

# Accepting and Managing the Unknown

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A Study of Management Control Mechanisms During  
Times of Uncertainty in a Private Equity Context

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## Abstract:

This paper adds to past research on management control mechanisms (MCMs) in the private equity (PE) context. Through a cross sectional study on 11 PE firms, this paper addresses the limited research on how PE firms cope with, and reduce uncertainty, in their portfolio companies (PCs) through MCMs. Moreover, taking base in the theoretical framework developed by Simons (1995), the four levers of control, the study further explores how uncertainty affects MCMs, and elaborates this with regard to separating MCMs into formal and informal controls in order to understand how these are affected by uncertainty, and what role they play when PE firms manage uncertainty. The study finds that MCMs are affected by uncertainty in different ways, and that all MCMs (formal and informal) rely on each other and are adaptable in nature. Moreover, the study finds that informal controls, by separating them into formal social controls and informal social controls, consist of different characteristics all which have impact on the development and utilisation of formal controls. Lastly, this paper adds to existing literature by highlighting the complementing, repairing, and replacing attributes informal MCMs possess in relation to formal controls.

## Keywords:

Management Control Mechanisms, Private Equity, Uncertainty, Inter organisational relationship, Formal and Informal Controls

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# 1. Introduction

*“Uncertainty is always around us and affects the way we conduct our business and how we evaluate investments. How to cope with uncertainty is funnelled down into being responsive, and always being humble to one’s external environment. One cannot know everything. All one can do is to prepare for the worst. We can only accept this fact and try to govern our PCs in the way we deem the best.”* - Partner, Boast Equity

The first known case of Private Equity (PE) can be dated to 1901, when J.P. Morgan made the first leveraged buyout in history when buying the Carnegie Steel Company (Wall Street Journal, 2012). The true emergence of PE, however, can be dated to the 1980s, when PE became an increasingly important part of the financial market, which historically has increased its fundraising by billions of dollars (USD) (Kaplan & Strömberg, 2009; Jensen, 1986; Wright et al., 2009). Between the years 2010-2019, the global fundraising grew by ~251 percent, from USD 311 billion to USD 1,091 billion. The fundraising, however, decreased by ~21 percent in 2020, amounting to USD858 billion, driven by the uncertainty which came with the COVID-19 crisis. In 2020, the total assets under management (AUM) held by global PE firms grew by 6 percent, reaching a value of USD ~4.5 trillion (McKinsey, 2021).

Although the PE industry influence on the global capital market has increased significantly over the past years, there is limited research which has focused on PE firms and especially how PE firms' use MCMs to develop and implement strategies in portfolio companies (PCs) (see e.g., Acharya, 2009; Barber, 2008; Jensen, 1986; Wood & Wright, 2009). Further, even though studies on PE firms utilisation of MCMs have made great contribution in shedding light on the dynamics of how PE firms use and implement MCMs in PCs, these studies have been conducted based on an established assumption that PE firms operate in stable market environments (see e.g., Acharya et al., 2009; Barber, 2008; Bedford & Ditillo, 2021; Gilligan & Wright, 2020; Kaplan & Strömberg, 2009; Rogers et al., 2002; Wright et al., 2009a). This is surprising as uncertainty affects all organisations (Galbraith, 1973), PE firms and their PCs included. As uncertainty affects all organisations, PE firms in their day to day operations, actively managing multiple PCs, should be experienced with mitigating and coping with uncertainty. As stated, there is a limited number of studies which have explored the phenomenon's impact on MCMs. There exist, however, a few studies which have, as a part of a broader research topic, addressed uncertainty and how it might affect PE firms (see e.g., Bruining et al., 2004; Kut et al., 2007; Plagborg-Møller, 2017). The research conducted on PE firms, and their management of PCs, have, however, to a large extent failed to capture the impact and potential transformation that uncertainty has on organisations. With the everlasting presence of uncertainty, one could therefore argue that there is a need to bridge this research gap in existing literature, why this study poses the research question:

*i) Does uncertainty have an impact on how PE firms use MCMs, and if yes, how are these MCMs affected?*

Furthermore, as PE firms, just like organisations in general, are exposed to uncertainty, meaning that their environmental context can change, one could further follow Sniazhko's (2019) reasoning on uncertainty management in multinational corporations in a PE context. That is, uncertainty management is heavily influenced by the utilisation of both formal and informal procedures, providing organisational tools for reducing and coping with uncertainty. Hence, by expanding on the first research question, valuable insights for both practitioners and scholars could be produced by attaining academic insights on if uncertainty affects PE firms' usage of MCMs in their PCs. As of now, research has yet to explore this subject fully. Hence, this study aims to fill the aforementioned research gap through answering the additional question;

*ii) If uncertainty has an impact on PE MCMs, does this affect the dynamics of how MCMs work conjointly, as they consist of formal and informal characteristics?*

In order to explore the posed research questions, this study adheres to the proposed PE MCMs categorisation posed by e.g., Bedford & Ditillo (2021), i.e., contractual, results, behaviour and social controls, incorporating both formal and informal aspects. PE MCMs consist of both formal and informal characteristics (see e.g., Bedford & Ditillo, 2021; Dello Sbarba et al., 2020). The formal characteristics are, in this paper, integrated with Simon's (1995) four levers of control. The informal MCMs are separated from this integration, however, which is motivated when following Ferreira's (2002) and Ferreira & Otley's (2009) conclusions that Simons' (1995) four levers of control framework inadequately explains the full breadth of organisations control systems as important informal control systems are neglected. Separating the characteristics of MCMs, a framework is later developed and presented to visualise the linkages between the MCMs posed by e.g., Bedford & Ditillo (2021) and Simons' (1995) four levers. The social controls in this framework are separated into two categories, formal and informal. Further, the framework is encircled by a visualised uncertainty context, influenced by e.g., Galbraith (1973), Knight (1921), Lipshitz & Strauss (1997) and Sniazhko (2019). Through this framework, the study will be able to explore the posed research questions by studying the effects which uncertainty has on MCMs deployed by PE firms and allow one to gain insight on how these controls work interactively to cope with and reduce uncertainty.

The empirical setting for this study constitutes a cross sectional study of 11 PE firms, with which 16 interviews have been held, based in the Nordics. Overall, the PE firms place significant emphasis on imposing MCMs in their subsidiaries, whereof the extent of these differ somewhat depending on what the PE firm deems necessary. As a foundational principle, the PE firms place significant emphasis on financial performance and have systems in place to reduce information asymmetry. Hence, the PE firms have developed MCMs which guide, frame and monitor the strategic direction of their PCs, in order to allow operational value to be created. Bearing the theoretical domain of this study in mind, the study explores the impact which uncertainty might have on PE MCMs and further elaborates how PE firms use MCMs to cope with, and reduce, uncertainty. To do this, and hence be able to build an understanding of the dynamics revolving PE MCMs in uncertainty, a qualitative cross sectional study was deemed appropriate. The reason for this is that it allows the authors to receive a holistic

understanding of the empirical setting (see e.g., Lillis & Mundy, 2005; Merchant & Manzoni, 1989).

Considering past literature of PE MCMs, this study presents several contributions for practitioners. Firstly, the study introduces the concept of uncertainty, as defined by Galbraith (1973) and Knight (1921), and investigates how MCMs change by it, and how these MCMs further are used by the PE firm to cope with, and reduce, uncertainty. By doing this, the authors are able to shed light, from a holistic perspective, on how MCMs in PE change during times of uncertainty and highlight specific characteristics of MCMs which have not previously been addressed in past PE research. In doing this, the authors find that behaviour and social controls play a more crucial part in the MCM dynamic than initially thought, considering past research which have collectively argued of the importance of contractual and results controls (see e.g., Bedford & Ditillo, 2021; Dello Sbarba et al., 2020). Hence, this study challenges the conventional academic emphasis on the overall dynamic revolving how PE governs their PCs. Secondly, the study expands on past literature by separating formal and informal MCMs, and further explores how these interact which, perhaps, becomes even more evident in times of uncertainty. Through this, the authors are able to shed light upon the importance of social controls, which consist of formal and informal characteristics, and identify how this form of control is important as PE firms cope with, and reduce, uncertainty. Specifically, the findings indicate that the informal MCMs have the ability to transform, repair and, if needed, replace existing formal controls. Moreover, these observations have practical implications for PE firms, but also in a broader organisational context, as uncertainty does not blunder for anyone.

In the method theory, Simons (1995) four levers of control framework is predominantly used, as this paper aims to make contributions by extending the framework presented by Bedford & Ditillo (2021). As stated, the authors further make a separation of informal MCMs. As outlined by Ferreira (2002) and Ferreira & Otley (2009), this study outlines these informal mechanisms through a concrete categorisation visualised in the extended framework. In doing this, the authors are able not only to recognise that informal MCMs are present in the inter organisational relationship but are also able to expand on their overall importance for various aspects in organisations. Further, by researching the framework during times of uncertainty this study is able to crystallise each of the levers' importance for PE firms, expanding research conducted on Simons (1995) four levers in times of uncertainty (see e.g., Akhmetshin & Osadchy, 2015; Becker et al., 2016; Bourmistrov & Kaarbøe, 2017; Comfort, 2007; Goretzki & Kraus, 2020; Janke et al., 2014).

The study is structured as follows: Chapter 2 introduces the theoretical foundation through a review of past academic research where the domain theory consists of literature on uncertainty, PE firms, and MCMs. Moreover, the chapter explicates identified research gaps and the method theory which expands upon the domain theory by providing additional theoretical lenses. Chapter 3 delves into the study's methodology and research design. Chapter 4 presents the empirical analysis, of which said findings are discussed in Chapter 5. The final chapter further includes main conclusions drawn, contributions to literature, limitations of the study and proposes topics for future research.



## 2. Theoretical Development

*This chapter elaborates on existing literature within uncertainty in an organisational context and PE and MCMs applied by PE firms. Section 2.1. addresses prior research on uncertainty in an organisational context aiming to provide an overview of uncertainty in organisations. Section 2.2 presents past research on how PE firms impose MCMs in PCs, and the characteristics of such controls. Section 2.3 elaborates on identified research gaps attributable to past research on PE MCMs in relation to the uncertainty context. Section 2.4 introduces the method theory, i.e., a proposed theoretical lens taking inspiration from past research. Finally, in section 2.5 the theoretical framework from which this study takes its base is presented followed by a visualisation of this framework.*

### 2.1 Uncertainty in an organisational context

#### 2.1.1 Uncertainty in an organisational context

Scholars have over a long period of time tried to define uncertainty in a manner which could be separated from the term risk (Sniazhko, 2019). Perhaps one of the earliest encounters of such a definition can be found in the book *Risk, Uncertainty and Profit* written by Frank Knight (1921). Knight (1921) separates uncertainty into risk, being measurable uncertainty, and true uncertainty (referred to as uncertainty). True uncertainty, Knight (1921) argued, can further be defined as risks “*which cannot by any method be reduced to an objective, quantitatively determined probability*”. Building on this definition, Knight (1921) argues that arising from abrupt changes in market environments, which cannot be foreseen using probabilistic rules, true uncertainty gives market participants little to no consequential foresight of decisions. Scholars, building on the definition provided by Knight (1921), have since argued that uncertainty as a phenomenon affects all organisations. Galbraith (1973), focusing on the information utilisation of organisations during times of uncertainty, argues that the greater the uncertainty of a task, the greater amount of information is needed between decision makers to effectively act. Hence, if information related to a task is well understood much of its activity can be planned beforehand. Further, if this information does not exist, decision makers are spurred to acquire new knowledge which, in turn, leads to a reallocation of established processes. Given this, Galbraith (1973) defines uncertainty as “*the difference between the amount of information required to perform the task and the amount of information already possessed by the organisation*”. Galbraith (1973) furthermore points out that uncertainty is not the main area of interest, rather it is to be able to understand how information is processed in the organisation. Building on the definitions presented by Knight (1921) and Galbraith (1973), one can conceptualise uncertainty as being risks which cannot be reduced to an objective or quantified, where information needed to execute does not exist in the organisation.

