The effect of an ending time on the board of directors on their temporal depth

A study in the Dutch water authority sector

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Abstract

While it is known that a nearing end-term affects CEO decisions, the influence of working in terms on director behaviour has not been studied. Therefore, this research examines the relationship between the time until the end-term on the board and director temporal depth (time horizons that directors consider when acting and making decisions) by means of testing two hypotheses derived from literature on CEO career horizon. The sample used in this research consists of 62.229 statements recorded in board meetings in the Dutch water authority sector. A novel dictionary was developed that measures the temporal depth of directors. By using regression analysis, statistical evidence was provided that time until end-term is negatively related to short future temporal depth, as well as long past temporal depth, which means that the closer a director gets to their end-term, the more they consider the near future and the distant past when making decisions. Overall, this study contributes to existing literature on the board of directors by improving the understanding of the influence of working in terms.

Content

1. Introduction

A vast body of research on corporate governance has studied boards of directors' roles and functioning (Boivie et al., 2016; Boivie et al., 2021; Dalton et al., 2007; Johnson et al., 1996; McNulty & Pettigrew, 1999; Zajac & Westphal 1996). In this literature stream, research has been done to identify factors determining why directors behave in a certain way, and how this influences the effectiveness of the board. Prior research often focusses on the agency problem (Boivie et al., 2016; Dalton et al., 2007). In addition to this, Boivie et al. (2016) for example, identify barriers to board effectiveness by means of taking on a lens of information-processing. It was found that directors face numerous barriers that reduce their ability to effectively perform their duties on the board (Boivie et al., 2016).

However, no prior research has taken into account that barriers might arise from directors being established on the board for a finite period, while it is known from literature on CEO career horizons that nearing the end of a career significantly influences decision-making (Heyden et al., 2017; Lee et al., 2018; Matta & Beamish, 2008; McClelland et al., 2012; Romano et al., 2019). It appears that CEOs with a short time until their end-term are more likely to focus on short-term performance instead of thinking about the long-term (Heyden et al., 2017; Lee et al., 2018; Matta & Beamish, 2008; McClelland et al., 2012; Romano et al., 2019). This refers to the concept of 'temporal depth', which in temporal research is defined as the length of time into the past or future an individual thinks of when acting or making decisions (Shipp & Cole, 2015). For example, individuals with a short future temporal depth tend to mainly consider the near future when acting, whereas individuals with a long future temporal depth consider the distant future (Bluedorn & Martin, 2008; Nadkarni et al., 2016). As it is found that CEOs develop a short future temporal depth when nearing their end-term due to risk-averseness (Kang et al., 2016; Matta & Beamish, 2008; McClelland et al., 2012; Romano et al., 2019) and a lack of incentives to focus on the long-term (Heyden et al., 2017; Lee et al., 2018), it can be expected that directors are influenced by the same mechanisms because they will also not benefit from good firm-performance after they have left the board. It is relevant to investigate whether a nearing end-term causes a shift in temporal depth as it might change decision outcomes (Matta & Beamish, 2008; Nadkarni et al., 2016) and thus board effectiveness and organisational strategy. Taking on a temporal lens by researching temporal depth, can increase knowledge on how directors evolve, act and change (Shipp & Janssen, 2021) which is important for understanding that directors possibly behave differently due to working in terms.

Therefore, this research will investigate whether the time a director has left on the board, influences their temporal depth. Based upon findings from the literature stream on CEO career horizon, it can be expected that directors with a short time until end-term will have a short future temporal depth as they lack incentives to feel responsible for what happens to the company after resigning and because they develop risk-averseness when trying to conserve their success-legacy. The desire of directors to conserve (and

improve) their legacy before leaving the organisation creates the expectation of directors having to look at the distant past to assess their own legacy. With that being said, this topic will be further investigated with the goal of answering the following question: "*What is the influence of a director's time until end-term on their temporal depth?*"

This study advances existing research on the board of directors by investigating the influence of a nearing end of term on the temporal depth of directors. Prior research has mainly focused on non-temporal issues that influence board effectiveness (Boivie et al., 2016; Boivie et al., 2021; Dalton et al., 2007; Johnson et al., 1996; McNulty & Pettigrew, 1999; Zajac & Westphal 1996). This research contributes by shedding a new light on the conversation, as the effect of working in terms has not been studied in this field of research before. Investigating how time until end-term influences director's behaviour will create a new (temporal) lens to look at board functioning which improves the understanding of how boards can be effective and start a conversation on if something should be done to mitigate negative effects of directors working in terms.

The next chapter will be a deep dive into literature on the board of directors and on temporal depth. After that, the methodology to conduct this study will be explained, followed by the results section. Finally, a discussion and conclusion will conclude this study.

2. Theoretical Framework

2.1 Board of Directors

In order for this research to add to existing literature on director behaviour, first an introduction into the literature regarding the board of directors is needed. The board of directors is the organ of the organisation that represents the highest legal authority in the organisation (Boivie, et al., 2016; Boivie, et al., 2021). Boards are typically thought to influence the organisational outcomes such as strategy, management selection and financial performance through the engagement in three roles (Boivie et al., 2016). These three roles form the core functions and duties of the board and will be discussed briefly in this section.

The *monitoring role* entails exercising oversight over decisions made by top executives in the running of the organisation, in order to protect the interests of those top executives (Boivie et al., 2016) and to make sure that they align with shareholders' interests (Boivie et al., 2021). The role of monitoring is usually considered to be the primary role of the board, at least according to assumptions of agency theory (Boivie et al., 2016, Boivie et al., 2021; Dalton et al., 2007). The monitoring role separates decision control and decision outcomes and can in this manner prevent managerial opportunism from happening (Boivie et al., 2021).

In the second role, the *resource provision role*, the board functions as one of a number of instruments that management may use to facilitate access to resources critical to the organisation's success (Johnson et al., 1996). Resource provision entails providing access to valuable resources such as advice, counsel on strategic issues to executives and participating on the decision-making process about how to effectively manage the organisation (Boivie et al., 2016; Johnson et al., 1996). Through this role, the opinion and experiences of the directors influence the decision-making of top managers (Johnson et al., 1996).

Thirdly, the board of directors engages in the *punctuated events role* which means that the directors ought to participate in events that occur less frequently and significantly increase short-term uncertainty. These events contain decisions with great consequential outcomes, for example acquisitions, mergers, bankruptcies, and CEO replacement (Boivie et al., 2016). When a CEO is to be replaced, the responsibility of deciding who will be the successor (with immense impact on the direction of the organisation) goes to the board of directors, who therefore possess a considerable degree of power (Boivie et al., 2016; Zajac & Westphal, 1996). It is thus this role that truly allows the board to exercise control.

Previously, studies have highlighted that the board of directors can shape strategic decision making within the organisation, for example through boardroom discussions and interactions with the CEO (Boivie et al., 2021; Johnson et al, 1996; McNulty & Pettigrew, 1999). Therefore, greater attention needs to be paid to the role of board and directors in the processes of strategic leadership and change (McNulty & Pettigrew, 1999). This active involvement of the board in strategy making can be referred to as the strategic function of the board (Boivie et al., 2021).

Oftentimes, the role of the board in strategy-related activities is regarded as essential, however, Hoppmann et al. (2019) have found that boards can also be a source of organisational inertia when it comes to the strategy-process. They state that it arises from directors serving self-interests rather than self-evaluation and self-reconfiguration. The consequence of this inertia is that the organisation is not able to adapt in time to external changes in the environment, and even when organisations possess the necessary capabilities, directors may fail to adapt to environmental discontinuities due to biases in managerial cognition (Hoppmann et al., 2019). There is nothing new about stating that directors in cases suffer from cognitive bias, however, when this happens in the role of strategy-making, these biases can lead to un-rational decisions making (Laster, 2012).

2.2 Temporal Depth

In current research, a distinction has been made between objective (clock) time, and subjective time (Shipp & Cole, 2015). In the objective view, time progresses from past to future, in which each second is the same across all situations and individuals (Shipp & Cole, 2015). Subjective time implies that in the present moment individuals may vary in how they recollect the past, perceive the present, and anticipate the future (Ancona et al., 2001; Shipp et al., 2009) which shows a cognitive view on time (Shipp & Cole, 2015). Studies researching the influence of subjective time on the actions of individuals have been specifically investigated in the organisational contexts and are increasingly getting more attention (Shipp & Cole, 2015; Shipp et al., 2009). These studies can provide new opportunities for explanation and prediction of phenomena in organisational research, as subjective time often plays a more important role than realized (Ancona et al., 2001). By looking into temporal depth, which is a subjective time concept, this research contributes to the understanding of the influence of subjective time on organisational matters.

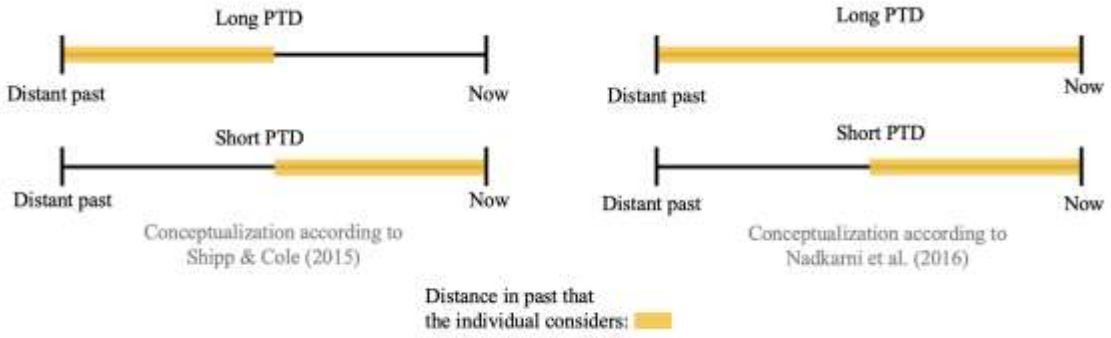
As stated before, temporal depth can be defined as the temporal distance an individual thinks of or concentrates on when acting or making decisions (Shipp & Cole, 2015). There are two important sides of temporal depth: past temporal depth (PTD) and future temporal depth (FTD) (Bluedorn & Martin, 2008; Epstein & Kalleberg, 2004; Nadkarni et al., 2016; Shipp & Cole, 2015; Shipp et al., 2009; Shipp & Jansen, 2021). It could be that an individual has a short PTD, which means that the individual does not consider events that have taken place a considerable long time ago, and a long FTD, which means that this person tends to look far ahead when considering the future (Bluedorn & Jaussi, 2008; Nadkarni et al., 2016; Shipp et al., 2009) as these two attributes are generally emperically unrelated (Bluedorn & Martin, 2008). Another subjective time concept that must be taken into account in order to fully understand temporal depth, is temporal focus, as both concepts are intertwined with one another (Shipp et al., 2009). Temporal focus can be defined as a temporal individual difference that captures the degree to which individuals characteristically devote their attention to the past, present and future (Shipp & Cole, 2015; Nadkarni & Chen, 2014).

Temporal focus does not tell us something about how far back or ahead the individual looks, temporal depth however, does (Bluedorn & Martin, 2008). Therefore, temporal depth and temporal focus can simultaneously take place in the mind of the individual, as temporal focus determines how much attention an individual devotes to the past, future and present, while at the same time, temporal depth sets how far back or ahead the individual thinks regarding those mentioned time frames (Bluedorn & Martin, 2008; Shipp et al., 2009). Shipp et al. (2009) illustrate that an individual might have a high future focus yet have a short future temporal depth, resulting in a strong focus on the near future. Thus, we expect temporal focus and temporal depth to emerge independent of each other and combined form the temporal perception of an individual (Shipp et al., 2009). This research will focus on temporal depth, meaning that it will focus on how far back or ahead individuals tend to look, not whether they mainly look back or ahead in general.

