical, undemocratic countries that do not respect fundamental human rights or to disrespecting the rights of indigenous people?	Negative

- 17 Does the company report on crisis management systems or reputation disaster recovery plans to reduce or minimize the effects of reputation disasters? Positive