On the notion of uncertainty, it clearly must be managed for organisations to continue its operations as effectively as possible. To be managed sufficiently, uncertainty must be addressed by decision makers to develop effective processes. Lipshitz & Strauss (1997) address the topic of uncertainty by investigating how decision makers conceptualise and cope with uncertainty and whether there exists a systematic relationship between different

conceptualisations of uncertainty and different coping methods. The authors find that decision makers are particularly distinguished among three types of uncertainty which together can cause misjudgement of situations and poor decisions to be made. The three factors driving this is, 1) an inadequate understanding of specific situations, 2) that the decision makers have incomplete information to make sound decisions, and 3) that the decision makers face undifferentiated alternatives. In general, decision makers apply five strategies to cope with uncertainty; reducing uncertainty, assumption based reasoning, weighing pros and cons of competing alternatives, suppressing uncertainty, and forestalling uncertainty. To cope with the uncertainty of having inadequate understanding of a situation is primarily managed by reducing such uncertainty, i.e., complemented with additional information to become better informed. The uncertainty of having incomplete information of a situation is managed by assumption based reasoning. The last factor, the conflict in facing undifferentiated alternatives, is primarily managed by weighing advantages and disadvantages (Lipshitz & Strauss, 1997).

Conceptualising past research on uncertainty (see e.g., Lipshitz & Strauss, 1997; Nilakant & Rao, 1994), Sniazhko (2019) addresses the contextuality of uncertainty and how it affects decision making processes in multinational corporations. Sniazhko (2019) explores this topic by breaking uncertainty management into two categories. The first, *uncertainty reduction*, consists of three approaches, *information gathering*, *proactive collaboration/cooperation and networking*. Information gathering stresses the need to gather information to achieve comprehensiveness of one's uncertainty environment. Proactive collaboration/cooperation highlights the use of collaboration and cooperation across the organisation to reduce uncertainties. Networking incorporates the need to generate information about an organisation's environment through establishing new, or reinforcing already existing, networks. The second section revolves around *coping with uncertainty*. This section is broken down into five approaches:

- 1) Flexibility: the ability to flexibly adapt to uncertainties and changes in the environmental context which affects organisations
- 2) Imitation: the ability to copy competitors' organisational strategies and actions
- 3) Reactive collaboration / cooperation: increase predictability of environmental context through agreements
- 4) Control: Exercising control to influence competitors' behaviour to become more predictable
- 5) Avoidance: the ability to postpone action taking until the uncertainty level is manageable

With Sniazhko's (2019) categorisation, it becomes clear that organisations face multiple approaches to both reduce but also cope with uncertainty. How uncertainty is managed, however, differs amongst organisations, depending on their choice in working proactively or reactively with uncertainty. Sniazhko (2019) finds that there are multiple factors, however, that affect the choice of uncertainty management approach that an organisation adopts. These factors include: previous decision making experience, tolerance of ambiguity, individualistic/collectivistic orientation, hierarchical position in the organisation, and decision

making orientation. Hence, it is apparent that there exist multiple ways to manage uncertainty in an organisation, and the choice of how uncertainty is managed could arguably be said to differ across organisations (Lipshitz & Strauss, 1997; Sniazhko, 2019).

To be able to identify and cope with uncertainty, there is a need to have established processes which enable information sharing and action taking. If an organisation lacks such controls, e.g., risk management, or otherwise fails to anticipate uncertainty, it can have dire consequences on performance. One problem revolves around what assumptions and decisions on how to handle uncertainty are constructed. Investigating established research paradigms, such as how to approach uncertainty, is especially important according to Granlund & Lukka (2016). The authors conduct a critical analysis on contingency based management accounting, and further argue that “*constructs and measurement instruments of uncertainty tend to be continuously reproduced in a similar, taken for granted manner that does not question their validity*” (Granlund & Lukka, 2016). Therefore, the authors present a solution which is based on a need to question institutionalised structures in contingency based management accounting, hence calling for further research in the field of management accounting (Granlund & Lukka, 2016).

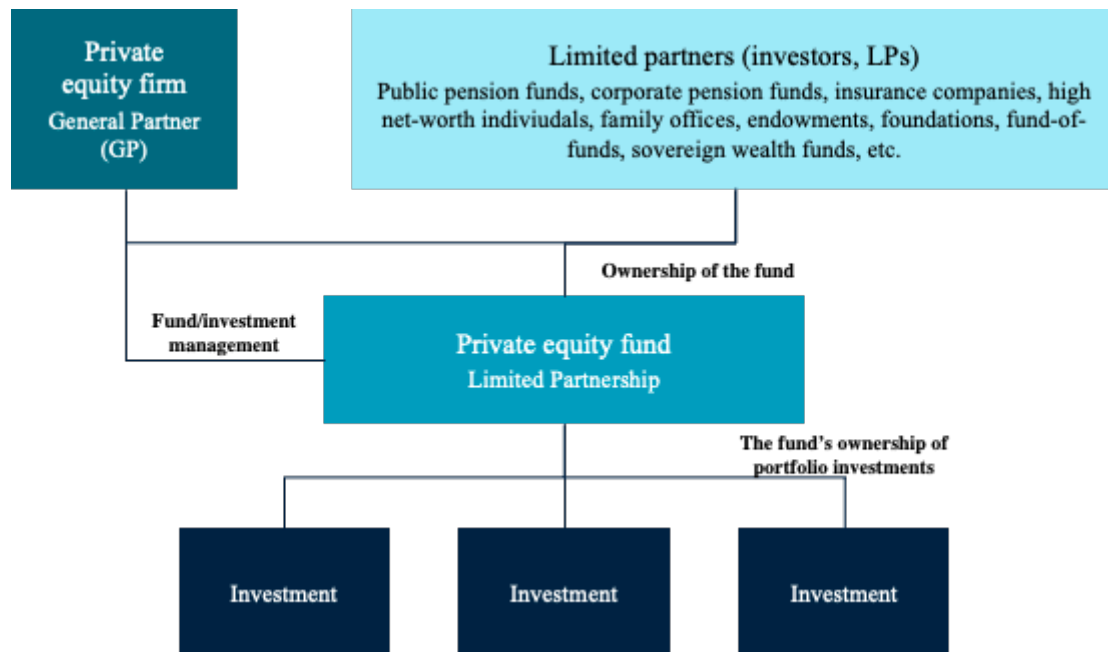
## 2.2 Private equity and management control

### 2.2.1 Private equity in brief

PE refers to investments in assets that are not listed on public markets. Generally, the PE industry can be categorised into buyout funds (BO), venture capital funds (VC), growth capital (GC). BO funds focus on larger more mature businesses, typically investing larger equity stakes to obtain majority control (SVCA, 2021; Talmor et al., 2011). VC funds usually take minority stakes in pre seed or seed rounds, financing startup companies. GC funds invest either minority or majority stakes in high growth companies in more mature stages (SVCA, 2021). The PE business model is founded upon the PE firm, referred to as the *general partner* (GP), raising equity capital for a fund which is later managed and invested in private companies (once owned by a PE firm referred to as PCs). The fund equity capital is raised from external investors, e.g., pension funds, endowments, wealthy individuals, and insurance companies, known as *limited partners* (LPs) (Gilligan & Wright, 2020; Kaplan & Strömberg, 2009; Metrick & Yasuada, 2010). The lifespan of a PE fund varies depending on a range of factors, such as preference and performance. In a successful investment, the PE firm typically manages to implement a strategic plan and exit its investment after three to seven years (Talmor et al., 2011). In other cases, a fund has a lifespan of up to ten years, of which the first five years active investments are being made and in the latter five years investments are being divested (Gilligan & Wright, 2020; Kaplan & Strömberg, 2009; Metrick & Yasuada, 2010).

Common practice among PE firms is to make a leveraged buyout when investing, i.e., financing the transaction through a mixed capital structure comprising both equity and debt financing (Kaplan & Strömberg, 2009). When an investment has been made, the PE firm focuses on actively managing and monitoring its PC during the *holding period*. Such managing and monitoring activities can e.g., be providing additional funds to the PC, assist in governance and

implement strategies in order to reach set up goals and imposing management accounting tools (formal and informal). These activities are ultimately conducted to enable the PE firm to, at the time of exit, maximise the return of its investment. It is apparent that PE firms put down a lot of effort to improve PCs financial performance, size and operational performance to increase the company's underlying value. This is done as PE firms have strict return targets ranging from ~17% to 30% or more per annum, measured through the *internal rate of return* (IRR) (Talmor et al., 2011).



**Figure 1:** Structure of a PE firm and its investment vehicle (Talmor et al., 2011)

### 2.2.2 Private Equity as a value creating investor

As mentioned in section 2.2.1, PE firms selectively invest in private companies (sometimes in public companies) with the goal of making a high return on investment at time of exit. To increase the economic value of the PCs, PE firms apply control tools to improve operational efficiency (Jensen, 1986). Several studies have investigated this phenomenon, which have found a direct correlation with PE firms' activities and improved organisational structures and increased operational productivity, efficiency, and economic value (see e.g., Acharya et al., 2009; Barber, 2008; Kaplan & Strömberg, 2009; Jensen, 1986; Rogers et al., 2002; Wright et al., 2009). Kaplan & Strömberg (2009) summarise the forms of control which PE applies to their PCs into *governance*, *financial* and *operational engineering*. The first, *governance*, is formalised through management incentive programs (MIPs) and other individuals that add value to the firm (employees or board members) comprising either stocks and/or options (Kaplan & Strömberg, 2009). Such incentive programs refer to an equity pool referred to as *sweet equity*, which is structured to give the investor a ratcheted return on investment (ROI) and a tax efficient return to the participants (BDO, 2019).

Implementing MIPs is common, as it aligns interests among stakeholders to work toward a common goal as the MIPs often require the investor to make a significant investment. On another note, investments done by PE firms are usually illiquid, as they often purchase private companies. This implies that the person that agreed to be part of such a program cannot sell his/her shares and/or options until the investment is exited. The illiquidity factor also contributes to a reduced incentive for the MIP taker to manipulate or otherwise compromise short term performance. The governance factor also refers to PE firms' involvement with management in the PCs, i.e., that PE firms for instance commonly have one or more representatives in the board of directors (Acharya & Kehoe, 2008; Kaplan & Strömberg, 2009). *Financial engineering* refers to leverage which the PE firm uses to finance the acquisition. As stated in section 2.1.1, leverage is often used to finance a part of a transaction which allows the PE firms to, if the investment is successful, to amplify its potential return at time of exit (Kaplan & Strömberg, 2009).

Imposing governance and financial engineering controls have for a long time been common to enable value creation (Gilligan & Wright, 2020). In modern times, however, there has been an increased focus on imposing on *operational engineering* controls (Kaplan & Strömberg, 2009). Such controls revolve around strategy, detailed organic and inorganic (M&A) growth plans and gathering expertise from industrialists. This allows the PE firm to execute strategic cost control, enhance productivity and ensure that the right management team is appointed. As noted by Acharya et al. (2009): “*PE partners seem to add value to PCs by applying skills they have accumulated over time*”.