A critical reader would notice that authors have conceptualized the concept of temporal depth in different ways. As mentioned, Shipp and Cole (2015) for instance, conceptualize temporal depth as the temporal distance an individual thinks of in the future or past. However, other authors such as Nadkarni et al. (2016) have the view that temporal depth refers to the total period into the past or future that an individual considers. To indicate the difference, an illustration of their view on PTD will be given. Following the conceptualization of Shipp and Cole (2015), an individual with a long PTD focuses on the distant past, rather than on the short past. According to the conceptualization of Nadkarni et al. (2016) however, one would say that an individual with a long PTD considers all past events, in the near or distant past, as far back as certain point in the distant past. This difference in views on past temporal depth has been illustrated in figure 1, note that the same applies for FTD. In this research, the conceptualization of Shipp and Cole (2015) will be followed, as this conceptualization is followed in most research on temporal depth.

Figure 1

Conceptualization Temporal Depth



2.2.1 Future Temporal Depth

Research has found that executives mentally create their own 'temporal zones' (e.g., short-term vs. long-term) when deciding on strategic actions, irrespective of the actual environment they face (Nadkarni et al., 2016; Shipp & Jansen, 2021). These zones serve as temporal filters that form expectations and evaluations of decision situations and create the basis of choices, as well as recognition of the timing and urgency of strategic activities (Das, 1987; Nadkarni et al., 2016). Multiple positive and negative consequences of executives having a short, as well as a long FTD have been researched.

Nadkarni et al. (2016) argue that executive temporal depth will create temporal filters that influence executives' awareness of the temporal significance of the competitive landscape and their consideration of competitive alternatives, in turn shaping competitive behaviours of organisations. With other words, executives will have different perceptions on how urgent a threat or opportunity in the competitive environment is, based upon their FTD. Executives with a long FTD will look into the distant future, enabling them to have an enhanced pattern recognition in a turbulence environment, which in turn allows organisations to make investments in the future and can enhance competitiveness of the organisation (Nadkarni et al., 2016).

Consequentially, by looking further into the future, executives with a long FTD are better at foreseeing future environmental demands which makes them more open to change to meet these demands (Flammer & Bansal, 2017) and perceive adaptation as necessary to ensure that the organisation can keep up with competitors and to provide for long term success of the organisation (Lin et al., 2019). They encourage experimentation and creative efforts, foster entrepreneurial activity and advocate speedy decision-making, which leads to them investing more in R&D and innovation practices (especially pertaining to employees and the natural environment [Flanner & Bansal, 2017]) than top managers with a short FTD, as the latter ones do not look in the future far enough to recognize those future demands (Lin et al., 2019).

To sum up what has been explained above, it can be said that executives with a long FTD are more likely to emphasize long-term actions rather than more near-term ones (Weis & Klarner, 2022). They favour future benefits over quick results and prompt solutions (Weis & Klarner, 2022). This can be beneficial to an organisation as these actions enhance future outcomes (Nadkarni et al., 2016; Weis & Klarner, 2022). On the downside however, when committing to the improvement of competitiveness and innovativeness, the pitfall of becoming overcommitted to long-term goals and undermining their ability to adjust to critical short-term changes starts to play a role (Nadkarni et al., 2016; Weis & Klarner; 2022). Executives with a long FTD may be hesitant to deviate from the long-term vision in order to react to unexpected crises, which creates inertia (Weis & Klarner; 2022). These rigidities can in turn lead to lower immediate returns (Lin et al., 2019).

Executives with a short FTD on the other hand, are more focused on the 'here-and-now' (Nevins et al., 2007) and therefore promote fewer long-term initiatives, such as investments in R&D, technologies and capital assets (Lin et al., 2019). This is because executives with a short FTD do not look into the distant future, but rather focus on what should be done to improve the organisation today, and with that, they (often unconsciously) disregard the long-term (Das, 1987; Lin et al., 2019; Nadkarni et al., 2016). Instead of promoting long-term initiatives, those with a short FTD invest in opportunities that have the possibility to realize high immediate returns, and with that increase the short-term outcomes of the organisation (Nadkarni et al., 2016; Lin et al., 2019). However, underinvestment in R&D could lead to executives failing to proactively predict, prepare for and act on long-term changes that appear in the environment (Nadkarni et al., 2016).

If we apply the just discussed findings to the case of directors, the question arises if this influences how they perform their duties discussed in paragraph 2.1. This is especially important for their role of strategic decision making and punctuated events, as it is within those roles that directors have the most power to change organisational strategy and long-term outcomes (Boivie et al., 2016; Boivie et al., 2021). Examples of indicators for long FTD could be making long-term commitments such as real option investments (Lee et al., 2018), engaging in international acquisitions (Matta & Beamish, 2008), a high degree of investment in R&D (Heyden et al., 2017), starting an initial public offering (Romano et al., 2019) or simply the acknowledgement of, or commitment to long-term strategies.

2.2.2 Past Temporal Depth

PTD captures how far back executives tend to go when considering past events (Bluedorn & Martin, 2008; Nadkarni et al., 2016). Having a long PTD has both advantages and disadvantages arising from the same mechanism, being that individuals recall different past events resulting from their temporal depth. According to Nadkarni et al., (2016), looking far back into the past leads to an executive recalling more past events, which makes that when they are dealing with a current situation at an organisation, they have higher chances of finding a matching past situation with relevant lessons for the current one in the recalled past events when the executive recalls more events in general (Nadkarni et al., 2016; Zimbardo & Boyd, 1999). This therefore leads to executives having a deeper understanding of the past increasing capability to deal with the current situation and solve problems quickly, as they have an increased ability to detect patterns in their environment (Bluedorn & Martin, 2008; Nadkarni et al., 2016). According to Nadkarni et al. (2016) a long PTD can lead to a better awareness of the competitive landscape due to detection of broad historical patterns that are not easily visible in the short run but are visible in the large quantity of recalled past events. However, this view of Nadkarni et al. (2016) on the recalling of past events is not conform the conceptualization of PTD of this paper, in which, a long PTD does not enlarge the period which individuals

consult when looking for relevant past information, it merely changes the distance of focus, as was illustrated in figure 1. This would mean that the individual would recall other past events instead of more past events. Those with a short PTD would be able to recall recent and relevant events, whereas those with a long PTD would not. However, a short PTD could be hindering when the current situation matches best with an event in the distant past on which the individual does not focus.

The recalling of events in the distant, instead of near past has the downside of possibly filtering out critical aspects of the current situation the organisation is in, while comparing the current situation to past events that are no longer relevant in the present (Nadkarni et al., 2016). Besides, looking far into the distant past may constrain awareness of the short-term changes in the competitive landscape and prompt them to miscalculate the temporal window of opportunities in initiating actions and responses (Bluedorn & Martin, 2008; Nadkarni et al., 2016). This can have the consequence of the organisation getting stuck in competence traps that can be an obstacle for the creation of new knowledge and in turn cause rigidities (Nerkar, 2003). Consequently, this can cause organisations to be unable to react in time to opportunities and threads in the environment (Nadkarni et al, 2016). Another downside of individuals having a long PTD is that they often prefer to work at a slower pace and are less flexible in their work, however, the reason why this is the case is not yet established (Bluedorn & Martin, 2008; Shipp & Cole, 2015).

Within temporal depth, the dimension of the past is far less researched than the future dimension. PTD is therefore somewhat unknown territory. However, PTD does appear to have a significant effect on behaviour (Bluedorn & Martin, 2008; Nadkarni et al., 2016; Shipp & Cole, 2015) and should therefore be given more attention in research.

2.3 Hypotheses

As mentioned, there is a gap in literature when it comes to information about how the ending tenure of directors influences the choices they make. In order to be able to come with rational expectations to investigate in this research, an interest will be taken into the literature stream of CEO career horizon. This stream of literature investigates the influence of a nearing retirement of a CEO on the long-term decisions they make within the organisation (Heyden et al., 2017; Lee et al., 2018; Matta & Beamish, 2008). Retirement in these cases, often refers to CEOs reaching retirement age, but can also mean retirement of the function (Kang, 2016). In the latter case, CEOs perceive pressure from the labour market as they want to find a new job (Kang, 2016). Within this literature stream, multiple authors show how behaviour of CEOs differ when the length of their career horizon differs (Heyden et al., 2017; Lee et al., 2018; Matta & Beamish, 2008; McClelland et al, 2012; Romano et al., 2019). This literature will be taken as a baseline for coming to hypotheses in this research.

2.3.1 Time Until End-Term and Future Temporal Depth

In an attempt to identify relationships between CEO characteristics and organisational outcomes, a stream of literature has arisen that does not take the focus of CEOs on the long-term survival of the organisation as a given (McClelland et al., 2012). These studies are taking into account the time that CEOs have left before retiring while analysing the decisions and actions that these CEOs make (Matta & Beamish, 2008; McClelland et al., 2012). The main finding of this extensive body of literature on CEO career horizon, is that the approaching retirement of a CEO may reduce the level of organisational commitment to long-term investments, because the CEO is not likely to benefit from any investment with a delayed payoff (Kang, 2016; Lee et al., 2018; McClelland et al, 2012). With other words, multiple CEO career horizon studies have found a positive relationship between short time until end-term and a short FTD. Two arguments suggesting that an ending career leads to a short FTD will be discussed in this section.

The first argument could be the lack of incentives for CEOs with a short career horizon to invest in the long-term future. Lee et al. (2018) have found that CEOs with a shorter career horizon have less incentives to make real option investments, as they will not be the ones who will reap the rewards of these investments (such as bonusses, status and success benefits) after they have left. This will in turn lead to lower investment portfolios compared to companies led by CEOs with a longer career horizon (Lee et al., 2018). Heyden et al. (2017) describe a similar phenomenon in the context of innovation, a process that might take a longer time to pay-off than the time that CEOs with an ending tenure are willing to wait. CEOs with a short time until end-term are being held responsible for the underinvestment in R&D, which can have serious consequences for the innovativeness of the organisation in the long run. So, the absence of incentives to consider the long-term when their end-term is near, cause CEOs to have a short temporal future depth.

A second argument concerns the development of risk-averse behaviour among CEOs that are getting closer to their end-date. An underlying mechanism that studies have found to be causing CEOs with a short career horizon to act in a risk-averse manner, is that they want to conserve a legacy of success (as they will be judged on that by the labour market when they are looking for a career elsewhere) and therefore show avoidance of risky strategic choices that could taint the CEOs' reputation in the last period of their employment (Kang, 2016; Matta & Beamish, 2008; Romano et al., 2019). A few examples can illustrate this. Matta and Beamish (2008), for starters, state that whereas CEOs with a longer time to retirement do engage in more risky acquisitions, those with a shorter time left, seem to put more weight on the risk that comes with the acquisition, leading to less engagement in it (Matta & Beamish, 2008). According to Romano et al. (2019), CEO career horizon is negatively related to the time it takes for an organisation to start the initial public offering (IPO). They state that this results from an attempt to preserve the CEOs' success legacy which causes the CEOs to avoid the risk of starting an IPO (Romano et al., 2019). McClelland et al. (2012) predict that risk-averseness occurs because CEOs with an ending career horizon may be reluctant to

embrace risky strategies if the pay-off is expected to materialize after their end-date. They also explain that CEOs with a long career horizon are more often engaged in risky strategies to enhance future firm performance, whereas those with shorter career horizons are more likely to adopt strategic postures that are risk-averse and more conducive to career security (McClelland et al, 2012). Contradicting to most other research on CEO career horizon, Kang (2016) has stated that some CEOs pay more attention to legacy building while being less concerned about labour market evaluation. This would increase focus on the long-term instead of short-term performance (Kang, 2016).