In conclusion, three categories of controls are imposed by PE firms in order to spur value creation in PCs. In recent years, the third, *operational engineering*, has received significant attention in research as there has been a shift toward an increased focus from PE firms on operational value creation. This has been driven by a few trends in the PE industry. One trend is an apparent shift where PE companies choose a specific investment strategy (e.g., a specific sector and subsector), and keeps that focus, allowing them to become experienced within specific fields. Another trend is the shift from storing expertise in house to instead outsource knowledge by including industrial experts and advisors in pre and post acquisition processes. This allows for PE firms to receive external knowledge from people's experience from different sectors which, in turn, allows for an added dimension of comprehension to be added in the analysis of a potential acquisition target or the management of PCs (Kaplan & Strömberg, 2009). Lastly, there has been an increased involvement by PE firms in the operative development of PCs, by e.g., implementing strategies and stricter growth plans. This transformation has led to a more important role of MCMs in the PE firms' business model in evaluating, and later managing, investments.

### 2.2.3 Management control mechanisms (MCMs) in Private Equity

Past academic research on PE firms' MCMs has primarily been conducted in the light of the agency perspective (Dello Sbarba et al., 2020; Wright et al., 2009). Other influences on such studies have been formal governance control and financial contracting (Di Toma & Montanari,

2017; Kaplan & Strömberg, 2003; Rogers et al., 2002; Wright et al., 2009). With regards to agency theory, Bruining et al., (2013) states that PE managers focus on balancing traditional control systems with modern, entrepreneurial ones, allowing PE firms to fit control systems to how a specific organisational context is affected by external contingencies. Acharya et al. (2009) argues that PE firms place “*a relentless focus on value creation levers*”, as they impose active management and stricter performance management practices than boards in publicly traded companies. For instance, PE firms adamantly monitor key performance indicators (KPIs), and especially cash flow. Plagborg-Møller and Holm (2017) suggest that monitoring operating metrics and the size of a PC at the time of exit is more important and has become more important post the Global Financial Crisis 2007-2008. This implies that it has become more important for PE firms to implement operational improvements during the holding period. Bloom et al. (2015) argues that PE firms appear to be inconsistent in monitoring practices, but overall is superior in implementing management practices compared to other firms. In addition, they are better at setting up goals and incentive programs linked to organisational and individual performance. There are several additional studies that investigate contractual rights, formal control, performance management, operational monitoring, and the agency perspective (see e.g., Bacon et al., 2012; Barber, 2008; Bruining et al., 2013; Di Toma & Montanari, 2017).

Barber (2008) argues that PE firms tend to be good at identifying critical levers that help in improving PCs operational performance. This, according to the author, is one reason which allows PE firms to increase the value of their investments over time. There are a few levers that spur this value amplification which enables PE firms to achieve high returns of their investments. Firstly, there exist strong incentives for both PE managers and key PC managers to increase the value, as they have an ownership stake which in case of a good exit transaction will lead to significant monetary compensation for both parties. Secondly, there is the common use of leverage, which is a cheaper source of financing than equity, albeit riskier, and comes with tax advantages. Thirdly, PE firms implement well defined financial controls especially focusing on margin improvement and expansion as well as cash flow metrics. Lastly, as PE PCs are private in nature, they are subject to less restrictive regulations than those of public companies meaning that there is less bureaucracy (Barber, 2008).

Dello Sbarba et al. (2020) compliments the need for continued research on MCMs that are deployed in the inter organisational relationship between PE firms and PCs. The authors base their analysis on concepts of the change agent (see past research on change agent e.g., Carlsson-Wall et al., 2016) and the frame alignment (see e.g., Goffman, 1986; Yang & Modell, 2015), and move away from agency theory and formal governance controls used in PE to decrease agency costs. Instead Dello Sbarba et al. (2020) embrace and promote the shareholder focused frame and how such a mindset through MCMs (of which the authors include; *output*, *behaviour*, and *social controls*) can have an impact on institutional change processes. The authors conclude that a range of formal and informal MCMs can be used to manage and monitor PCs. In combination with formal controls, social controls, informal controls, are used to align interests and ensure motivational framing in the PC. In this example the formal controls can motivate through incentive systems, while the informal controls can accomplish alignment through joint goal setting. The study later shifts focus to address reasons why MCMs can be relevant in a

context specific frame. In doing this, the study provides insight on PE firms' use of MCMs and tendency to develop a social consensus, i.e., using social controls such as motivation framing and diagnostic framing, to align inter organisational interests.

Bedford & Ditillo (2021) states that there is currently a lack of research on PE firms' usage of MCMs, especially since recent studies have shifted attention toward investigating how controls can be combined to manage inter organisational relationships with PCs (see e.g., Grabner & Moers, 2013). Moreover, the authors develop the ideas proposed by e.g., Dello Sbarba et al. (2020), and further categorise MCMs into four types of controls (*contractual*, *results*, *behaviour*, and *social controls*). The authors describe the role and characteristics of these controls, and in what types of contexts these play a part in the interaction with PCs. Building on the findings of Dello Sbarba et al. (2020), the authors argue that MCMs have varied importance in the inter organisational relationship (PE firm and PC) depending on the PE firm's ownership stake (majority vs. minority) and the perceived cognitive style of the PC i.e. how it is led (entrepreneurial vs. managerial). The authors findings suggest that social controls (informal control) and formal contracts as a formal control are present when PE firms have a minority ownership stake regardless of the perceived cognitive style. For majority stake investments with an entrepreneurial cognitive style formal controls seems to be heavily relied upon, with PE firms focusing on formal contractual, result and behaviour controls. For majority stake investments with a managerial cognitive style, formal controls comprising contractual, and results controls were heavily relied upon. The categorisation provided by Bedford & Ditillo (2021), sheds light on the importance of MCMs and, moreover, the reliance of formal and informal controls in a PE context. In addition, they foster an understanding on how MCMs are implemented and perceived in PCs, as well as how specific contextual factors can be understood and how these can be linked to different control choices.

Framing past research on PE firms and their use of MCMs, one can see a common thread revolving around three critical control levers which PE firms impose on their PCs. These levers are in line with what Kaplan & Strömberg (2009) describe as *governance*, *financial* and *operational engineering*. Barber (2008) highlighted experience as important for a PE firm to be successful in creating value, as this leads to an effective use and efficient implementation of such control tools. Dello Sbarba et al., (2020) develops Kaplan & Strömberg's (2009) categorisation through dividing MCMs into *output*, *behaviour*, and *social controls*. The difference compared to Kaplan & Strömberg (2009) and Barber (2008), however, is that the MCMs which Dello Sbarba et al. (2020) underline as important are rooted in the social aspect, characterised as informal controls, of the inter organisational relationship, and further stress how social controls can be used to align interests of the stakeholders. Bedford & Ditillo (2021) extends on Dello Sbarba et al.'s. (2020) line of reasoning, through an extended categorisation (*contractual*, *results*, *behaviour*, and *social controls*), and argues that formal MCMs are of great importance. The authors also highlight the importance of social controls (informal in nature), as these help PE firms to facilitate the exchange of information which allows for information asymmetry to be reduced. Hence, informal controls also play an important part to ensure that the PE firm's strategic agenda to achieve value creation is adhered to by the PC.

Figure 2 presents a conjoint framework divided into the four MCM components as described by Dello Sbarba et al. (2020), taking influence from past research (see e.g., Barber, 2008; Bedford & Ditillo, 2021; Kaplan & Strömberg, 2009). Contractual controls refer to formal contractual agreements, rights and clauses which dictate the relationship between a PE firm and its PC. Results control comprises monitoring financial performance (through KPIs), setting a strategy, budget, financial targets, and milestones, as well as reporting and incentive systems to motivate management and employees. Behaviour controls dictates which behaviours are wanted, regulating which activities are to be allowed and not allowed. The control is pinned down through a set of rules and procedures for how activities should be conducted. Social controls constitute softer, often informal controls. For instance, the mechanism can relate to branding activities, e.g., partnerships, but also social relationships and activities, as well as external/internal communication. The figure also includes classification based on whether the control is characterised by formal or informal elements.



**Figure 2:** Framework of MCM components identified in past academic PE research

#### 2.2.4 PE in an uncertainty context

Reflecting on previous research, many studies interestingly only address how PE firms use MCMs to manage the inter organisational relationship that exist between the PE firm and the PC (see e.g., Dello Sbarba et al. 2020). In addition, past studies also clarify that the various MCMs implemented by PE firms can be categorised in formal and informal controls which together form a management and governance foundation (see e.g., Bedford & Ditillo, 2021). Past studies, however, do not consider uncertainty and further fail to highlight the important part that MCMs play in managing uncertainty. Rather, past research on PE firms' usage of MCMs discusses the dynamics of these from a perspective under what can be considered as stable market environments (see e.g., Barber, 2008; Bedford & Ditillo, 2021; Dello Sbarba et al., 2020; Kaplan & Strömberg, 2009). However, considering the everlasting presence of uncertainty in organisations the assumption, which past literature relies upon, that environments are stable for PE firms, becomes moot as this is not always the case. As PE firms are also exposed to uncertainty one could apply Sniazhko's (2019) reasoning on uncertainty management in multinational corporations in a PE context. Uncertainty management is heavily influenced by the utilisation of both formal and informal procedures, providing organisational tools for the reduction, and coping of uncertainty. Given a PE context, one could argue that formal and informal MCMs deployed by PE firms is a way for the PE firms to impose on e.g., active ownership and to enable value creation. One could also argue that these controls are



tools to manage uncertainty. That is, formal and informal MCMs together allow PE firms to cope with, and reduce the impact of, uncertainty.

PE firms, actively managing multiple PCs, should be experienced with mitigating and coping with such uncertainty. However, some past studies have, as a part of a broader research topic, focused on how uncertainty affects PE firms and how they control their PCs are few in numbers and often covers specific aspects of the topic (see e.g., Bruining et al., 2004; Kut et al., 2007; Plagborg-Møller, 2017). For instance, Kut et al. (2007) touches upon uncertainty by studying the pre acquisition process and how PE firms try to evaluate and monitor risk which, according to Knight (1921), is classified as managing measurable uncertainty (see section 2.1.1). The study finds that it is of great importance for PE firms to assess risk in the pre acquisition stage. At this stage, risk is scrutinised for the PE firms to understand what potential risks are related to, and could impact, a potential investment. Furthermore, according to Kut et al. (2007) this risk assessment is of importance, as the PE firms further monitor these risks after an acquisition has been made. The study conducted by Kut et al. (2007) showcases the focus of past scholars which have been on risk and not true uncertainty.

Concerning past research on true uncertainty, one needs to look at more extensive research on organisations and how these manage uncertainty. Often, such studies have investigated the topic of true uncertainty, and the effects from it, in the context of a crisis. For instance, in the wake of the Global Financial Crisis and lately the COVID-19 crisis, several researchers focused on how external uncertainties affect organisations. Hence, these studies open for further research exploring how the subject of uncertainty relates to management control (see e.g., Ahrens & Ferry, 2021; Becker et al., 2016; Carlsson-Wall et al., 2020; Ezzamel and Bourn, 1990). Another topic which has been thoroughly addressed in past research is how uncertainty is approached (see e.g., Sniazhko, 2019). On this note, Granlund & Lukka (2016) argue that past research 1) uses the same foundational assumption principles in approaching uncertainty and 2) that approaching uncertainty in organisations has become outdated as these tend to use the same presumptions in an institutionalised manner. As is apparent, there is further need for additional studies on uncertainty as a broader research topic in both an organisational context but also in a PE context. To gain further insight on uncertainty and its impact on MCMs, further studies questioning the underlying assumptions in institutionalised structures, as Granlund & Lukka (2016) call for, are needed.

### 2.3 Identified research gaps

Even though the PE industry influence on the global capital market has increased significantly over the past years, there is limited research which has focused on PE firms and especially how PE firms' use MCMs to develop and implement strategies in PCs. Although past studies on the topic have made contributions upon the dynamics of how PE firms use and implement MCMs in their PCs, and made distinctions between formal and informal controls, these studies have been conducted based on an established assumption that PE firms operate in stable market environments (see e.g., Acharya et al., 2009; Barber, 2008; Bedford & Dittillo, 2021; Gilligan & Wright, 2020; Kaplan & Strömberg, 2009; Rogers et al., 2002; Wright et al., 2009a). This is

surprising as uncertainty as a phenomenon affects all organisations (Galbraith, 1973; Lipshitz & Strauss, 1997; Sniazhko, 2019), PE firms included.

There exists, however, a few studies which have, as a part of a broader research topic, touched upon how risk and uncertainty affects PE firms and how they control their PCs (see e.g., Bruining et al., 2004; Kut et al., 2007; Plagborg-Møller, 2017). Bruining et al. (2004) briefly describes how PE firms, in the event of a management buyout, manage uncertainty by drawing on conclusions from two case studies. The authors find that, using the terminology established by Simons' (1995) four levers of control (elaborated in section 2.3.1), interactive control systems allowed PE firms to detect major uncertainties for their PCs. The study, however, does not present any findings or expand upon how MCMs are affected by uncertainty, nor what role these play when PE firms cope with uncertainty. Building on the theme of uncertainty, Kut et al. (2007) argues that PE firms must account for various aspects of risk to be successful. The authors concluding findings are threefold; 1) finding and monitoring risk in existing PCs is imperative, 2) hedging investments seems less important and, 3) how risk is managed differs depending on fund type (venture capital or buyout). Overall, Kut et al. (2007) finds that risk management in the pre investment stage is the most developed area with regards to PE firms. Plagborg-Møller & Holm (2017) investigates determinants of PE exit channels, and if the Global Financial Crisis had an impact on this. The authors state that a traditional response from PE firms when faced with uncertainty is to pay attention to elements in a PC that one can influence. Although these studies touch upon uncertainty in a PE firm context, the main objectives of these studies have been to investigate how uncertainty affects PE firms' exercise of control over PCs. Apart from this, Bruining et al. (2004) touched upon the topic that MCMs, and more specifically interactive control systems, can be used to detect uncertainties. These studies, however, do not address on an in depth level how PE firms cope with, and reduce, uncertainty and what role MCMs play in this process. Further, they do not elaborate on the different characteristics of MCMs, and how they are affected by uncertainty. Hence, there is need for additional research of uncertainty as a topic to give a more nuanced understanding of what role MCMs play as PE firms assess and manage uncertainty, but also for the overall comprehension of control systems in the PE-PC relationship.

Furthermore, past literature on PE MCMs have categorised MCMs into formal and informal controls, further exploring this in stable market environmental contexts (see e.g., Barber, 2008; Bedford & Ditillo, 2021; Dello Sbarba et al., 2020; Kaplan & Strömberg, 2009). In common, these studies rely on each other, and address both the formal and informal characteristics of MCMs utilised. Bedford & Ditillo (2021) and Dello Sbarba et al. (2020), however, thoroughly recognise the presence of informal MCMs, and their importance, in the inter organisational relationship between the PE firm and PC. Additional light could be shed on the relation of formal and informal MCMs, however, by introducing uncertainty. Common for all organisations, PE firms included, is that they must put great effort in mitigating and managing uncertainty. Studies on broader organisational contexts, focusing on which MCMs are important when coping with uncertainty, largely focused on the importance of diagnostic control systems and interactive control systems (Comfort, 2007; Goretzki & Kraus, 2020; Janke et al., 2014). This topic has not, however, been addressed in a PE context, why one could

expand on past research on PE MCMs by elaborating if uncertainty has any impact on how PE firms rely on formal and informal controls when managing their PCs. Through conducting a study specifically focused on uncertainty and its effect on PE firms' reliance on formal and informal MCMs, this study will therefore be able to present a more nuanced discussion around how PE firms use MCMs and how these are developed. Additionally, this form of study will give further comprehension on how MCMs, both formal and informal, are intertwined (how they affect each other) and how this relationship transforms in times of organisational constraints.

Finally, as Granlund & Lukka (2016) argues, there is a need for updated studies investigating the underlying assumptions made by organisations facing uncertainty, as there prelies a risk that these have become too institutionalised. Therefore, this study aims to contribute to existing literature on PE firms and their use of MCMs by introducing the concept of uncertainty. By studying how PE firms approach uncertainty, the paper gives nuance to the understanding of how PE firms approach and manage uncertainty, and what role MCMs have in coping and reducing uncertainty. Hence, this study investigates if uncertainty has any impact on how PE firms deploy MCMs and if this has any implications for the constructions and reliance on specific MCMs.

## 2.4 Theoretical Framework

### 2.4.1 Simons four levers of control

Simons' four levers of control framework builds on the idea that organisations face tensions from opposing forces which need to be managed (Simons, 1995). To actively manage these tensions the author introduces the concept of formal positive and negative controls, which he compares to a force similar to yin and yang (Simons, 1995). Simons (1995) specifies these positive and negative controls into four levers of control: *beliefs systems*, *boundary systems*, *diagnostic control systems* and *interactive controls systems*. All four controls, in essence, represent the organisation's strategy and how successful implementation relies on recognition of these tensions that are present (Simons, 1995).

On one end of the yin and yang spectrum Simons (1995) refers to belief systems and boundary systems. The first lever is the explicit set of organisational values which managers formally communicate to lower levels to give direction and purpose for the organisation. By using belief systems managers inspire and give direction to the search of new opportunities through concrete goals, mission, and vision (Simons, 1995). The lever intends to add a core of security, increase employee commitment, and reinforce the uniqueness of the organisation. The second lever, boundary systems, are in turn used to set limits on opportunity seeking behaviour in the organisation, hence limiting the opportunity seeking activities encouraged by belief systems. Boundaries can be categorised into two types of formal systems, business conduct boundaries and strategic boundaries, both of which aim to guide organisational search while limiting risks (Simons, 1995).

The remaining two levers, referred by Simons (1995) as diagnostic control systems and interactive control systems, are used to manage the conceptualisation and execution of the organisational strategy. Diagnostic control systems are formal feedback systems developed to allow managers to monitor, evaluate and reward organisational outcomes from set goals related to operational performance. These can take the form of financial targets, budgets and KPIs. The fourth and final lever, interactive control systems, is put in place to manage and stimulate opportunity seeking activities, to allow the emergence of new strategic initiatives as well as awareness of strategic uncertainties (Simons, 1995). Interactive control systems are defined by four characteristics being that information generated from the system is addressed by senior management, incorporates frequent and regular attention from managers throughout the organisation, discussed in face to face meetings and is continually challenged and debated of underlying data (Simons, 1995).

While Simons' (1995) discusses MCMs as formal forms of controls which acts as means for senior managers to implement and track organisational strategy successfully, some researchers have found the framework to be limited as the levers of control does not sufficiently account for the socio ideological forms of controls, also known as informal controls (Collier, 2005). This, in line with Ferreira's (2002) findings that Simons' (1995) four levers of control focuses strongly on senior management in organisations while at the same time not coping well with the informal control mechanisms that exist in organisations. Hence, Ferreira (2002) concludes that the four levers of control framework inadequately explain the full breadth of organisations control systems as important informal control systems are neglected. This view of the importance of informal control systems was fully minted by Mintzberg (1979), who referred to a symbiosis of the two forms of control in organisations. Building on this, Preston (1986) finds in his study that there is strong evidence to suggest that the informal mechanisms, such as informal conversations in the hallway of the office, in organisations are highly valued by senior managers and are hence of utmost importance for their managerial and decision making strategies. Looking at information systems, the author finds that the process of informing in organisations is mostly taking place in settings considered as informal, such as in the corridor or the cantina, and not in venues seen as formal. Ferreira & Otley (2009) hence, puts forward an extended framework which takes research beyond specific aspects of control systems and limitations of current frameworks. The extended framework builds on the framework presented by Otley (1999) by adding seven additional issues to be considered by organisations when designing and adopting a control system, rather than adopting a prescriptive approach (Ferreira & Otley, 2009). Through adding contextualising dimensions, such as vision and mission, information flows as well as cultural contextual factors, the framework allows organisations to adhere to both formal and informal forms of controls when designing and implementing control systems. Ferreira & Otley (2009) further recognises that practices adopted from one organisation to another will look rationally different due to differences in these contextualising factors, such as culture. Heavily influenced by Simons' (1995) four levers of control, the framework still relates to the idea of balancing positive and negative controls, intrinsic to the relationship between diagnostic and interactive control systems and belief and boundary systems. In addition, the framework puts further emphasis on understanding the relationship

between formal and informal control systems by focusing on different hierarchical levels in the organisation.

#### 2.4.1.2 The four levers in a PE context

As discussed in section 2.2.1, Bedford & Ditillo (2021) divides MCMs deployed by PE firms into four categories: *contractual controls*, *results controls*, *behaviour controls* and *social controls*. With regard to Simons' (1995) four levers, a clear similarity between formal controls in the MCM categorisation provided by Bedford & Ditillo (2021) can be identified. As belief systems give direction to organisational search for new opportunities and enforce wanted and unwanted behaviour, this form of control has a linkage to behaviour controls. Boundary systems have the function of formally limiting opportunity seeking to what is in line with the organisational strategy, why this lever can be argued to be related to contractual controls. As contractual controls, in addition to this, consist of formal documents addressing the overall structure, while framing the order of decision making authority and accountability, between the PE firm and the PC, this provides an added dimension to what boundary controls encompasses. Diagnostic control systems, which is a results oriented form of control comprising both financial and operational metrics, is linked to results controls since these incorporate e.g., budgets, KPIs and reporting. On the discussion of interactive controls, this on the one hand highlights the linkage between all controls mentioned by Simons (1995), and how these interact together. On the other hand, these can also be linked to the formal side of the social controls discussed by Bedford & Ditillo (2021). This, as social control incorporates formal workshops and discussions for strategic discussion which influences the use of all MCMs. With regards to social controls, however, this form of control is not only explained by pure formal processes as it, to a large extent, is influenced by informal procedures (Bedford & Ditillo, 2021). This opens for the discussion on what aspects of social controls are considered informal. Taking the contextual factors presented by Ferreira & Otley (2009) into consideration, the categorisation of social controls can be split into two categories: formal elements and informal elements of social controls.

#### 2.4.2 Simons' levers of controls in an uncertainty context

As stated in section 2.1, uncertainty affects all organisations. In this context, MCMs are central for steering an organisation through uncertainty, as these mechanisms allow for forecasting and mitigation of such eventualities (Goretzki & Kraus, 2020). Many studies have investigated the use of MCMs on a broader organisational context in times of uncertainty (see e.g., Akhmetshin & Osadchy, 2015; Becker et al., 2016; Bourmistrov & Kaarbøe, 2017; Comfort, 2007; Goretzki & Kraus, 2020; Janke et al., 2014). Building on the four levers of control, as presented by Simons (1995), diagnostic control systems and interactive control systems proves to play a crucial role in times of uncertainty as tools to steer the organisation in achieving balanced control of these mechanisms (Comfort, 2007; Goretzki & Kraus, 2020; Janke et al., 2014). Goretzki & Kraus (2020) builds on the need for balancing both diagnostic control systems and interactive control systems in their COVID-19 case study, concluding that there is a critical need to complement the two forms of control simultaneously. This, as managers struggle to formulate comprehensible and sensible performance goals for their employees in times of

crises, which might lead to tensions if these objectives are unreasonable. Introducing a more interactive process allows for organisational learning through debate and dialogue, ultimately leading to better understanding of strategic uncertainties, but also helps identifying future potential crises (Goretzki & Kraus, 2020).