Even though CEOs have a greater influence on the organisations' strategy than directors, directors also influence the strategic decision-making process through at least two of their roles. In the same manner as CEOs, directors often know when their time at the organisation is nearing. Besides, after their term ends, both CEOs and directors will face assessment by the labour market when finding a new job, which drives them to preserve their success legacy (Kang, 2016). Therefore, directors with a short time until end-term might face similar problems as CEOs with a short time until end-term due to their desire to take home benefits or protect their legacy before their tenure ends. This could impose problems for directors to adequately perform their core tasks and duties. If through their counsel to the top management team, they promote only those decisions of which they will benefit before their end-date, this might influence overall organisational strategy. However, an important difference between CEOs and directors that should be noted, is that directors represent their stakeholders, and might therefore act to please their own interests as well as their stakeholders' interests. This should be taken in mind when comparing CEO career horizon literature to literature on directors.

The first hypothesis of this study will test if there is a negative relationship between a short time until end-term and a short FTD, similar to what has found to be true for CEOs. The reasoning behind this is that directors with an ending tenure want to avoid risks (to preserve their success legacy) and lack incentives to think far ahead, leading them to focus on the short-term success of the organisation. This would in turn lead to directors mainly thinking about the near future and not on the distant future when nearing their end-term. With this being said, the first hypothesis of this research can be derived:

H1: Time until end-term is negatively related to a short future temporal depth

2.3.2 Time Until End-Term and Past Temporal Depth

This section will discuss two different mechanisms that give reasons to believe that a short time until end-term will increase long PTD. The first mechanism can be described as opportunity to look into the past. CEOs that are closer to their retirement have more opportunity to consider the distant past than those that are at the start of their career horizon. CEOs that have just started will not have memory of distant past

events which makes it less likely for them to develop a long PTD whereas CEOs that have been present at the organisation for a longer period can much easier consult the distant past, giving them opportunity to develop a PTD. Therefore, CEOs with a shorter time until end-term are more likely to develop a long PTD.

The second mechanism is the motivation to look back in time to conserve or build a legacy. Besides opportunity, CEOs with a short career horizon have more motivation to look into the distant past. Adding on the findings on legacy conservation presented in chapter 2.3.1, literature has also presented findings on legacy building, in which it becomes clear that some CEOs try to not only protect their legacy but also improve it before leaving the organisation (Kang, 2016; Zajac & Westphal 1996). In order to do so, CEOs must look back into the past to assess their legacy and past routines (Romano et al., 2019). Therefore, a shorter career horizon leads to CEOs wanting to conserve or improve their legacy, which in turn leads to them having to look far back in time to be able to assess their legacy, developing a long PTD. The motives for wanting to build or conserve a legacy can come from personal career goals, or pressure from the labour market, in the case that CEOs want to start a career at another organisation (Kang, 2016). A first study that can serve as an example to these motives is the one of Kang (2016), which has found that some CEOs with a nearing retirement care about legacy building more than about boosting short-term organisational performance. Kang (2016) has observed how organisational commitment to corporate social responsibility (CSR) may change as a CEO approaches retirement, as in that commitment grows. This growth could be attributed to CEOs wanting to be able to proudly look back on a successful career after their retirement. An open-minded approach to organisational commitment to CSR is often perceived as positive in the public eye and could therefore add to the CEO's legacy building (Kang, 2016).

A second example is the research of Zajac and Westphal (1996) which has shown that CEOs are committed to finding a replacement for their role that resembles their own characteristics and demographic profile after their own retirement, as they want to ensure the long-term performance of the organisation, and they believe a successor similar to themselves will realize that. The underlying reason for this is that CEOs want to make sure the organisation is bound to perform well after the retirement of the incumbent CEO, which will then be attributed to the CEO (Zajac & Westphal, 1996) and provide an admirable closure to their legacy. This study shows that CEOs care about the state in which they leave the company behind, and that they assess their own characteristics throughout their tenure to be able to compare the replacements to themselves.

The examples above have shown that CEOs look into the past to be able to assess their own accomplishments and shortcomings in their career. They look at what they are leaving behind when their tenure ends and, in most cases, try to maintain or even improve that legacy (Kang, 2016). The closer CEOs get to their end-date, the further they must look into the past to the start of their tenure with the organisation

(creating a long PTD), as they are looking back as far as they have memory of what their behaviour was within their time as being CEO.

Directors, within their strategic function, partially carry the same responsibilities as CEOs, as they take decisions that influence the strategy of the organisation (Boivie et al., 2021). The degree of successfulness of the organisation is therefore in a way dependent on the decisions of the directors. Directors are assessed by the labour market on the successfulness of the organisation during the director's tenure in the same way as CEOs, which make that this research predicts that directors also have an interest in legacy conservation (or improvement). This in turn would lead to directors looking (far) into the past of their tenure, to assess it and sequentially protect or polish it. Again, it should be taken in mind that directors also act upon the desires of their stakeholders, which distinguishes them from CEOs and might affect the way they behave regarding legacy building. Considering all the above, this study will test if a short time until end-term of directors leads to them considering the distant past while acting. With other words, the second hypothesis will be the following:

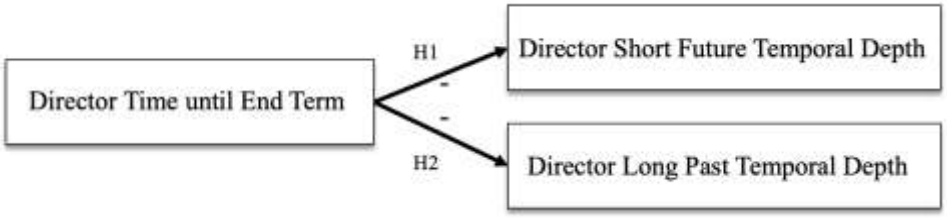
H2: Time until end-term is negatively related to a long past temporal depth

2.4 Conceptual Model

In this theory section, the core elements of this research have been explained. After introducing both hypotheses, the conceptual model can be presented in figure 2. The methods that will be used to test whether the conceptual model holds, will be discussed in the next chapter.

Figure 2

Conceptual Model



3. Methodology

The hypotheses of this research will be tested using data collected in the Dutch water authority sector. Water has always played an important role in the wellbeing of the Netherlands, as the land is by origin vulnerable when it comes to water and is therefore dependent on adequate water management. The water authorities have the responsibility to manage water issues the country is facing. They are responsible for protecting land from seawater and the flooding of rivers, which means one of their duties is to manage that there is enough space for the water and that the right protections are in place around river areas. Besides safety, the water authorities are ensuring good quality and quantity of water. Ensuring quality entails making sure the water in lakes and rivers is clean, the wildlife habitat is managed, and that the sewage water is under control. Quantity of water is also of great importance. The authorities make sure that there are no floodings in case of extensive rainfall and no drought when there is no rainfall (in which case the agricultural sector would be in serious problems).

The water authority sector is a political organisation, in which the directors are part of political parties, which are chosen by a public vote among all adults in the Netherlands. This means that the directors function as representatives for their stakeholders. Every few years, a public vote is held in every region of the country to elect the directors.

3.1 Data

In order to investigate the derived hypotheses, there will be made use of a data set including data on 28 Dutch water authorities which was previously used by van den Oever and Martin (2019). The data consists of 62.229 statements that were made during the board meetings within the different water authorities over the period of 2009-2014. On the individual level, statements of every board member during board meetings are recorded, along with information about ideology, start of employment and partaking in re-election. On the organisational level, information such as agenda topics, number of meetings and number of decisions per meeting are recorded. This data is suitable to test hypotheses on the individual level and include control variables on the organisational as well as individual level.

3.2 Variables

3.2.1 Dependent Variables

The dependent variables in the research question are *future temporal depth* and *past temporal depth.* To be able to measure these constructs, it must be operationalized what indicates a short and a long FTD and PTD. Accurate self-assessment by directors is difficult to achieve in this case, as they might not be aware of the length of their temporal depth. To bypass this problem, content analysis of word usage will be assessing the temporal depth of a director. Content analysis assumes that groups of words reveal underlying themes, and

that co-occurrences of keywords can be interpreted as reflecting association between the underlying concepts (Duriau et al., 2007). Content analysis is suitable for measuring temporal depth as it lets the researcher understand other individuals' cognitive schema through the analysis of text (Boyd & Schwartz, 2021; Duriau et al., 2007). Besides, it is also suitable for measuring a change in temporal depth as change in word usage reflects at least a change in attention, if not cognitive schema (Duriau et al., 2007).

To conduct the content analysis, a dictionary including words that indicate how far ahead in the future and how far back in to the past a director looks, was needed. First choice would have been using a validated dictionary that captures temporal depth, however no existing dictionary suitable to test the hypotheses was found by the researcher of this study. Therefore, a novel dictionary is developed to fit case specific requirements of this research.

The dictionary has four main categories: words indicating *short* FTD and PTD and words indicating *long* FTD and PTD. To measure the usage of these words, word count will be used, which gives information on how far ahead or back this individual tends to look when considering acting. A list of words was made based upon existing theory on temporal depth, which indicate either a short or long distance into the future or past. The words show that the director is referring to a certain moment or period in the future or past. Most words of the dictionary follow from logical reasoning, such as 'vroeger' which translates to 'past' and 'toekomstig' which translates to 'future'. Others were added through manually analysing statements. To conceptualize whether a word indicates a long or short temporal distance, the categorization by Bluedorn and Martin (2008) was followed. In their research, Bluedorn and Martin (2008) considered 30 days as a short-term future, three months a mid-term future and three years a long-term future. As for the past, they considered a short-term past of 14 days, a mid-term past of six months and a long-term past of five years (Bluedorn & Martin, 2008).

A random subsample of 0.5% (311 statements) of all statements served to the cause of validating the initial dictionary, while also adopting meaningful words which were encountered in the sample to supplement the dictionary. In a second validation step, 10 random hits of every word in the updated dictionary were checked in its context, which gave confirmation on whether 'short' or 'long' as indicated by Bluedorn and Martin (2008) was suitable in context. Besides this, information was gathered on the false hits per word, as a maximum false hit rate of 20% was allowed. The words that did not meet this criterion were eliminated from the dictionary. This eventually yielded to the final validated dictionary to accurately predict temporal depth, which can be seen in table 1.

Depending on the type of analysis, the dependent variable will be represented in different manners. In the OLS regression, the dependent variables will be represented as a ratio in the following way:

*Short FTD: # of words indicating short FTD / # of total spoken words *100*

*Long PTD: # of words indicating long PTD / # of total spoken words *100*

For conducting a Poisson regression, the dependent variables will be represented as counts:

Short FTD: # of words indicating short FTD

Long PTD: # of words indicating long PTD

Lastly, logistic regression was performed, which requires the dependent variables to be binary. Therefore, the dependent variables were transformed in a manner where 0 indicates no mention of dictionary words and 1 indicates a mention of one or more dictionary words in the category of the dependent variable.