Similar conclusions can be drawn from the study conducted by Janke et al. (2014) who find that as perceived negative external uncertainties increase, this leads to more interactive use of MCMs. The findings also suggest that an interactive use of MCMs negatively correlates with senior managers' perception of the effects of a crisis. Comfort (2007) further builds on the cruciality that the control systems interact to manage uncertainties, using the case of the hurricane Katrina as a guiding example. The author finds that existing developed systems need to be adjusted and adapted to fit changing demands in the physical, engineered, and social environment. Furthermore, Comfort (2007) argues that cognition, the capacity of a community or organisation to recognise its risk exposure, is central to operational performance in crisis management, proving the importance of interactiveness in an organisation's overall control systems. Building on the importance of interactive control systems in allowing organisational opportunity search, Carlsson-Wall et al. (2020a) looks at new product development forums as an integrative liaison device which act as a formal support for knowledge sharing and integration in organisations. The authors conclude that the integrative liaison device can go beyond the pure sharing and integration of knowledge, by aligning interests and perspectives from different actors, accountabilities, and functions, through an integrative platform. Hence, integrative liaison devices act as a form of social control. Through framing accountability related conflicts and negotiations, they contribute to (or even impose) anchored priorities in the organisation, avoiding short term and ad hoc decisions taken by individual senior managers (Carlsson-Wall et al., 2020a).

A number of studies have focused on the importance of diagnostic controls, primarily budgeting and financial steering, in times of uncertainty (see e.g., Akhmetshin & Osadchy, 2015; Arwidi & Samuelsson, 1993; Becker et al., 2016; Collins et al., 1997). Drawing on the example of a crisis, some studies have rendered financial steering inadequate in times of uncertainty (see e.g., Arwidi & Samuelsson, 1993; Collins et al., 1997; Günther et al., 2011; Shih & Yong, 2001), due to the lack of predictability and usefulness in rapidly changing environments. Some studies, such as Hopwood (2009), studying the Global Financial Crisis, even suggest that ignoring, or sometimes abandoning, financial steering tools in times of uncertainty allows organisations to become more adaptive. Imposing such a change undergoing high uncertainty may seem irrational, but Czarniawska & Hedberg (1985) states that decreasing the importance of control mechanisms, such as financial tools, may increase operational flexibility. In line with conclusions presented in these studies, Bourmistrov & Kaarbøe (2017), finds that the tightening of budget control in times of uncertainty produced rather an increased disintegration of line managers in the organisation. This was visible through the different interpretations between senior management and line managers regarding strategic decisions on how to get out of a crisis, sparking tensions in attention (Bourmistrov & Kaarbøe, 2017). On the other hand, some studies have found that increased diagnostic controls during times of uncertainty can play a crucial role. Samuelsson (1986) through a case study on the Swedish

economic crisis showed that financial budgeting became of greater importance during the crisis. Similarly, Czarniawska-Joerges (1988) found that tightening of control during an economic crisis leads to a more reflexive response for management in a declining situation.

Investigating this research gap, Becker et al. (2016) studies how the importance of different functions of budgeting is affected by major external crises, dividing the functions into planning, resource allocation and performance evaluation. Contrary to prior studies, the paper finds that companies, in times of uncertainty, emphasise certain budgeting functions over others. The results of the paper indicate that budgeting becomes more important for functions such as planning and resource allocation, while performance evaluation suffers less attention in times of uncertainty. Akhmetshin & Osadchy (2015), investigating the development of financial control in a company during a crisis, finds that it is important for managers to know the dynamics of the changing environment to be able to effectively join the management of the workflow from the top. Management control incorporates the joint elimination of uncertainty which arises in the organisation on a daily basis, in which financial controls are an integral part of the financial management steering.

Building on the theme of financial controls during times of uncertainty, Firoozye & Ariff (2016) investigate banks during various financial crises and find that in order to manage uncertainty organisations need to go beyond the overreliance on purely quantitative models and systems and incorporate more qualitative and judgemental inputs. Based on these findings, the authors develop an approach for effective uncertainty management: 1) widen risk management to include uncertainty, 2) broaden knowledge sources, 3) use structural uncertainty models. Incorporating these three steps enables organisations, according to the authors, to identify risk factors, recognise, assess, and reduce uncertainty, injecting these into the risk management processes. Further, allowing organisations to account for uncertainty gives managers a more inclusive picture of risk which, in turn, allows for mitigation of threats from adverse situations (Firoozye & Ariff, 2016).

Integrating past research on Simons' levers of control in an uncertainty context the interactiveness and integration of the formal control systems play a crucial role in organisational preparedness and handling of uncertainty. As portrayed by Goretzki & Kraus (2020), interactive processes in times of uncertainty allows for organisational learning through debate and dialogue, leading to mitigation of current and potential uncertainties. Focusing on the diagnostic control systems prior research is divided of the budgeting and financial steering in times of uncertainty, where some studies deem it inadequate (see e.g., Arwidi & Samuelsson, 1993; Collins et al., 1997; Günther et al., 2011; Shih & Yong, 2001), while others highlight its importance (see e.g., Samuelsson, 1986; Czarniawska-Joerges, 1988). Through comparing these articles one can draw on the conclusions reached by Becker et al. (2016), that some functions of budgeting are of greater importance than others in times of uncertainty. Overall, organisations cannot rely solely on the use of budgeting and results controls. As Firoozye & Ariff (2016) argues, these diagnostic systems should be complemented with qualitative and judgemental aspects, underlining the importance of organisational learning through interactiveness of control systems. Exclusively, past studies focused on uncertainty have solely

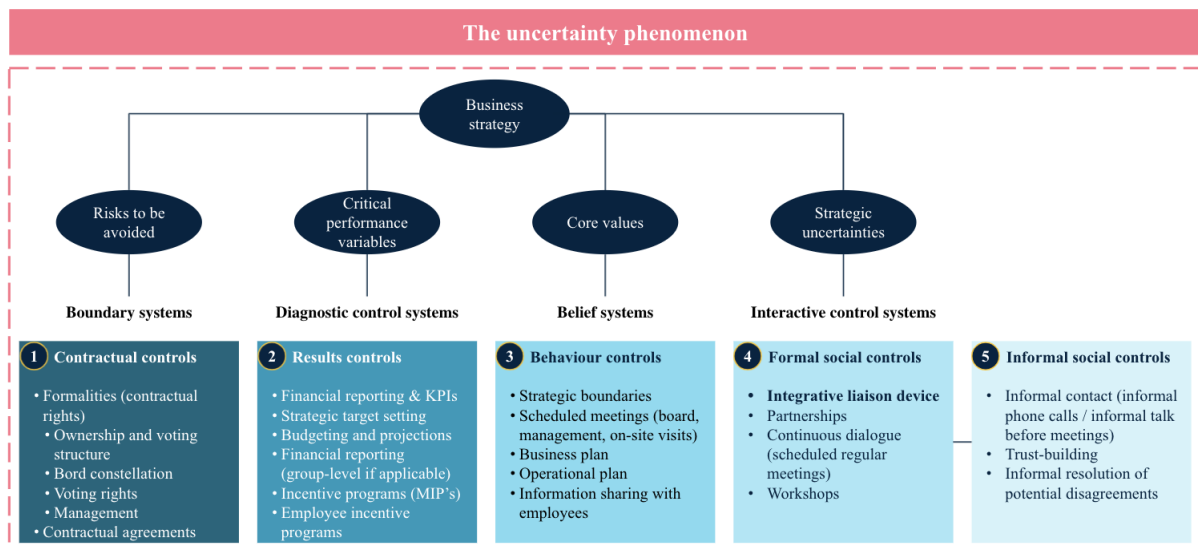
focused on interactive and diagnostic control systems indicating less use of boundary and belief systems as organisations are faced with unpredictability.

## 2.5 Theoretical Framework

In order to investigate this study's research question, an integrated theoretical framework with a categorisation scheme of PE firms MCMs influenced by Bedford & Ditillo (2021), who expanded on past studies in the field (see e.g., Dello Sbarba et al., 2020), is proposed. The MCM classification presented by Bedford & Ditillo (2021) will further be explained through Simons (1995) four levers of control, hence forming a conjoined framework. However, as discussed in section 2.2 and 2.3, categorising MCMs as only formal (as Simons' (1995) four levers are formal forms of controls) would be inadequate, as it is apparent that there are informal aspects in social controls which affect the dynamics on how MCMs function and are used. The informal characteristics identified in social controls, such as culture and information flows, will therefore be addressed according to Ferreira & Otley's (2009) reasoning of the importance of contextual factors in an organisational setting, which is outlined in their extended framework (see Figure 3). Regarding the formal elements of social controls, the paper will take base in what Carlsson-Wall et al. (2020a) calls integrative liaison devices, further adding a dimension to the control mechanism, enabling an added perspective in the analysis of the empirical findings.

As the paper, furthermore, aims to investigate the effect that uncertainty has on PE firms' use of MCMs to impose control on their PCs, an overarching uncertainty visualisation has been added to the framework influenced from past research focusing on uncertainty in organisational contexts (see e.g., Galbraith, 1973; Knight; 1921; Lipshitz & Strauss; 1997; Sniazhko, 2019) (see Figure 3). In summary, these added dimensions will enable a deepened analysis of MCMs to understand whether PE firms rely on specific levers (MCMs) in an uncertainty context and furthermore allow for conclusions to be drawn revolving on the specific nature of these MCMs (formal or informal) (Bedford & Ditillo, 2021; Dello Sbarba et al., 2020).





**Figure 3:** An extended version of the PE MCM framework presented in Figure 2, including an influence from Simons' levers of control. Figure 3 incorporates a visualised view of the always present uncertainty context in which PE firms, and all organisations, are subject to.

### 3. Methodology

*This chapter describes the research methodology this paper has adopted. Section 3.1 intends to give an overview of the research design, giving motivation for conducting a cross sectional study (3.1.1), the approach taken (3.1.2) as well as the selection of the empirical setting (3.1.3). Section 3.2 describes how the empirical data has been collected, and how this process was developed, with section 3.3 depicting the analysis process of this data. The final section, 3.4, covers data quality issues and coping methods this paper has adopted.*

#### 3.1 Research design

##### 3.1.1 Qualitative research in a cross sectional study setting

This study explores how PE firms develop and deploy MCMs, and how these are used to cope with, and reduce, uncertainty. By studying MCMs from an uncertainty context, the study aims to explore if, and if yes, how the uncertainty phenomenon affects these controls, following Knight (1921) and Galbraith's (1973) definition of true uncertainty (see section 2.1). To gain insight on this topic, a qualitative cross sectional study has been conducted. The choice of conducting a cross sectional study, is based on the need to gain insight from a larger population of PE firms in order to understand PE firms' way of constructing and deploying MCMs and, furthermore, how PE firms' approach, cope with, and reduce uncertainty. By conducting a qualitative research study of this type, the authors aim to gain insight on the dynamics of MCMs by introducing uncertainty, which past research conducted on PE firms use of MCMs have failed to encapsulate. Further, conducting the study on a set of 11 PE firms was driven by the intention to increase possible generalisability of findings (Lillis & Mundy, 2005; Merchant & Manzoni, 1989). Adhering to a cross sectional study allows one to conduct a limited depth study (see e.g., Abernethy & Lillis, 1995; Lillis & Mundy, 2005; Bruns & McKinnon, 1993).