Table 1

Dictionary

FTD			PTD		
Dictionary Words	Distance	False Hit rate	Dictionary Words	Distance	False Hit rate
toekomstig	Long	0%	vroeger	Long	0%
volgende generatie	Long	0%	voorheen	Long	0%
langere termijn	Long	0%	toentertijd	Long	0%
meerjaren	Long	0%	jaren geleden	Long	0%
middellange termijn	Long	0%	afgelopen jaren	Long	0%
(aan)komende jaren	Long	0%	jaar geleden	Long	10%
(aan)komend jaar	Long	0%	afgelopen jaar	Long	0%
volgende maanden	Short	0%	maanden geleden	Short	0%
(aan)komende maand(en)	Short	0%	vorige maand	Short	0%
dit jaar	Short	0%	afgelopen maand	Short	0%
korte termijn	Short	0%	weken geleden	Short	0%
komende week/weken	Short	0%	laatste tijd	Short	0%
volgende week	Short	0%	recent_	Short	0%
deze week	Short	0%	kortgeleden	Short	0%
morgen	short	10%	vorige week	Short	0%
lange termijn	Long	100%	afgelopen week	Short	0%
langdurig	Long	70%	gister	Short	0%
later	Long	70%	lang geleden	Long	70%
			toen	Long	80%
			eerst	Long	100%

A space is indicated by: _

3.2.2 Independent Variable

The independent variable in this research is *time until end-term*, which refers to the amount of time a director has left on the board. At the start of data collection, in 2009, the board was just elected, meaning that the directors still had a long time until end-term. In March 2015, the next elections took place, which marks the end of term for the directors. In other words, the closer directors get to their end term on the board, the shorter their time until end-term. To be able to measure this, a variable will be created that shows how much time in years a directors has left on the board (with March 2015 being the end of term).

3.3 Control Variables

Control variables minimize the possibility that confounded results limit the explanatory power of the model and determine whether the focal independent variables have the relationships that are hypothesized (Atinc et al., 2012). So, to be sure that changes in temporal depth are explained by director time until end-term, control variables will be used.

Authority. This control variable will incorporate which differences in the dependent variables are present based upon authorities. By including this, differences on the organisational level, such as merges and agenda topics, can be controlled for. This is necessary as data is collected on many different boards where not all boards will have had the issues to deal with and topics to discuss. Explained in chapter 2.1, the punctuated events role of directors, entails participating in events that occur less frequently and significantly increase short-term uncertainty (Boivie et al., 2016). In the occurrence of a special event, topics on the meeting agenda of a particular board dealing with this event, might be more focused on solving short-term issues than is the case for other boards dealing with no, or other special events. It is therefore necessary to consider these differences on an organisational level to be able to test the hypotheses on an individual level.

Party including stakeholder. Another control variable that will be included is party including stakeholder. This control variable might influence whether a director attaches value to having a short or a long temporal depth, as the individual represents a stakeholder group with particular needs.

Partaking in Re-election. As mentioned in 3.2.2, directors signing up for re-election makes that they have no certainty on their time until end-term. Consequently, it could be expected that being re-electable influences the relationship between time until end-term temporal depth of directors due to this uncertainty.

Gender. Gender will be included as a control variable, to see if differences in the dependent variables can be explained by the individual being male or female.

Position. The control variable position refers to the individual speaking having the function of director or top manager. This research focusses on directors but has taken its insights from literature on top managers and CEO career horizon. Therefore, it is important to control for the influence of position on the dependent variable.

Cash. The analysis will control for the influence of the amount of cash on the board's balance sheet in that year. The variable used in the analysis will be the cube root in thousands of euros. Cash flows have proven to have an effect on investments in long horizon projects (Souder & Shaver, 2010), which might affect the FTD of the decisionmakers.

Total Number of Words. This research will be conducted based on the mention of particular words which are categorized as either representing short or long temporal depth, which in several models is captured in the form of a ratio with total number of words as the denominator. According to Certo et al.

(2020) it is imperative to include the components of the ratio variable into the analysis. Therefore, a check will be done regarding the total word usage of directors, as a high word count might enhance the chance of a director mentioning words indicating temporal depth.

Length of Tenure. It will be controlled for how long a director has been employed at the water authority. This variable is measured in years, calculated by the difference between the year of the statement and the year in which employment started. Having a longer tenure might have an effect on long PTD, as it gives opportunity to the director to look further back in time.

3.4 Type of Analysis

Investigating the relationships between the dependent and independent variables to test the hypotheses will be done with several types of analyses. Firstly, an Ordinary Least Squares analysis (OLS), which is a method that can be used to find the simple linear regression of a set of data (Field, 2018) will be used. After that a Poisson regression and a logistic regression will be conducted. This will be done for both short FTD and long PTD as the dependent variable, also including the control variables.

3.5 Research Ethics

For reasons of privacy protection, no personal data of the study subjects was disclosed. Besides that, the data used in this research was obtained with consent and stored in confidential places. There was no direct contact with the study subjects. Overall, this research adheres to research ethics requirements.

4. Results

Table 2 provides descriptive statistics and correlations among the study variables. In addition to this, appendix 1 shows the descriptive statistics of the dummy variables. The testing of the assumptions for OLS are presented in appendix 2. As some of them are violated, additional analyses, being Poisson and logistic regression, will be conducted. After that, an additional analysis investigating the interaction effect of position will be conducted. The last additional analysis concerns the relationship between time until end-term and long FTD and short PTD.

Table 2

Desciptive Statistics and Correlations

Variables	Mean	SD	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Study Variables (in %)												
(1) Long PTD	0.036	0.367	1.000									
(2) Short PTD	0.021	0.308	-0.002	1.000								
(3) Long FTD	0.062	0.558	0.003	-0.004	1.000							
(4) Short FTD	0.062	0.601	0.008	-0.002	0.030	1.000						
Control Variables												
(5) Years Until End	2.885	1.77	-0.015	-0.009	-0.007	0.006	1.000					
(6) Reelection	0.537	0.499	0.005	-0.008	0.015	0.004	0.020	1.000				
(7) Gender	0.173	0.378	-0.006	-0.001	-0.004	-0.008	-0.017	-0.028	1.000			
(8) Cash	80.923	71.958	-0.003	-0.002	0.005	0.004	0.091	-0.019	-0.014	1.000		
(9) Word Count	81.909	122.822	0.033	0.013	0.024	0.005	-0.044	-0.017	-0.014	-0.020	1.000	
(10) Length of Tenure	2.747	3.143	0.005	0.013	0.000	-0.007	-0.518	0.040	0.106	0.004	0.027	1.000

Dummy variables for position, party and authority are not included in this model, but were checked for correlations and were all < 0.2.

4.1 Regression Analysis

Table 3 reports the results of the regression analysis using OLS. In models 1 and 2, short FTD is addressed and in models 3 and 4, long PTD is addressed. In models 1-4, all control variables are included. In model 2 and 4, the independent variable, *years until end* is introduced.

Model 2 does not provide statistical evidence to accept hypothesis 1, which predicted that time until end-term is negatively related to short FTD ($\beta = .000$, $p = .869$). Hypothesis 2 predicted that time until end-term is negatively related to long PTD, which was supported by model 4. The coefficient estimate for years until end equals -.004 ($p = .002$), suggesting a negative relationship between time until end-term and long PTD. This coefficient shows a very weak relationship, as it indicates that an increase of one year until the end-term, decreases the average short PTD with .004 percent point. In model 2, the control variable *position* showed significance. Further than that, none of the control variables in models 1-4 are found to be significantly different from zero. The results of the analyses including dummy variables can be seen in appendix 3.

Table 3

Results OLS Regression Analyses

	Short FTD				Long PTD			
	OLS - DV as %				OLS - DV as %			
	Model 1		Model 2 (H1)		Model 3		Model 4 (H2)	
Variables	**Coeff.**	**P-value**	**Coeff.**	**P-Value**	**Coeff.**	**P-value**	**Coeff.**	**P-Value**
Years until end			.000	.869			-.004	.002
Re-election	.012	.064	.011	.064	.005	.233	.005	.203
Gender	-.010	.147	-.010	.145	-.008	.076	-.007	.117
Cash	.000	.649	.000	.656	.000	.775	.000	.650
Word Count	.000	.170	.000	.168	.000	.000	.000	.000
Length of Tenure	-.001	.244	-.001	.378	.001	.173	.000	.547
Constant	.023	.511	.021	.541	.001	.979	.014	.512
Position Dummies	Yes		Yes		Yes		Yes	
Party Dummies	Yes		Yes		Yes		Yes	
Authority Dummies	Yes		Yes		Yes		Yes	
N	53960		53960		53960		53960	

4.2 Supplementary Analyses

4.2.1 Poisson and Logistic Regression

Table 4 provides results of the additional analyses testing the hypotheses using Poisson and logistic regression. Models 1, 3, 5 and 7 contain solely the control variables, in models 2, 4, 6 and 8, the independent variable *years until end* is introduced.

In model 4, the logistic regression has not found statistical evidence to accept hypothesis 1 (β = -.009, p = .675), similar to the findings of the OLS in table 3. Model 2 however, has found a significant negative relationship between years until end and short FTD (β = -.052, p = .000). Although this relationship is weak, it means that some traces are found of the hypothesized effect, giving reasons to believe that time until end-term is negatively related to short FTD.

Models 6 and 8 report a negative relationship between years until end and long PTD. (β = -.146, p < .001 and β = -.127, p < .001). Regarding hypothesis 2, it can be concluded that all three analyses (OLS, Poisson and logistic regression) give a consistent image of a significant, negative relationship between time until end-term and long PTD. Less consistency is found for the size of the coefficients, as the Poisson and logistic regression have found a less weak relationship than the OLS. On the basis of this, hypothesis 2 can be accepted, meaning that the closer a director gets to their end-term, the higher their long PTD.

The control variable *gender* shows significance in model 6 and 8 (β = -.157, p = .011 and β = -.250, p = .006). The negative relationship indicates that a male is more likely to develop a long PTD than females. The dummy variable for *position* again shows significance in all models (appendix 3). This gives reasons to believe that an interaction effect exists between position and short FTD and long PTD and will therefore be further investigated in 4.2.2.

Table 4

Results Poisson and Logistic Regression

	Short FTD								Long PTD							
	Poisson – DV as count				Logit – DV as binary				Poisson – DV as count				Logit – DV as binary			
	Model 1		Model 2 (H1)		Model 3		Model 4 (H1)		Model 5		Model 6 (H2)		Model 7		Model 8 (H2)	
Variables	**Coeff.**	**P-value**	**Coeff.**	**P-Value**	**Coeff.**	**P-Value**	**Coeff.**	**P-value**	**Coeff.**	**P-Value**	**Coeff.**	**P-Value**	**Coeff.**	**P-Value**	**Coeff.**	**P-Value**
Years until end			-.052	.000			-.009	.657			-.146	.000			-.127	.000
Re-election	-.015	.747	-.005	.915	.007	.919	.008	.907	.241	.000	.269	.000	.105	.167	.121	.111
Gender	-.042	.440	-.031	.569	-.099	.243	-.097	.254	-.205	.001	-.157	.011	-.287	.002	-.250	.006
Cash	.002	.005	.002	.003	.001	.417	.001	.408	.008	.000	.008	.000	-.001	.309	-.001	.465
Word Count	.002	.000	.002	.000	.004	.000	.004	.000	.002	.000	.002	.000	.004	.000	.004	.000
Length of Tenure	-.002	.801	-.021	.016	-.009	.417	-.012	.368	.028	.000	-.0199	.030	.025	.021	-.018	.199
Constant	-3.685	.000	-3.482	.000	-4.534	.000	-4.499	.000	-46.775	.653	-46.497	.757	-4.617	.000	-4.149	.000
Position Dum.	Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Party Dum.	Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Authority Dum.	Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
N	53960		53960		53699		53699		53960		53960		53699		53699	

4.2.2 Position as a Moderator

As mentioned, a significant effect was found for the control variable *position*. This control has two categories, being director (Position_Dummy1) and top manager (Position_Dummy2). This supplementary analysis will test if the position of the speaker influences their short FTD and long PTD by investigating the interaction effect between *years until end* and *position* and testing for a moderating effect. Figure 3 plots the interactions between years until end and position, while other variables are held at their mean values. Figure 3a shows that top managers decrease their short FTD while their years until end are decreasing, whereas directors show barely any difference in short FTD for low or high years until end. Figure 3b does not show a moderating effect of position on long PTD. Table 5 shows the results of the OLS analysing these interaction results. The interaction effects do not show significance in any of the models which means that no significant moderating effect has been found. In model 1, the dummy for director shows significance with a β of -.034 ($p = .016$). This indicates that being a director has a weak negative relationship with short FTD, with being a top manager as the reference category. This means that directors are slightly less likely to have a short FTD than top managers, when all other factors are remained at constant. For long PTD, no significant effect of position was found in model 2.

Figure 3

Plotted Interaction Effects of Position

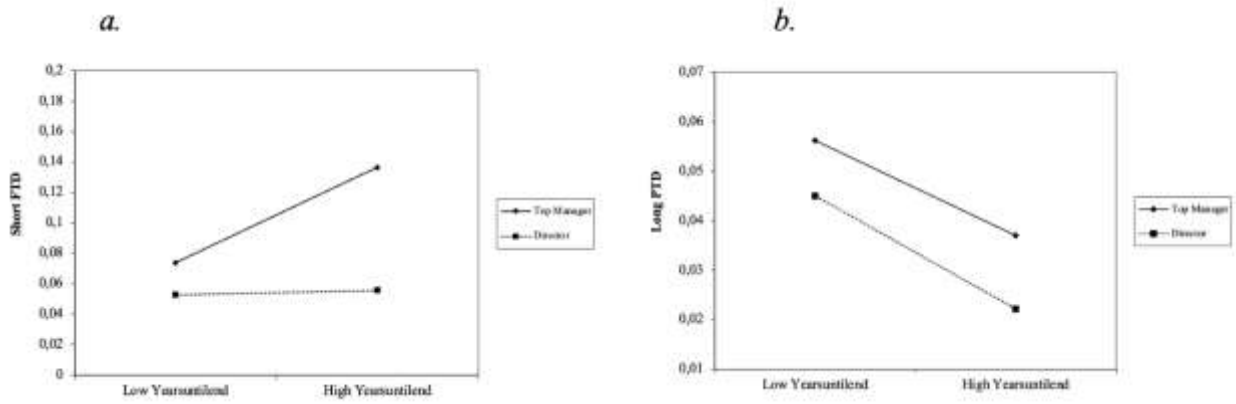


Table 5

Interaction Effect of Position

	Short FTD		Long PTD	
	DV as %		DV as %	
	Model 1 (OLS)		Model 2 (OLS)	
Variables	**Coeff.**	**P-value**	**Coeff.**	**P-value**
Years until end	.004	.296	-.004	.158
Yearsuntilend*Position_Dummy1	-.004	.275	.000	.949
Position_Dummy1	-.034	.016	-.007	.449
Re-election	.011	.068	.005	.204
Gender	-.010	.151	-.007	.117
Cash	.000	.671	.000	.651
Word Count	.000	.170	.000	.000
Length of Tenure	-.001	.388	.000	.548
Constant	.058	.118	0.21	.361
Party Dummies	Yes		Yes	
Authority Dummies	Yes		Yes	
N	53960		53960	

4.2.3 Long FTD and Short PTD

As the dictionary also provided insights on long FTD and short PTD, additional analyses were done using OLS, Poisson and logistic regression to test the relationship between time until end-term and these two new dependent variables. The results can be seen in table 6. Models 2 and 3 find that years until end is significantly related to long FTD (β = -.044, $p < .001$ and β = -.045, $p = .021$). Models 5 and 6 find that years until end is significantly related to short PTD (β = -.128, $p < .001$ and β = -.077, $p = .008$). These findings thus indicate that time until end-term has a negative relationship with both long FTD and short PTD. However, these findings should be interpreted with caution, as models 1 and 4 could not find statistical

evidence for a significant relationship between the variables. Besides that, the relationships are found to be weak. None of the control variables have a strong significant relationship with long FTD or short PTD.

Table 6

Regression Analysis Long FTD and Short PTD

	Long FTD						Short PTD					
	DV as %		DV as count		DV as binary		DV as %		DV as count		DV as binary	
	Model 1 (OLS)		**Model 2 (Poisson)**		**Model 3 (Logit)**		**Model 4 (OLS)**		**Model 5 (Poisson)**		**Model 6 (Logit)**	
Variables	**Coeff.**	**P-value**	**Coeff.**	**P-Value**	**Coeff.**	**P-Value**	**Coeff.**	**P-value**	**Coeff.**	**P-Value**	**Coeff.**	**P-Value**
Years until end	-.003	.060	-.044	.000	-.045	.021	-.001	.147	-.128	.000	-.077	.008
Re-election	.013	.032	.269	.000	.118	.075	-.004	.229	-.103	.157	-.160	.124
Gender	-.009	.210	-.026	.598	-.095	.219	.000	.929	-.118	.164	-.276	.030
Cash	.000	.210	.011	.000	.002	.007	.000	.700	.000	.907	.000	.971
Word Count	.000	.000	.002	.000	.004	.000	.000	.177	.002	.000	.003	.000
Length of Tenure	-.002	.150	-.017	.026	-.023	.060	.000	.435	-.009	.402	.013	.434
Constant	.019	.577	-40.528	.000	-5.137	.000	.014	.435	-4.036	.000	-5.070	.000
Position Dummies	Yes		Yes		Yes		Yes		Yes		Yes	
Party Dummies	Yes		Yes		Yes		Yes		Yes		Yes	
Authority Dummies	Yes		Yes		Yes		Yes		Yes		Yes	
N	53960		53960		53292		53960		53960		52777	

5. Discussion and Conclusion

This study has investigated the influence of a nearing end-term on the board on the temporal depth of directors. It was found that the directors in this sample get influenced by the nearing of their end-term, similar to what has been found for CEOs in prior research. When a director's time until end-term got shorter, they showed long PTD, meaning that the closer they got to their end-term, the further back in the past they looked. Besides that, traces were found that indicate that a nearing end-term leads to directors focusing more on the near future when acting, showing short FTD.

5.1 Theoretical Implications

This study advances existing research on the board of directors, as it studies the influence of the time until end-term on directors, which has not been researched before like was done for CEOs in literature on CEO career horizons. Most research on directors focuses on the roles that they have, problems that arise while performing their duties or how they influence strategy (Boivie et al., 2016; Boivie et al., 2021; Dalton et al., 2007; McNulty & Pettigrew, 1999). Time issues are usually not regarded in these studies, let alone function as the main topic of research. However, time research is highly relevant, because it is essential for the advancement of organisational science (Shipp & Cole, 2015) and is crucial for understanding how individuals and organisations evolve, grow, learn, and change (Shipp & Janssen, 2021). This research has found that directors show changes in their temporal depth as they near their end-term. Getting closer to their end-term results in directors considering the near future and the distant past more while acting. This shows that there are implications to directors working in terms, which has not yet been established in literature on the board of directors. With that, this study contributes to a more complete understanding of what factors influence board effectiveness.

5.2 Limitations

This study is bound by some limitations. A first limitation is that this research was done using a sample from the Dutch water authority sector, possibly having the consequence of the findings not being generalizable to organisations out in other contexts. The water authority sector is a public body with a political organisational form, which differentiates the organisation from those in private sectors. Directors in the authorities get instated by their stakeholders, meaning that their temporal depth might be influenced by stakeholder demands, which plays less of a role for directors in different (commercial) sectors. Therefore, generalization should be done with caution.

Secondly, this research has developed a novel dictionary, which (due to the lack of resources) has been tested on a limited sample size, meaning that the validation of the dictionary cannot be guaranteed, with possible implications to the measurement of the main independent variable.

The last limitation discussed here, regards the analyses of this research. As the assumptions for linear regression were not met, the OLS regression must be interpreted with caution. To increase reliability, the choice was made to do additional analyses using Poisson regression and logistic regression. However, both types of analysis had several interpretation problems of its own. For the logistic regression, the dependent variables were converted to binary variables which has led to the loss of information, as statements containing a lot of words regarding PTD or FTD were coded the same as statements containing only one word indicating the dependent variable. The Poisson regression should also be interpreted with caution, as for this type of analysis it is usually not preferred to have data containing a lot of zeros, which did occur in this research.

5.3 Suggestions for Future Research

This research has found a significant relationship between gender and long PTD. These results give reasons to believe that females are less likely to have a long PTD than males. In future research, the role of gender, as well as other demographic characteristics such as age, could further be investigated in order to come to recommendations on how organisations could best deal with temporal depth of directors. This could prove interesting for PTD as well as FTD research, as Kang (2016) has already found a moderating effect of age on the relationship between CEO career horizon and CEO regarding the distant future. In addition to that, it could be interesting to investigate whether gender moderates the relationship between time until end-term and temporal depth.

In extension of this research, it would be useful to investigate other relevant concepts on which working in terms might have an effect. Firstly, future research could investigate whether the decisions that are taken by directors near the end of term, differ from decisions made when time until end-term is longer. In addition to that, other subjective time concepts such as sequencing (working on tasks in a specific order), pacing (allocating efforts relative to a deadline), time urgency (concern with the passing of time) or temporal focus (Shipp & Cole, 2015) can be studied in relation to time until end-term. These suggestions could further enhance the understanding of the influence of time until end-term and contribute to a holistic view of the consequences of working in teams. Overall, this would enhance the temporal lens which, until now, is scarcely used in existing board literature.

5.4 Practical Implications

It is known from prior research that having a short FTD often creates the problem of decision-makers not taking into account the long-term future when making decisions (Das, 1978; Heyden et al., 2017; Flanner & Bansal, 2017; Lee et al., 2018; Lin et al, 2019; Nadkarni et al., 2016). Besides that, it is known that a long PTD has the downside of decision-makers comparing current situations of the organisation with one from

the distant past that is no longer relevant, leading to misjudged decisions (Nadkarni et al., 2016). Now that this study has demonstrated that a short time until end-term leads to directors having a long PTD and (most likely) a short FTD, it can be questioned whether it would be better to instate directors for an infinite period on the board, diminishing the issues with a nearing end-term. By no longer working in terms, directors usually do not know when their end of term is going to be, meaning that their temporal depth would not be affected by it. If for reasons it is not possible to install directors for an infinite period, terms of directors could be extended. This would result in directors having a short time until end-term less often, reducing the number of times issues arise with a short FTD or a long PTD.

As it is inevitable that directors will have a short time until end-term at some point in their career, directors should be made aware of the effect a nearing end-term has on their temporal depth, and in turn their behaviour and decisions. Directors with a short time until end-term should be educated on preventing negative consequences due to changes in their temporal depth. This education could entail knowledge on what the downsides are of considering the distant past and near future, as well as supporting them in finding the right balance between a long and a short temporal depth.

5.5 Conclusion

This research aimed to answer the question "*What is the influence of a director's time until end-term on their temporal depth?*". This question has arisen due to the fact that the influence of working in terms has not been researched before in board literature, while it has been proven that CEOs are influenced by knowing when their time at the organisation is ending. This research has found reasons to believe that directors, as they get closer to their end-term on the board, consider the near future (short FTD) and distant past (long PTD) more than when they have more time until their end-term. With these findings, this research adds to existing board literature taking on a temporal lens to include the influence of working in terms on board behaviour.