In general, qualitative research is utilised across several academic fields, and can be conducted through various approaches. In all, a qualitative research study allows a researcher to investigate complex topics, enabling reflections on e.g., management accounting, social processes, organisational strategy development and core values driving an organisation (Lillis & Mundy, 2005). Moreover, qualitative studies are iterative in nature (Edmondson & McManus, 2007). In this study, this iterative characteristic is a distinctive feature as information is processed over time, enabling analysis of the gathered qualitative data. That the collected data is analysed over time, implies some form of path dependency, i.e., that connections on various aspects on the topic will develop as the study's process progresses. Consequently, during the process under which this study is conducted, new ideas are expected to emerge, why there for instance is a need to adapt subsequent interview questions in line with the newly discovered information, analyses, and ideas (Edmondson & McManus, 2007).

Contrasting qualitative research studies with quantitative, one could argue that three primary differences exist. Firstly, a qualitative study, due to its iterative nature, depicts and includes a breadth and complexity over a phenomenon or theory which quantitative studies miss out on, considering their statistical nature. Hence, this form of study allows focus on contextual elements which are considered interesting for the researched topic (Lillis & Mundy, 2005). Secondly, qualitative studies allow for hypothesis generation as a study progresses, since it explores the nature of a phenomenon or theory including consequences and implications from it. In qualitative research, this aspect could be argued to be somewhat lost as one tests a predetermined hypothesis, of which the statistical results drive one to either accept or reject said hypothesis. Hence, this type of cross sectional study allows one to explore the complexity of a phenomenon (Lillis & Mundy, 2005). In accordance, Merchant and Manzoni (1989) conducts such a study, allowing for a constrained framing of their proposed research question and contrast it with more complex questions. Lastly, qualitative research studies are conducted in a setting which renders large amounts of empirics through extensive interviews, qualitative surveys and/or discussions. Considering that this study aims to explore the dynamics of MCMs and expand on how PE firms copes with, and reduce, uncertainty through such controls, the cross sectional qualitative study was deemed the most appropriate approach to adhere to (Edmondson & McManus, 2007; Lillis & Mundy, 2005).

Moreover, case studies, and more especially cross sectional case studies, generally provide means for a researcher to explore a phenomenon from various perspectives and situational contexts. In addition, such studies allow one to gain insight on a detail specific level of what factors primarily can explain a specific context (Lillis & Mundy, 2005; Ridder, 2017). As stated, this study is conducted by applying a cross sectional study approach through studying behaviours and organisational processes across multiple PE firms. This allows for one to reach more comparative insights on how a specific phenomenon plays out across multiple organisations, compared to single case studies where one rather explores firm specific behaviours in a single setting. There are several benefits with adhering to a multi case approach, as it partly allows one to study in a broader context how a phenomenon is coped with, allowing one to gain insight on if the findings are in line across the multiple firms scrutinised or not (see e.g., Lillis & Mundy, 2005; Merchant & Manzoni, 1989). On the other hand, one could argue

that the other research method, a single case study, allows a researcher to gain in depth insights on a specific phenomenon enabling more thorough analyses of a complex topics (see e.g., Dyer & Wilkins, 1991; Lillis & Mundy, 2005; Siggelkow, 2007; Fiss, 2009). On the other hand, this method renders low breadth but high depth with regard to processed information (Lillis & Mundy, 2005). Moreover, considering that this study will explore the complex phenomenon of uncertainty to understand how PE firms change their use of MCMs, a cross sectional study allows the authors to better facilitate an understanding of how MCMs change, and if these changes are somewhat similar across firms. This approach is in line with past research focusing on gaining a broader understanding of how PE uses MCMs (see e.g., Bedford & Ditillo, 2021). This further allows one to receive a higher replicability compared to that of a single case study (Eisenhardt, 1989; Eisenhardt & Graebner, 2007; Lillis & Mundy, 2005; Yin, 1994).

### 3.1.2 Research approach

This study takes foundation in an abductive research approach. Contrasting from the two main approaches in interpretative research, deductive and inductive, the abductive approach is characterised by an iterative process between the formation of theory, empirical analysis and imposed research gaps (Lukka & Modell, 2017). This approach is furthermore based on a derived framework which is, throughout the study, gradually modified and developed alongside the empirical findings. A deductive approach insinuates testing of hypotheses, derived from current theoretical lenses, on empirical data. An inductive approach aims to produce additional theoretical perspectives from this empirical data (Lukka & Modell, 2017). An abductive research approach is generally part of a broader interpretive research approach. Such a broader research approach is heavily characterised by studying the underlying management accounting through researching the organisational, societal, and psychological context (Lukka & Modell, 2017). Hence, this study puts great emphasis into understanding the interviewees' perspectives based on their subjective societal and environmental interpretations, as these differ between individuals.

Furthermore, this study makes the conceptual distinction between method and domain theory, further drawing upon concepts established in interpretative research (Lukka, 2005). The domain theory gives context to this study's proposed achievements in terms of adding and contributing to the current literature on MCMs in a PE context. The method theory, on the other hand, provides this study with a framework, or lense, in which the empirical data can be analysed. Such a framework is also used to evaluate the findings in relation to the domain theory, especially the contributions and additions the findings make. Through a thorough development process of both the domain and method theory, this study has sought to avoid common weaknesses of qualitative research outlined by Vaivio (2008). Firstly, the theoretical framework, or method theory, was carefully chosen to allow for clear utilisation on the empirical findings to allow for effective interpretive conclusions to be made. In addition, the study has throughout the paper clearly connected back to this theoretical framework, thus attempting to avoid failing to connect with the theoretical starting point. Regarding the domain theory, only research deemed relevant for this paper's focus, MCMs in a PE setting, have been included in combination with articles aimed to give an overview of the studied context,

uncertainty. Finally, the presented findings have not been overgeneralised in a broader organisational setting, even though we suggest that some aspects might be applicable for organisations outside the PE domain.

### 3.1.3 Selection of the empirical setting

The empirical setting in this cross sectional study is data gathered from 11 PE firms based in the Nordic region. As illustrated in Table 1, 9 of the 11 interviewed firms are classified as traditional BO firms. One of the two outliers is classified as a GC fund, however with the same general investment approach as a traditional BO firm, why it has been considered as a BO firm in the thesis. The other outlier is not a typical BO firm but is rather classified as an investment firm with a longer investment horizon as it aims to hold its PCs for a long time, or forever. The table further introduces some main characteristics of each firm (strategy focus, size, experience, and investment horizon). The reason for not depicting the fund size (in figures), is motivated by the collective wish by all PE firms to remain anonymous. The variable size is based on a comparative analysis based on fund size and number of employees, and from this classified according to small, medium, or large.

| Company           | # of interviews | PE firm type                        | Strategy focus                                                                                                              | Experience                                   | Investment horizon         | Size   |
|-------------------|-----------------|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------|--------|
| Growth capital    | 1               | Venture / growth capital            | Northern Europe<br>Invest in high growth companies                                                                          | ~20 years                                    | 5-7 years                  | Large  |
| Forever capital   | 1               | Investment firm, majority stake     | Nordics / UK<br>Profit margin of at least 10%, profit level 20 million                                                      | 80 years partner experience, founded in 2019 | Long-term investment focus | Small  |
| Sun Capital       | 3               | Buyout firm (majority)              | Nordic focus. Mid-market companies, turnover of EUR 20-150 million                                                          | ~25 years                                    | 5-7 years                  | Large  |
| Ghost Capital     | 1               | Buyout firm (majority)              | Nordics<br>Turnover of EUR 25-250 million                                                                                   | ~30 years                                    | 5-7 years                  | Large  |
| Silent Capital    | 1               | Buyout firm (majority)              | Nordic companies. Turnover EUR 10-300 million                                                                               | ~10 years                                    | 5-7 years                  | Large  |
| Open Equity       | 2               | Buyout firm (minority and majority) | Primary focus is on high growth and strong margins in the Nordics. Turnover over SEK 100 million and achieved profitability | ~37 years                                    | 5-7 years                  | Medium |
| Heart Capital     | 1               | Buyout firm (majority)              | Focus on profitable companies with positive cash flows. Usually turnover of SEK 100+ million.                               | ~35 years                                    | 5-7 years                  | Medium |
| Structure Capital | 2               | Buyout firm (majority)              | SMEs with growth potential, turnover of SEK 50-250 million and achieved profitability                                       | ~30 years                                    | 5-7 years                  | Medium |
| More Capital      | 2               | Buyout firm (majority)              | SMEs with ESG focus, turnover of SEK 100-750 million in the Nordics and Europe                                              | ~10 years                                    | 5-7 years                  | Medium |
| Raise Capital     | 1               | Buyout firm (majority)              | Tech in the Nordics                                                                                                         | ~10 years                                    | 5-7 years                  | Large  |
| Boast equity      | 1               | Buyout firm (majority)              | Nordic focus, Mature businesses with EBITA of SEK 20-100 million                                                            | ~30 years                                    | 5-7 years                  | Medium |

**Table 1:** Table including some guiding information about respective PE firm (PE firm type, strategy and sector focus, and size)

Considering that most of the interviewed firms are BO funds, the authors deemed it relevant to use a collective definition, PE firms, in the thesis. If the population of the interviewed firms would be more clearly separated into the different PE categories, of which one is a BO with a long/infinite investment horizon, which exist (BO, VC, GC), it would have been possible to cluster the gathered empirical data. Such a categorisation would have allowed for a comparison across different forms of PE. With the method adopted in this thesis, one could argue that only the perspective of BO firms is depicted. The authors recognise this and attempt to convey some clear differences between the firm's responses in order to pinpoint that there might be some differences in how the firms deploy MCMs. The authors, however, urge future research on the topic to separate PE firms into clusters, to shed additional light on how PE MCMs might differ depending on PE firm type. This would be, to some extent, similar to how e.g., Bedford & Ditillo (2021) conduct their study on PE MCMs, by clustering PE firms investing a majority vs. a minority stake in PCs.

Comparing this study to past research, the scrutinised form has been similar. However, the most recent article published on PE MCMs by Bedford & Ditillo (2021), put great emphasis on whether the interviewed firms take minority, majority or a mix of ownership stakes. As the authors conduct interviews with mainly smaller PE firms, they are able to include two firms who mainly invest minority stakes, which this study partly fails to capture as the empirical data includes larger PE firms. In addition, the PE firms interviewed by Bedford & Ditillo (2021) are predominantly focused on the Italian market space, where only one firm out of the samples has a broader European focus. Hence, as this study has interviewed PE firms with primarily Nordic focus, findings may differ as cultural, and country specific factors may come into play. As evident in the article by Ahrens (1997), cultural differences influence the chosen operational strategy and how MCMs are developed and deployed. For further research studying MCMs in a PE setting, a broader geographical study would enable clustering between regions to allow further conclusions and comparisons to be made.

Considering past research, many studies have been conducted on certain topics addressing the PE industry, particularly when it comes to quantitative analysis (Wright et al., 2009). PE MCMs (Bedford & Ditillo, 2021; Dello Sbarba et al., 2020) and financial monitoring (Kaplan & Strömberg, 2009). How operational MCMs within the PE industry are constructed, however, has received limited attention in the academic world (see e.g., Dello Sbarba et al., 2020). This is especially true when it comes to expanding on the uncertainty context within PE, in which there exist a limited number of studies addressing uncertainty in a broader context in relation to PE MCMs (see e.g., Bruining et al., 2004; Kut et al., 2007). Therefore, this study expands on past research, venturing beyond past studies on how MCMs are constructed by especially addressing how uncertainty affects MCMs. In addition, the authors expand on past research with regard to how MCMs are constructed (formal and informal characteristics). This, as the authors found evidence that uncertainty has an impact on MCMs, and the dynamics of this impact could be understood through scrutinising the characteristics of the MCMs. To receive

an understanding of how this dynamic is constructed, the authors reach out to multiple PE firms, to identify a common thread of the dynamics of PE MCMs, and how PE firms cope with, and reduce, uncertainty through such controls.