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7. Appendices:

Appendix 1: Descriptive Statistics Dummy Variables

Appendix 1.1

Descriptive Statistics Control Variables

Variable	Obs	Mean	Std. Dev.
functie dummy1	61848	.855	.352
functie dummy2	61848	.145	.352
party dummy1	61848	.019	.135
party dummy2	61848	.003	.054
party dummy3	61848	.064	.244
party dummy4	61848	0	.011
party dummy5	61848	.093	.291
party dummy6	61848	.01	.102
party dummy7	61848	.11	.313
party dummy8	61848	.124	.33
party dummy9	61848	0	.01
party dummy10	61848	.024	.154
party dummy11	61848	.006	.074
party dummy12	61848	0	.004
party dummy13	61848	.158	.365
party dummy14	61848	.035	.183
party dummy15	61848	.096	.295
party dummy16	61848	.012	.108
party dummy17	61848	.017	.13
party dummy18	61848	.096	.294
party dummy19	61848	.133	.34
authority dummy1	62228	.023	.15
authority dummy2	62228	.056	.229
authority dummy3	62228	.072	.259
authority dummy4	62228	.047	.213
authority dummy5	62228	.069	.253
authority dummy6	62228	.062	.242
authority dummy7	62228	.12	.325
authority dummy8	62228	.043	.203
authority dummy9	62228	.042	.2
authority dummy10	62228	.048	.214
authority dummy11	62228	.008	.086
authority dummy12	62228	.025	.155
authority dummy13	62228	.03	.171
authority dummy14	62228	.027	.162
authority dummy15	62228	.002	.048
authority dummy16	62228	.03	.172
authority dummy17	62228	.05	.219
authority dummy18	62228	.011	.105
authority dummy19	62228	.045	.208

authority dummy20	62228	.023	.148
authority dummy21	62228	.01	.099
authority dummy22	62228	.019	.136
authority dummy23	62228	.006	.08
authority dummy24	62228	.025	.156
authority dummy25	62228	.005	.067
authority dummy26	62228	.081	.273
authority dummy27	62228	.01	.1
authority dummy28	62228	.011	.106
jaarindienst dummy1	53960	0	.009
jaarindienst dummy2	53960	.004	.061
jaarindienst dummy3	53960	.003	.054
jaarindienst dummy4	53960	0	.014
jaarindienst dummy5	53960	.01	.098
jaarindienst dummy6	53960	.002	.043
jaarindienst dummy7	53960	.001	.03
jaarindienst dummy8	53960	.027	.162
jaarindienst dummy9	53960	.026	.16
jaarindienst dummy10	53960	.034	.181
jaarindienst dummy11	53960	.004	.059
jaarindienst dummy12	53960	.228	.419
jaarindienst dummy13	53960	.497	.5
jaarindienst dummy14	53960	.012	.107
jaarindienst dummy15	53960	.055	.228
jaarindienst dummy16	53960	.009	.096
jaarindienst dummy17	53960	.048	.214
jaarindienst dummy18	53960	.041	.199

Appendix 2: Testing of Assumptions

Before starting with the actual analyses, a few assumptions are tested to assess how suitable a linear regression analysis is for the data. This is done for hypothesis 1 as well as hypothesis 2. Firstly, the dependent variable should be measured at the continuous level and the independent variable at the continuous or categorical level. Both of these assumptions are met.

Secondly, a linear relationship should exist between the dependent and independent variable. To be able to assess this relationship, a scatterplot was created. As can be seen in appendix 2.1, a linear relationship was shown between time until end-term and short FTD and time until end-term and long PTD. Therefore, this assumption is met.

To test the normality of the dependent variable's distribution, first histograms were plotted. The plots for both dependent variables show non-normality. Secondly, a Shapiro-Wilk test confirms the non-normality, as $p < 0.001$ for all variables. Appendices 2.2 to 2.4 show these results.

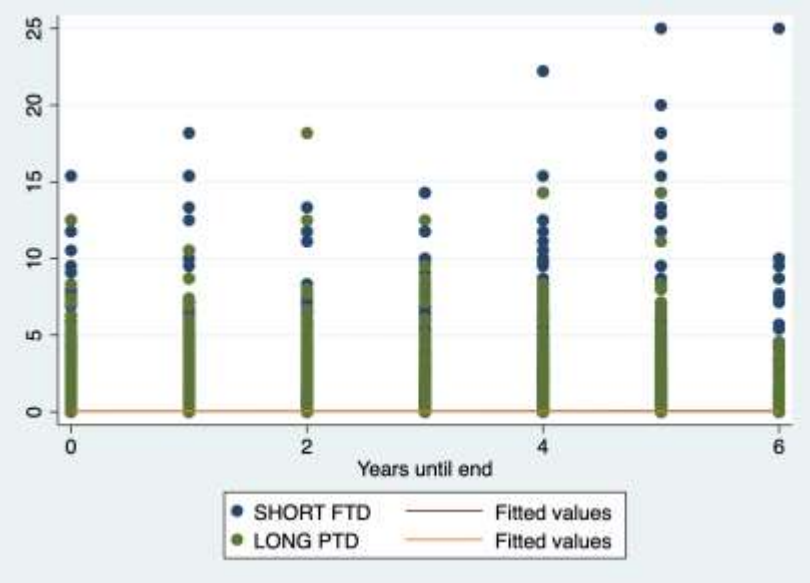
After that, two Breusch-Pagan tests were conducted to check for heteroscedasticity in the variables of the hypotheses. In this test, it is preferable to reject the null hypothesis in which the error variances are all equal (homoscedasticity) and accept the alternative hypothesis that states that the error variances are a multiplicative function of one or more variables (heteroscedasticity). Unfortunately, both tests showed significance at a level of 0.05 ($p < 0.001$) which means that homoscedasticity is found, and that the assumption of heteroscedasticity is violated (appendices 2.5 and 2.6).

Finally, multicollinearity was tested for the independent and control variables (appendix 2.7). All values of the variance inflation factors (VIF) were far below 10, indicating that there are no issues with strongly intercorrelated variables.

After having tested these assumptions, and violating several of them, it must be taken into account that a linear regression analysis might not be fully suitable for this dataset. Therefore, additional Poisson and logistic regressions will be conducted.

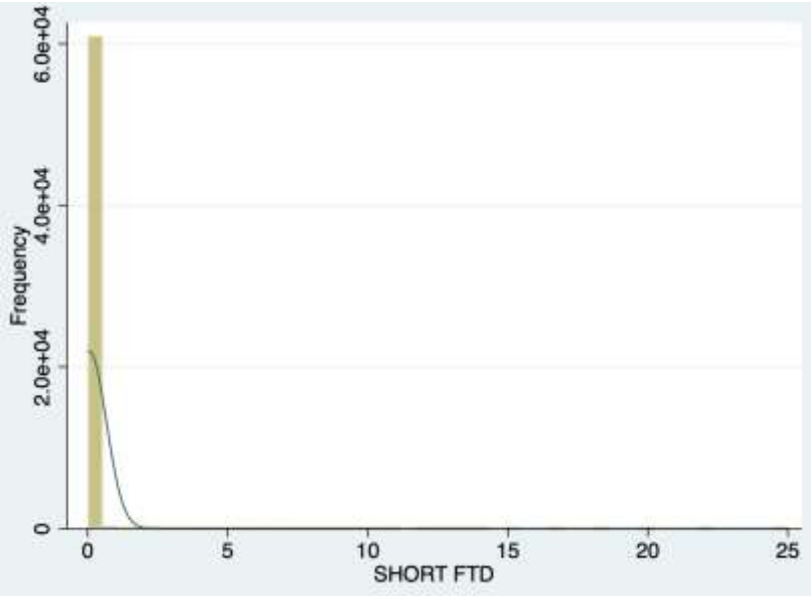
Appendix 2.1

Scatterplot



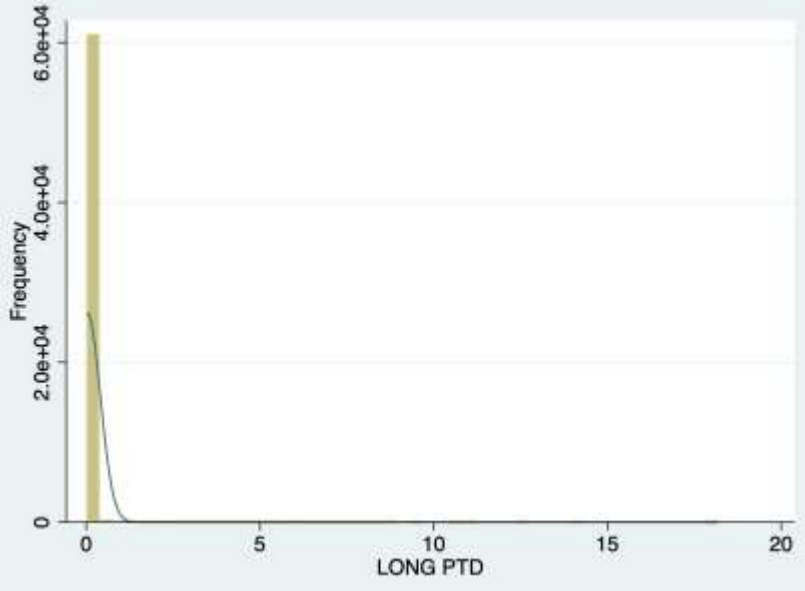
Appendix 2.2

Histogram to Assess Normality Short FTD



Appendix 2.3

Histogram to Assess Normality Long PTD



Appendix 2.4

Shapiro-Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
yearsuntilend	62,228	0.982	396.322	16.651	0.000
Short FTD (as %)	62,228	0.560	9564.388	25.513	0.000
Long PTD (as %)	62,228	0.564	9491.154	25.491	0.000

Note: The normal approximation to the sampling distribution of W' is valid for 4<=n<=2000.

Appendix 2.5

Breusch-Pagan test for Heteroskedasticity H1

Assumption: Normal error terms
Variable: Fitted values of shortftd_num
H0: Constant variance
chi2(1) = 837.22
Prob > chi2 = 0.0000

Appendix 2.6

Breusch-Pagan test for Heteroskedasticity H2

Assumption: Normal error terms
Variable: Fitted values of longptd_num
H0: Constant variance
chi2(1) = 546.08
Prob > chi2 = 0.0000

Appendix 2.7

Variance Inflation Factor

	VIF	1/VIF
yearsuntilend	1.391	.719
reelection	1.006	.994
gender	1.015	.985
cash	1.013	.987
word count	1.003	.997
lengthoftenure	1.396	.716
Mean VIF	1.137	.