Finally, this paper has chosen to adopt the Simons (1995) framework of four levers of control, moving away from what theoretical lenses previous studies have applied. Previous research has predominantly focused on utilising the theoretical lenses from both agency and institutional theory (Bedford & Ditillo, 2021; Bruining et al., 2013; Bruining et al., 2005; Dello Sbarba et al., 2020; Di Toma & Montanari, 2017; Gompers et al., 2016; Kut et al., 2007), which have served the purpose of explaining which MCMs in PE firms are adopted and how these are developed. Having read up on this past research we recognised that MCMs in PE a setting consists of formal and informal characteristics. To further elaborate on these characteristics, the authors deemed it relevant to apply Simons (1995) as an explanatory framework for the formal MCMs, as the four levers of control are formal in their nature. Furthermore, we consider the characteristics of each lever, depicted by Simons (1995), to have similar traits to the MCMs used by PE firms as described by Bedford Ditillo (2021) and Dello Sbarba et al. (2020). As Simons (1995) framework only describes the formal controls, we expand the framework to encapsulate informal controls, by drawing upon past research on such controls in broader organisational contexts (see e.g., Collier, 2005; Ferreira, 2002; Ferreira & Otley, 2009; Mintzberg, 1979; Preston, 1986).

### 3.2 Data Collection

The primary source of data in this study are interviews with representatives from a total of 11 PE firms. In total, 16 interviews have been held between September and November 2021. In addition to the interviews, a number of internal documents handed out by some of the PE firms have been used and processed. According to Yin (2014), interviews as a source for gathering data is one of the most established approaches when conducting qualitative research studies and considered an important source in case studies. Ridder (2017) furthermore states that in case analyses, studies base their data collection on archives (i.e., documents) and participant observation in addition to interviews (see e.g., Flick, 2018; Mason, 2002).

In the process of deciding how the interviews should be held, and in what way the questions should be asked, the authors followed recommendations of how to design interviews for qualitative studies discussed by e.g., King et al. (2019) and Lundahl & Skärvad (2016). When conducting interviews, classification on their level of structure can be made which furthermore can be divided into three categories (Rowley, 2012). The first, *structured interviews* could be compared to a stricter form of questionnaire which the interviewee is supposed to answer to, consequently aiming to render high response rates. The second category, *unstructured interviews*, is based on a limited set of questions or topics which the interviewee should discuss. Such settings allow the interviewer to be responsive toward the interviewee, allowing the interviewer to be flexible and adapt his/her questions. This requires that the interviewer is somewhat skilled at conducting interviews, however, so that the additional guiding questions, and the interviewees, responses stick with the topic. Furthermore, this approach might lead to

a series of interview transcripts that can be difficult to compare. The third type of interview is *semi structured*, which has a varied number of questions and varies in degree of adaptability based on the interviewees' responses. This method is considered effective for novice researchers, as the interviews revolve around a set of questions but leaves room for flexibility (Bryman, 2012; Rowley, 2012). For this reason, the interviews in this study followed a semi structured approach. The interviews were held with 16 representatives of different seniority at 11 PE firms with the hope to limit potential risks of bias and to give an added layer of perspective to the empirical findings, see Table 2.

| PE firm                 | # Interviewees | Interviewees                         |
|-------------------------|----------------|--------------------------------------|
| Growth capital          | 1              | Partner                              |
| Forever capital         | 1              | Partner                              |
| Sun Capital             | 3              | Partner, Partner, Investment manager |
| Ghost Capital           | 1              | Partner                              |
| Silent Capital          | 1              | Partner                              |
| Open Equity             | 2              | Partner, Business controller         |
| Heart Capital           | 1              | Partner                              |
| Structure Capital       | 2              | Partner, Associate                   |
| More Capital            | 2              | Partner, Associate                   |
| Raise Capital           | 1              | Partner                              |
| Boast equity            | 1              | Partner                              |
| <b>Total interviews</b> | <b>16</b>      |                                      |

**Table 2:** List of number of interviews and specific interviewees.

The length of the interviews varied depending on the availability of each interviewee and had an average duration of 50 minutes (see Table 3 in Appendix). Before the interviews were held, each participant was informed of their, and their PE firms, anonymity. In addition, a GDPR form was sent to each interviewee for them to oversee and sign. As a safety precaution driven by COVID-19, the authors decided beforehand that all interviews should be held online or over telephone. Hence all interviews, except for one which was held over telephone, were held via Microsoft Teams. Based on the preference of the interviewee, the interviews were held in Swedish or English. Both authors partook in the interviews, of which the authors took turns in being responsible for the questionnaire, taking minor notes and the other took responsibility for transcribing the responses. Considering that the interviews followed a semi structured approach, the questionnaire was used as a guideline. Depending on how each interview evolved, the authors were able to add additional questions to gain further insight on topics relevant for the study. The reason for this was driven by the objective of making the interviewees reflect on specific topics and further shedding light on personal perceptions and opinions. In addition, this allowed the authors to frame specific topics in a categorised manner,

as well as to receive a deepened understanding of events and issues within the studied subject (Bryman & Bell, 2011).

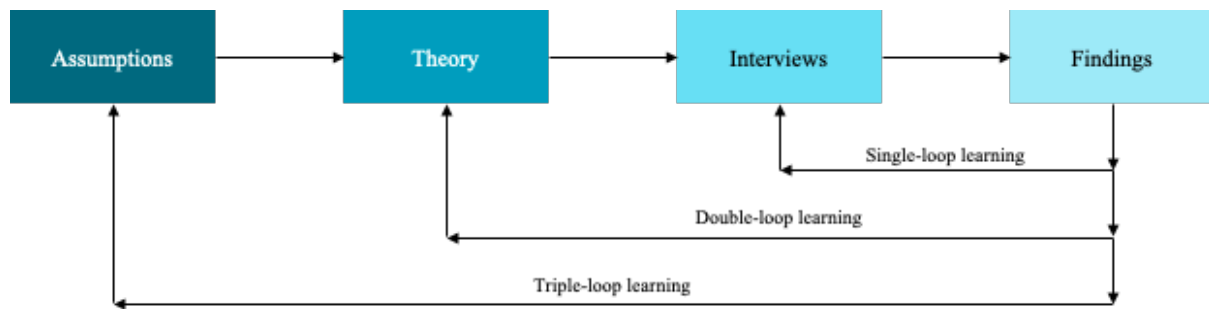
All interviews started with a quick “get to know” routine, where the interviewers briefly presented themselves. Afterwards, focus was turned on the interviewee who were asked to briefly introduce his/her background and elaborate on general perceptions of the PE industry. Later, the person was urged to briefly describe their PE firm’s business model and investment process, which led to a natural transition into the research topic. At this stage questions were asked on processes and strategies which are typically implemented in a newly acquired PC. In this part, the interviews followed a range of predetermined questions formed with existing literature, identified research gaps and the proposed theoretical framework in section 2.5 (Figure 3). As the research study set out to gain a deepened understanding of how PE firms utilise MCMs, if these change and furthermore depend on formal or informal MCMs during times of uncertainty, this semi structured form was deemed relevant. Moreover, when the interviewees were introduced to uncertainty during the first two interviews, we noticed a disconnect between their definition of uncertainty and the definition this study draws upon. Rather than taking base in what Knight (1921) defines as true uncertainty the discussions ended up revolving around what can be considered as measurable uncertainty, or risk. To reduce this disconnect we developed deepened interview questions where clear examples and explanations of true uncertainty were given to the interviewees. To crystallise and develop the discussions further we asked the interviewees, to the extent possible, illustrate their way of reasoning by drawing upon real life examples where they had faced uncertainty in a PC. In such a manner, we were also able to ask explanatory questions on specific assumptions made during such situations, triggering reflection with the interviewees.

### 3.3 Qualitative Data Analysis

The data in this study has primarily been collected from interviews with multiple PE firms. Contemplating on how to analyse qualitative data gathered from interviews, it is commonly necessary to separate between approaches that focus on narrative and approaches focusing on the content provided by the interviewees (King et al., 2019). The first revolves around social interaction, including the discourse and the analysis of the narrative in the interviews. The latter comes from a contextualist position, mainly oriented around understanding the interviewees’ experience (King et al., 2019). Furthermore, as the study is written with an abductive approach, analyses and conclusions were drawn from partial knowledge (Silverman, 2020), and formed sequentially as more empirical data was collected. In accordance with such a method, different theoretical approaches were tested on the empirical data, allowing the theoretical development and empirical analysis to evolve simultaneously (see e.g., Ahrens & Chapman, 2006; Lukka & Modell, 2010; Silverman, 2020). Following the guidance of Silverman (2020), the authors attempted to avoid establishing an early hypothesis, i.e., a research question, of the data as this would influence the data collection, but rather a hypothesis was formed as the analysis was conducted. Hence, the data collection and the following data analysis has been subject to an iterative process taking place at the same time as the theory, hypothesis and data collection was gathered, refined and formed.



After each interview, the collected data was discussed, fostering a deeper understanding of the findings. Between interviews, this work process continued, allowing the authors to find connections with the empirical findings and relevant theory. From this, the authors were able to continue the theoretical development and identify relevant research gaps. The abductive methodology also allowed for an ongoing evolution of the interview questions (see figure 4).



**Figure 4:** Triple loop learning inspired by Cyert & Marsh (1963), showcasing the process from initial assumptions to interview findings, which allowed an iterative process to take place where initial assumptions were changed as interviews were held.

During the interview process, no follow up interviews were scheduled. As the goal was to conduct interviews with as many professionals from the interviewed firms as possible, to receive a broad perspective on the subject, follow up interviews were not deemed necessary. As the empirical analysis ran parallel with the data gathering, it became easy to identify if any continued questions from a specific interviewee needed to be asked. In such a case, the authors communicated with said person through email, which was deemed sufficient.

To enable an effective analysis to be conducted, the collected findings were structured in such a manner that patterns could be discerned from various topics. Patterns identified in empirics, however, need to be approached with scepticism because it can cause presumptuous conclusions to an unfinished empirical setting to be drawn (Miles et al., 2014). To avoid this, the authors continuously performed conceptual and empirical testing by comparing and discussing the empirical findings as a precaution to become biased toward specific discovered patterns. In order to approach the empirical data in a structured way, the patterns found were categorised by aggregation and comparison (Miles et al., 2014).

### 3.4 Data Quality

Lundahl & Skärvad (2016) highlights the importance of data used in a study to be as correct as possible. This revolves around a study being *reliable*, i.e., that any other person should be able to do a similar study and derive similar results from the same set of data. To enable this, it is important to be consistent in collecting and handling data (Lundahl & Skärvad, 2016). Following Bryman & Bell (2011) categorisation of data quality, this is divided into the categories; trustworthiness and authenticity. Trustworthiness consists of the need of the study containing credible data, where the research has adhered to good practice and been conducted

in a viable manner. The data should also be transferable to other research contexts, i.e., provide an external audience with a database which can be used for other research. Therefore, this study has strived to maintain the empirical data as collected in the interviews, without incorporating interpretations of given answers. Data has, hence, been gathered through real time transcription during each interview reducing the risk of potential interpretations when formalising the empirical data. By doing so, empirical findings are to the largest extent possible presented as transcribed, adding to the honesty and trustworthiness of these observations, while at the same time reducing presumptuous interpretations. Lastly, through collecting empirical data from multiple PE firms of various size and sector focus, the authenticity of the study is additionally strengthened.