Appendix 3: Complete Output Regression Models

Appendix 3.1

OLS regression short FTD

shortftd_num	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
yearsuntilend	0	.002	0.17	.869	-.003	.004	
reelection	.011	.006	1.85	.064	-.001	.024	*
gender	-.01	.007	-1.46	.145	-.025	.004	
cash_num	0	0	0.45	.656	0	0	
wc	0	0	1.38	.168	0	0	
lengthoftenure	-.001	.001	-0.88	.378	-.003	.001	
functie_dummy2	.046	.008	6.01	0	.031	.062	***
party_dummy2	-.008	.087	-0.10	.922	-.178	.161	
party_dummy3	-.027	.023	-1.20	.231	-.071	.017	
party_dummy4	.015	.234	0.06	.95	-.444	.473	
party_dummy5	.014	.021	0.67	.506	-.027	.055	
party_dummy6	-.051	.034	-1.52	.128	-.117	.015	
party_dummy7	-.005	.021	-0.27	.791	-.046	.035	
party_dummy8	.002	.02	0.11	.914	-.038	.042	
party_dummy9	-.051	.245	-0.21	.835	-.53	.428	
party_dummy10	-.006	.026	-0.25	.805	-.057	.044	
party_dummy11	.067	.039	1.70	.09	-.01	.144	*
o	0	.	.	.	.	.	
party_dummy13	-.013	.02	-0.65	.517	-.053	.027	
party_dummy14	.002	.024	0.07	.941	-.046	.049	
party_dummy15	-.03	.021	-1.41	.158	-.07	.011	
party_dummy16	-.047	.032	-1.48	.139	-.109	.015	
party_dummy17	-.026	.028	-0.91	.36	-.082	.03	
party_dummy18	-.011	.021	-0.51	.611	-.052	.031	
party_dummy19	-.018	.02	-0.88	.377	-.058	.022	
authority_dummy2	.045	.029	1.56	.118	-.011	.101	
authority_dummy3	.025	.025	1.01	.314	-.024	.074	
authority_dummy4	.016	.027	0.59	.552	-.037	.07	
authority_dummy5	.036	.024	1.49	.135	-.011	.082	
authority_dummy6	.037	.027	1.35	.178	-.017	.091	
authority_dummy7	.031	.027	1.12	.264	-.023	.084	
authority_dummy8	.006	.031	0.18	.857	-.055	.067	
authority_dummy9	.026	.029	0.90	.37	-.031	.083	
authority_dummy10	.065	.031	2.10	.036	.004	.125	**
authority_dummy11	-.019	.041	-0.46	.646	-.099	.061	
authority_dummy12	.014	.025	0.54	.587	-.035	.062	
authority_dummy13	.065	.024	2.70	.007	.018	.113	***
authority_dummy14	.015	.033	0.46	.645	-.05	.08	
authority_dummy15	-.035	.07	-0.50	.62	-.172	.102	
authority_dummy16	-.005	.038	-0.14	.887	-.079	.068	
authority_dummy17	.026	.03	0.86	.391	-.033	.085	
authority_dummy18	.015	.037	0.41	.685	-.057	.087	
authority_dummy19	.086	.029	2.97	.003	.029	.144	***
authority_dummy20	.044	.031	1.41	.16	-.017	.106	
authority_dummy21	.035	.034	1.01	.314	-.033	.102	
authority_dummy22	.003	.034	0.08	.937	-.064	.069	
authority_dummy23	.031	.046	0.68	.498	-.058	.12	
authority_dummy24	.083	.033	2.54	.011	.019	.147	**
authority_dummy25	-.033	.055	-0.60	.546	-.142	.075	
authority_dummy26	.039	.03	1.29	.198	-.02	.098	
authority_dummy27	.042	.041	1.02	.308	-.039	.123	

authority_dummy28	.134	.045	2.96	.003	.045	.222	***
Constant	.021	.035	0.61	.541	-.047	.09	

Mean dependent var	0.061	SD dependent var	0.594
R-squared	0.003	Number of obs	53960
F-test	3.186	Prob > F	0.000

**** p<.01, ** p<.05, * p<.1*

Appendix 3.2

OLS regression long PTD

longptd_num	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
yearsuntilend	-.004	.001	-3.17	.002	-.006	-.001	***
reelection	.005	.004	1.27	.203	-.003	.013	
gender	-.007	.005	-1.57	.117	-.016	.002	
cash_num	0	0	0.45	.65	0	0	
wc	0	0	6.16	0	0	0	***
lengthoftenure	0	.001	-0.60	.547	-.002	.001	
functie_dummy2	.007	.005	1.46	.143	-.002	.017	
party_dummy2	.071	.055	1.29	.196	-.036	.177	
party_dummy3	.004	.014	0.26	.792	-.024	.032	
party_dummy4	.024	.147	0.16	.873	-.265	.312	
party_dummy5	.028	.013	2.15	.032	.002	.054	**
party_dummy6	.028	.021	1.31	.189	-.014	.069	
party_dummy7	.017	.013	1.32	.186	-.008	.042	
party_dummy8	.019	.013	1.45	.147	-.007	.044	
party_dummy9	.008	.154	0.06	.956	-.293	.31	
party_dummy10	.021	.016	1.30	.193	-.011	.053	
party_dummy11	.014	.025	0.56	.575	-.035	.062	
o	0	.	.	.	.	.	
party_dummy13	.009	.013	0.70	.482	-.016	.034	
party_dummy14	.039	.015	2.53	.011	.009	.069	**
party_dummy15	.007	.013	0.54	.59	-.019	.033	
party_dummy16	.011	.02	0.52	.6	-.029	.05	
party_dummy17	.012	.018	0.65	.518	-.023	.047	
party_dummy18	.016	.013	1.21	.225	-.01	.042	
party_dummy19	.017	.013	1.29	.198	-.009	.042	
authority_dummy2	.053	.018	2.92	.003	.017	.088	***
authority_dummy3	-.004	.016	-0.23	.816	-.034	.027	
authority_dummy4	.018	.017	1.04	.297	-.016	.052	
authority_dummy5	.004	.015	0.29	.775	-.025	.034	
authority_dummy6	-.006	.017	-0.37	.709	-.04	.027	
authority_dummy7	.006	.017	0.35	.725	-.028	.04	
authority_dummy8	.005	.02	0.26	.794	-.033	.043	
authority_dummy9	.005	.018	0.25	.804	-.031	.041	
authority_dummy10	-.015	.019	-0.79	.432	-.053	.023	
authority_dummy11	-.018	.026	-0.72	.472	-.069	.032	
authority_dummy12	.007	.016	0.42	.674	-.024	.037	
authority_dummy13	-.009	.015	-0.62	.534	-.039	.02	
authority_dummy14	-.009	.021	-0.46	.649	-.05	.031	
authority_dummy15	-.03	.044	-0.67	.5	-.116	.057	
authority_dummy16	.003	.024	0.14	.889	-.043	.05	
authority_dummy17	.023	.019	1.19	.232	-.015	.06	
authority_dummy18	-.005	.023	-0.22	.822	-.051	.04	
authority_dummy19	-.007	.018	-0.40	.687	-.043	.029	
authority_dummy20	0	.02	0.02	.982	-.038	.039	
authority_dummy21	-.02	.022	-0.93	.351	-.063	.022	

authority_dummy22	.006	.021	0.28	.78	-.036	.048	
authority_dummy23	.007	.029	0.25	.806	-.049	.063	
authority_dummy24	.02	.021	0.99	.322	-.02	.061	
authority_dummy25	-.019	.035	-0.55	.581	-.088	.049	
authority_dummy26	.027	.019	1.44	.151	-.01	.065	
authority_dummy27	-.004	.026	-0.14	.886	-.055	.047	
authority_dummy28	.053	.028	1.85	.064	-.003	.109	*
Constant	.014	.022	0.66	.512	-.029	.058	

Mean dependent var	0.037	SD dependent var	0.374
R-squared	0.004	Number of obs	53960
F-test	4.037	Prob > F	0.000

**** p<.01, ** p<.05, * p<.1*

Appendix 3.3

Poisson regression short FTD

shortftdcount	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
yearsuntilend	-.052	.013	-3.93	0	-.078	-.026	***
reelection	-.005	.045	-0.11	.915	-.094	.084	
gender	-.031	.054	-0.57	.569	-.137	.076	
cash_num	.002	.001	2.94	.003	.001	.003	***
wc	.002	0	61.50	0	.002	.002	***
lengthoftenure	-.021	.009	-2.40	.016	-.038	-.004	**
functie_dummy2	.667	.049	13.71	0	.571	.762	***
party_dummy2	.852	.542	1.57	.116	-.211	1.914	
party_dummy3	-.319	.17	-1.87	.061	-.652	.015	*
party_dummy4	-2.668	2.538e+09	-0.00	1	-4.975e+09	4.975e+09	
party_dummy5	.117	.151	0.77	.44	-.179	.412	
party_dummy6	-.341	.264	-1.29	.196	-.859	.177	
party_dummy7	.081	.149	0.54	.587	-.211	.374	
party_dummy8	.088	.148	0.59	.553	-.203	.379	
party_dummy9	-40.525	1.723e+09	-0.00	1	-3.377e+09	3.377e+09	
party_dummy10	.1	.19	0.53	.597	-.272	.473	
party_dummy11	.066	.285	0.23	.817	-.493	.625	
o	0	.	.	.	.	.	
party_dummy13	-.359	.152	-2.37	.018	-.656	-.062	**
party_dummy14	-.323	.188	-1.72	.086	-.691	.046	*
party_dummy15	-.255	.157	-1.62	.105	-.563	.053	
party_dummy16	.239	.213	1.12	.261	-.178	.656	
party_dummy17	-.148	.212	-0.70	.485	-.564	.268	
party_dummy18	-.093	.156	-0.60	.549	-.399	.212	
party_dummy19	-.161	.151	-1.06	.288	-.457	.136	
authority_dummy2	.659	.197	3.35	.001	.273	1.045	***
authority_dummy3	-.156	.183	-0.85	.393	-.515	.202	
authority_dummy4	.561	.187	3.01	.003	.195	.927	***
authority_dummy5	.135	.165	0.82	.413	-.189	.46	
authority_dummy6	.007	.198	0.04	.97	-.382	.396	
authority_dummy7	.498	.19	2.62	.009	.126	.871	***
authority_dummy8	-.499	.247	-2.02	.043	-.983	-.015	**
authority_dummy9	.3	.21	1.43	.154	-.112	.712	
authority_dummy10	.801	.21	3.80	0	.388	1.213	***
authority_dummy11	-.877	.458	-1.91	.056	-1.775	.021	*
authority_dummy12	-.041	.186	-0.22	.826	-.405	.324	
authority_dummy13	.091	.17	0.53	.593	-.242	.424	
authority_dummy14	.135	.255	0.53	.597	-.365	.635	
authority_dummy15	-39.029	1.722e+08	-0.00	1	-3.375e+08	3.375e+08	

authority_dummy16	.304	.259	1.17	.241	-.204	.812	
authority_dummy17	-.316	.231	-1.37	.171	-.767	.136	
authority_dummy18	.559	.256	2.18	.029	.058	1.061	**
authority_dummy19	.471	.208	2.26	.024	.063	.878	**
authority_dummy20	.135	.229	0.59	.557	-.314	.583	
authority_dummy21	-.43	.298	-1.44	.149	-1.013	.154	
authority_dummy22	.05	.258	0.19	.846	-.456	.556	
authority_dummy23	.537	.287	1.87	.062	-.026	1.099	*
authority_dummy24	-.009	.244	-0.04	.971	-.487	.469	
authority_dummy25	-39.781	1.887e+08	-0.00	1	-3.698e+08	3.698e+08	
authority_dummy26	.785	.209	3.76	0	.376	1.194	***
authority_dummy27	.281	.326	0.86	.389	-.358	.92	
authority_dummy28	.525	.317	1.66	.097	-.096	1.146	*
Constant	-3.482	.253	-13.79	0	-3.977	-2.987	***

Mean dependent var	0.055	SD dependent var	0.366
Pseudo r-squared	0.102	Number of obs	53960
Chi-square	2631.079	Prob > chi2	0.000

**** p<.01, ** p<.05, * p<.1*

Appendix 3.4

Poisson regression long PTD

longptdcount	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
yearsuntilend	-.1455822	.0144045	-10.11	0.000	-.1738145	-.1173499	***
reelection	.2686105	.0527755	5.09	0.000	.1651725	.3720486	***
gender	-.1573288	.0621007	-2.53	0.011	-.2790439	-.0356137	**
cash_num	.0084606	.0006338	13.35	0.000	.0072184	.0097027	***
wc	.00225	.0000339	66.47	0.000	.0021836	.0023163	***
lengthoftenure	-.0199497	.0091662	-2.18	0.030	-.0379152	-.0019843	**
functie_dummy2	.4453965	.0544701	8.18	0.000	.338637	.552156	***
party_dummy2	14.56413	150.0854	0.10	0.923	-279.5979	308.7262	
party_dummy3	13.11018	150.0842	0.09	0.930	-281.0495	307.2699	
party_dummy4	-123.8566	.	.	.	.	.	
party_dummy5	13.55447	150.0842	0.09	0.928	-280.6052	307.7141	
party_dummy6	13.18197	150.0843	0.09	0.930	-280.9779	307.3418	
party_dummy7	13.36429	150.0842	0.09	0.929	-280.7954	307.5239	
party_dummy8	13.41795	150.0842	0.09	0.929	-280.7417	307.5776	
party_dummy9	-124.0995	.	.	.	.	.	
party_dummy10	13.48034	150.0843	0.09	0.928	-280.6794	307.6401	
party_dummy11	13.13383	150.0846	0.09	0.930	-281.0266	307.2942	
o	0	(omitted)					
party_dummy13	13.12405	150.0842	0.09	0.930	-281.0356	307.2837	
party_dummy14	12.62366	150.0843	0.08	0.933	-281.5361	306.7834	
party_dummy15	13.17823	150.0842	0.09	0.930	-280.9814	307.3379	
party_dummy16	12.74487	150.0844	0.08	0.932	-281.4151	306.9048	
party_dummy17	12.9571	150.0843	0.09	0.931	-281.2028	307.117	
party_dummy18	13.13251	150.0842	0.09	0.930	-281.0271	307.2922	
party_dummy19	13.36405	150.0842	0.09	0.929	-280.7956	307.5237	
authority_dummy2	30.30097	.4991461	60.71	0.000	29.32266	31.27928	***
authority_dummy3	28.44771	.512753	55.48	0.000	27.44273	29.45269	***
authority_dummy4	29.81325	.5025893	59.32	0.000	28.82819	30.7983	***
authority_dummy5	28.77355	.5090123	56.53	0.000	27.77591	29.7712	***
authority_dummy6	28.93031	.5073722	57.02	0.000	27.93587	29.92474	***
authority_dummy7	29.71833	.4992689	59.52	0.000	28.73978	30.69688	***
authority_dummy8	29.30914	.5121062	57.23	0.000	28.30543	30.31285	***

authority_dummy9	29.39865	.5085217	57.81	0.000	28.40197	30.39534	***
authority_dummy10	29.15899	.5077225	57.43	0.000	28.16387	30.1541	***
authority_dummy11	28.55826	.	.	.	.	.	
authority_dummy12	28.01259	.5329027	52.57	0.000	26.96812	29.05706	***
authority_dummy13	27.02932	.5592638	48.33	0.000	25.93319	28.12546	***
authority_dummy14	29.08732	.5343235	54.44	0.000	28.04007	30.13458	***
authority_dummy15	-125.5641	.	.	.	.	.	
authority_dummy16	30.50351	.5157233	59.15	0.000	29.49271	31.51431	***
authority_dummy17	29.03938	.5125513	56.66	0.000	28.0348	30.04397	***
authority_dummy18	29.37982	.5345933	54.96	0.000	28.33203	30.4276	***
authority_dummy19	28.62632	.5291369	54.10	0.000	27.58923	29.66341	***
authority_dummy20	29.24754	.5170299	56.57	0.000	28.23418	30.2609	***
authority_dummy21	26.92788	.7049739	38.20	0.000	25.54616	28.30961	***
authority_dummy22	28.90767	.5434685	53.19	0.000	27.84249	29.97285	***
authority_dummy23	30.21948	.5352219	56.46	0.000	29.17047	31.2685	***
authority_dummy24	28.56619	.5541356	51.55	0.000	27.4801	29.65227	***
authority_dummy25	-125.4377	.	.	.	.	.	
authority_dummy26	30.22483	.4990989	60.56	0.000	29.24661	31.20304	***
authority_dummy27	28.59942	.7008093	40.81	0.000	27.22586	29.97298	***
authority_dummy28	29.03475	.6628267	43.80	0.000	27.73563	30.33386	***
Constant	-46.49725	150.085	-0.31	0.757	-340.6585	247.664	

Mean dependent var	0.055	SD dependent var	0.366
Pseudo r-squared	-0.901	Number of obs	53960
Chi-square	-2014.84	Prob > chi2	1.000

**** p<.01, ** p<.05, * p<.1*

Appendix 3.5

Logistic regression short FTD

shortftdbin	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
yearsuntilend	-.009	.021	-0.42	.675	-.05	.032	
reelection	.008	.07	0.12	.907	-.129	.146	
gender	-.097	.085	-1.14	.254	-.264	.07	
cash_num	.001	.001	0.83	.408	-.001	.003	
wc	.004	0	29.03	0	.003	.004	***
lengthoftenure	-.012	.013	-0.90	.368	-.038	.014	
functie_dummy2	.644	.076	8.51	0	.496	.793	***
party_dummy2	.378	1.06	0.36	.721	-1.699	2.456	
party_dummy3	-.168	.263	-0.64	.523	-.685	.348	
o	0	.	.	.	.	.	
party_dummy5	.223	.232	0.96	.337	-.232	.678	
party_dummy6	-.265	.408	-0.65	.517	-1.065	.536	
party_dummy7	.124	.231	0.54	.592	-.328	.576	
party_dummy8	.15	.229	0.66	.512	-.298	.599	
o	0	.	.	.	.	.	
party_dummy10	.126	.295	0.43	.669	-.452	.704	
party_dummy11	.228	.445	0.51	.607	-.643	1.1	
o	0	.	.	.	.	.	
party_dummy13	-.172	.233	-0.74	.459	-.629	.284	
party_dummy14	-.11	.288	-0.38	.702	-.674	.454	
party_dummy15	-.15	.241	-0.62	.534	-.622	.323	
party_dummy16	.093	.347	0.27	.789	-.588	.774	
party_dummy17	-.175	.334	-0.53	.599	-.83	.479	
party_dummy18	-.07	.242	-0.29	.771	-.544	.403	
party_dummy19	-.038	.232	-0.16	.87	-.493	.417	

authority_dummy2	.461	.305	1.51	.131	-.137	1.059	
authority_dummy3	-.105	.281	-0.38	.708	-.655	.445	
authority_dummy4	.252	.292	0.86	.387	-.32	.824	
authority_dummy5	.093	.258	0.36	.719	-.413	.599	
authority_dummy6	.006	.304	0.02	.984	-.59	.603	
authority_dummy7	.319	.295	1.08	.279	-.259	.897	
authority_dummy8	-.481	.374	-1.29	.199	-1.215	.253	
authority_dummy9	.168	.325	0.52	.605	-.468	.804	
authority_dummy10	.616	.329	1.87	.061	-.029	1.262	*
authority_dummy11	-1.077	.666	-1.62	.106	-2.383	.229	
authority_dummy12	.048	.284	0.17	.865	-.509	.606	
authority_dummy13	.197	.262	0.75	.45	-.315	.71	
authority_dummy14	-.063	.392	-0.16	.872	-.831	.705	
o	0	.	.	.	.	.	
authority_dummy16	.062	.404	0.15	.879	-.73	.853	
authority_dummy17	-.275	.352	-0.78	.435	-.965	.416	
authority_dummy18	.418	.399	1.05	.295	-.364	1.2	
authority_dummy19	.463	.32	1.45	.148	-.165	1.091	
authority_dummy20	.265	.348	0.76	.445	-.416	.947	
authority_dummy21	-.188	.438	-0.43	.668	-1.045	.67	
authority_dummy22	.076	.387	0.20	.845	-.682	.834	
authority_dummy23	.243	.465	0.52	.602	-.67	1.155	
authority_dummy24	.11	.37	0.30	.766	-.615	.835	
o	0	.	.	.	.	.	
authority_dummy26	.629	.324	1.94	.052	-.006	1.264	*
authority_dummy27	.331	.48	0.69	.491	-.61	1.271	
authority_dummy28	.55	.47	1.17	.242	-.371	1.472	
Constant	-4.499	.391	-11.52	0	-5.264	-3.733	***

Mean dependent var	0.025	SD dependent var	0.155
Pseudo r-squared	0.098	Number of obs	53699
Chi-square	1209.448	Prob > chi2	0.000

**** p<.01, ** p<.05, * p<.1*

Appendix 3.6

Logistic regression long PTD

longptdbin	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
yearsuntilend	-.127	.022	-5.77	0	-.17	-.084	***
reelection	.121	.076	1.59	.111	-.028	.27	
gender	-.25	.091	-2.75	.006	-.429	-.072	***
cash_num	-.001	.001	-0.73	.465	-.002	.001	
wc	.004	0	31.64	0	.004	.004	***
lengthoftenure	-.018	.014	-1.29	.199	-.044	.009	
functie_dummy2	.397	.081	4.89	0	.238	.556	***
party_dummy2	2.1	.851	2.47	.014	.433	3.767	**
party_dummy3	.465	.373	1.24	.213	-.267	1.196	
o	0	.	.	.	.	.	
party_dummy5	.814	.355	2.29	.022	.117	1.51	**
party_dummy6	.864	.445	1.94	.052	-.008	1.736	*
party_dummy7	.591	.354	1.67	.095	-.103	1.285	*
party_dummy8	.568	.353	1.61	.107	-.123	1.26	
o	0	.	.	.	.	.	
party_dummy10	.784	.412	1.90	.057	-.024	1.591	*
party_dummy11	-.142	.64	-0.22	.825	-1.397	1.114	
o	0	.	.	.	.	.	
party_dummy13	.511	.353	1.45	.148	-.181	1.203	

party_dummy14	1.036	.376	2.76	.006	.3	1.772	***
party_dummy15	.507	.359	1.41	.157	-.196	1.21	
party_dummy16	.033	.462	0.07	.943	-.872	.939	
party_dummy17	.317	.46	0.69	.49	-.584	1.218	
party_dummy18	.56	.36	1.56	.12	-.145	1.266	
party_dummy19	.665	.353	1.89	.059	-.026	1.356	*
authority_dummy2	.243	.278	0.87	.383	-.302	.787	
authority_dummy3	-.729	.268	-2.72	.007	-1.255	-.203	***
authority_dummy4	-.035	.266	-0.13	.894	-.557	.486	
authority_dummy5	-.362	.244	-1.48	.138	-.839	.116	
authority_dummy6	-.817	.292	-2.80	.005	-1.389	-.245	***
authority_dummy7	-.311	.27	-1.15	.251	-.84	.219	
authority_dummy8	-.822	.339	-2.43	.015	-1.485	-.158	**
authority_dummy9	-.543	.308	-1.77	.078	-1.145	.06	*
authority_dummy10	-1.567	.348	-4.50	0	-2.25	-.884	***
authority_dummy11	-2.009	.777	-2.59	.01	-3.531	-.486	***
authority_dummy12	-.418	.281	-1.49	.137	-.968	.133	
authority_dummy13	-1.159	.347	-3.34	.001	-1.84	-.479	***
authority_dummy14	-1.165	.402	-2.90	.004	-1.952	-.378	***
o	0	.	.	.	.	.	
authority_dummy16	-.209	.37	-0.56	.572	-.935	.517	
authority_dummy17	-.835	.33	-2.53	.011	-1.481	-.188	**
authority_dummy18	-1.022	.434	-2.36	.018	-1.872	-.172	**
authority_dummy19	-1.41	.373	-3.77	0	-2.141	-.678	***
authority_dummy20	-.716	.344	-2.08	.037	-1.39	-.042	**
authority_dummy21	-1.9	.624	-3.04	.002	-3.124	-.676	***
authority_dummy22	-.472	.374	-1.26	.206	-1.205	.26	
authority_dummy23	-.392	.427	-0.92	.358	-1.23	.445	
authority_dummy24	-.951	.45	-2.11	.035	-1.833	-.069	**
o	0	.	.	.	.	.	
authority_dummy26	-.094	.3	-0.31	.755	-.681	.493	
authority_dummy27	-1.253	.759	-1.65	.099	-2.74	.235	*
authority_dummy28	-.79	.644	-1.23	.22	-2.052	.472	
Constant	-4.149	.455	-9.11	0	-5.042	-3.257	***

Mean dependent var	0.022	SD dependent var	0.148
Pseudo r-squared	0.140	Number of obs	53699
Chi-square	1617.475	Prob > chi2	0.000

**** p<.01, ** p<.05, * p<.1*