In periods between interviews, the authors recognise a present risk of bias arising as internal and external discussions on the topic might have affected the authors interpretations. As the research study is interpretative in its nature adhering to an abductive approach, this risk is expected. Following an authentic concept, whilst conducting a study of this type, Lukka & Modell (2010), argues is imperative to ensure data quality. Lukka & Modell (2010) further argues that authenticity “*provides an account that is genuine to their field of experience*”, which allows one to follow the empirical setting thus reducing potential bias. On another note, Lukka & Modell (2010) highlights plausibility as important. By providing readers with plausibility, it inherently implies that the reasoning throughout the study makes sense. If one fails to project plausibility may lead readers to question whether one has developed an understanding of a topic or empirics. To bridge this gap, the authors have firstly aimed to create a natural storyline throughout the paper linking facts with past theoretical research. In addition, the authors have carefully designed an interview procedure consistent across each separate interview, while at the same time allowing some personalisation. This interview guide has furthermore been tailored to fit relevant frameworks on management control, MCMs and past research addressing uncertainty in order to collect relevant data.

## 4 Empirical analysis

*This chapter presents the empirical analysis, taking base in the framework presented in section 2.5 (Figure 3). Section 4.1 presents the empirical analysis of formal MCMs in accordance with Simons' (1995) categorisations of management control levers. In section 4.2 informal controls are addressed. In section 4.3, the interplay of MCMs is addressed. Throughout each section, the uncertainty context is interwoven, in order to present a new form of analysis to the context of PE firms' use of MCMs.*

### 4.1 Formal MCMs

#### 4.1.1 Boundary systems

This study finds that boundary controls implemented by the scrutinised PE firms are similar to those depicted in previous PE MCMs research (see e.g., Barber, 2008; Bedford & Ditillo, 2021; Dello Sbarba et al., 2020). Considering past research, extensive boundary controls are

especially crucial if a PE firm imposes active ownership. To ensure their ability to influence a PC in a way they deem important, having boundary controls is vital as these lay a foundation for e.g., decision making, governance and strategic development. The boundary controls, which are agreed upon at the beginning of the holding period, are formalised for several reasons. One reason is that they dictate the fundamentals of the inter organisational relationship, e.g., ownership and rights, acting as a form of insurance policy between the two parties (PE and PC) if a dispute were to arise. In addition, boundary controls address a significant number of topics other than those concerning the inter organisational relationship. Such controls can for instance be a CEO instruction (what his/her authority and role encompasses) or that the PE firm requires the PC to conduct ESG reporting and implement a code of conduct (e.g., employee, supplier, and customer).

*“We structure informative deal contracts comprising a shareholder agreement (SHA) and share purchase agreement (SPA) and impose control over specific clauses which might affect these. There is a need to have a contractual understanding over ownership and what authority is given to senior management in the PC. This control form hence impacts how we as a PE firm can impose control over our PC”* - Partner, Silent Capital

#### 4.1.1.1 Boundary systems during times of uncertainty

Considering the respondents collective way of reasoning, it becomes apparent that boundary controls are a backbone which lay the foundation for the entire inter organisational relationship. Introducing uncertainty to the discussion facilitates this understanding and highlights the vitality of this control system, as these are thoroughly developed and extensive in nature. The reason is that boundary systems act as a form of insurance policy, allowing PE firms to cope with any uncertainty which can arise during the holding period of a PC. Even though boundary systems are not actively referred to in daily operations (when managing a PC), they are used to clearly establish a decision making hierarchy and accountability for strategic procedures. The problem with having established boundary systems at the beginning of the holding period is that, as time goes, memory weakens. This implies that there is an apparent possibility that boundary systems deployed in the inter organisational relationship might change, which can alter what was initially agreed upon. Some respondents addressed this issue, arguing that, in some cases, conflicts had arisen between the PE firm and a specific PC, as managers in the PC had started to make decisions going against the contractual decision making process. In cases where unclarities arose, being able to refer to the initially agreed upon boundary controls was imperative to resolve the situation. What furthermore became evident is that, through established boundary controls, the interviewed PE firms are able to effectively handle and balance other formal MCMs.

*“These documents are not referred to on a daily basis but exist as a backbone and act as an insurance for the parties involved (PE firm and PC) which is good to have if a conflict or other unique situations were to arise.”* - Partner, Open Equity

Considering the need to sometimes rework these boundary systems during the holding period, PE firms frequently assess underlying assumptions on previously determined and facilitated boundary controls. This showcases that boundary controls are adaptable in nature if changes in the environmental context makes such changes necessary. Although the interviewed PE firms have a standard set of boundary controls these are always, to some extent, customised depending on the specific situation. As uncertainty is constantly present, however, it becomes clear that there have occurred situations where boundary controls have proven to be insufficient to resolve problematic situations. What is apparent, however, is that formulating boundary controls and deciding what to include in these is an iterative process which changes over time as one learns from past situations. In one case, a partner highlighted that the boundary controls had not covered which contractual party had which authority, causing a disagreement between the PE firm and the CEO of the PC. Eventually the PE firm fired the CEO, as the conflict could not be resolved by other means.

*“What we include in our contractual agreements today does not have the same content as our applied contractual controls 10 years ago. We learn from our mistakes and update the content continuously. These updates are partly a result of our failure to encapsulate uncertainty in the contractual controls in the past. For instance, once it was unclear who, in the inter organisational relationship, had the mandate to make specific strategic decisions. In this case, it was us as an owner or the CEO. To minimise such disagreements from occurring going forward, we nowadays always implement a clear management guideline from the start.”* - Partner, Structure Capital

In summary, boundary controls regulate the inter organisational relationship between the PE firm and the PC by pinpointing e.g., how business should be conducted, how information shall be shared and what authority senior management or board should have. What is apparent is that these formalised controls is an insurance policy, acting as an everlasting backbone for every dynamic and MCM deployed by the PE firm. It is also apparent that these boundary controls are important to manage uncertainty, and that they are subject to scrutiny, and sometimes change, when uncertainty occurs.

#### 4.1.2 Diagnostic control systems

In large, the empirical data showcase that the diagnostic controls applied by the interviewed PE firms are in line with the findings of past studies (see e.g., Bedford et al., 2021; Dello Sbarba, 2020). After an acquisition is completed, the PE firms prioritise their workflow based primarily on the findings of the due diligence process. This process initially focuses on discussing how the financial returns can be obtained, by assessing which operational and financial targets are needed to be fulfilled. Subsequently, the PE firms develop a strategic agenda which is closely linked to KPIs, incentive programs and other diagnostic control systems. Centralised reporting is, as found in the empirical data, used for the investment team to track progress of their investment, which is discussed with senior management of the PC, the board of directors, internally within the PE firm and communicated to investors of the funds. Formalised reporting and follow ups allow for tracking and monitoring goals and

priorities, acceptance of strategic agenda by the PC and alignment of interests. Overall, diagnostic control systems are central tools which allow the PE firms to track, analyse and follow up on their PCs in a structured and formalised manner.

*“After an investment is completed, we focus on the organisation as a whole including reorganisation, implementation of KPIs and financial reporting, incentive programs for senior managers, strategic agenda and the development of a strong board of directors.”*

- Partner, Growth Capital

#### 4.1.2.1 Diagnostic control systems during times of uncertainty

In summary, the empirical data are to a large extent in line with past research in the sense that it only addresses the PE firm's development and deployment of diagnostic control systems in stable market environments. When introducing uncertainty the respondents reasoning regarding dynamics of diagnostic control systems, on what controls are applied and how, change. In line with Becker et al. (2016), the respondents argued that there is an increased focus on monitoring certain diagnostic control functions as uncertainty increases. In line with these findings, all of the interviewed PE firms stated that incentive and non vital performance metrics are largely disregarded, especially in situations where the PC's continued survival is at stake. For the PE firms, metrics subject for increased scrutiny and monitoring are for instance liquidity ratios and bank covenants, with a particular focus on scenario analysis and forecasting. This becomes especially important when faced with uncertainty that affects the financial health of the PC. As the acquisition is normally financed through some part leverage, the cash flow of PCs is closely monitored as these are often used to repay loans to financial institutions. For instance, all respondents mentioned that, when the COVID-19 crisis was at its worst, they implemented weekly, and in some cases, daily, follow up meetings with their PCs to monitor and analyse their operational and financial position.

On the notion of managing uncertainty, we find that there are no true standardised processes established by PE firms providing guidelines on how to reduce and cope with uncertainty. Hence, the interviewed PE firms do not have formalised action plans which provide guidelines on what and how diagnostic controls are to be changed or what new diagnostic controls are needed when uncertainty increases. Instead, the PE firms' response to uncertainty is rather a result of reactive processes which come about in an ad hoc manner depending on each specific situation. What becomes evident is that existing diagnostic controls have the purpose to proactively detect and mitigate measurable uncertainty, while metrics aiming to address true uncertainty are formed depending on the characteristics of the uncertainty which the PC is faced with. For instance, one PE firm argued that the measurable KPIs refocused on liquidity during COVID-19. Regarding how to address true uncertainty, the process takes form in formal discussions revolving around overall assumptions of the dynamics of the PE firm's initial idea with their reason to invest in a specific PC. For instance, the apparent financial impact that COVID-19 would have on a company were accounted for in the investment assumptions, valuation, and formation of strategic goals. Furthermore, a clear focus on securing governmental aid for their PCs which were profoundly impacted by the COVID-19 crisis

became paramount. Hence, in the context of uncertainty it is evident that there is a need to integrate ideas generated from formal interactive discussions into the diagnostic controls on a continuous basis. Reflecting on this, the PE firm's purpose when owning and managing its PCs is to, to the greatest extent possible, be responsive when the market fundamentals change. As one respondent highlighted;

*“It is impossible to foresee uncertainty, whether it is day to day uncertainty where a PC might become affected by bottlenecks in the supply chain or lose a large customer to a black swan event such as COVID-19 which affected our whole business. The only thing we can do is try to have extensive processes in place to detect day to day uncertainties. In the case of black swan events, however, established processes might not be sufficient, making it necessary to be reactive in our response. During COVID-19, for example, we quickly implemented strict and more continuous monitoring in our diagnostic controls than we had before.”* - Partner, More Capital

Additional findings concerning diagnostic controls revolve around factors which explain why PE firms go about differently in how these controls are implemented and why in times of uncertainty. Some identified explanatory variables are; 1) the size of the PE firm 2) the experience of the investment professionals, 3) investment horizon. All these variables do to some extent impact the type of governance style which is adhered to by the PE firm and how diagnostic controls are deployed and utilised. With regard to the respondents, some working at larger PE firms which naturally have existed for a longer time have more routinised processes established and have been able to develop more structure capital compared to smaller PE firms. This would suggest that, on the notion of managing uncertainty, quick actions can be made even though no standardised frameworks for coping with uncertainty are established. In addition, the respondents argued that experience correlates with wisdom and more effective decision making. Having extensive experience from working with e.g., business strategy and monitoring financial positions, enables investment professionals at PE firms to develop a profound understanding of what needs to be measured and how. This, in turn, affects how PE firms go about structuring and implementing new diagnostic controls.

*“We have no established plan to manage uncertainty. However, we have invested in companies for quite some time and seen many different problems arising. Owing to our organisation's size and the fact that we have acquired some knowhow on how to answer to uncertain situations, we could effectively manage COVID-19.”* - Partner, Sun Capital

Further, we find that the investment horizon of the PE firm influences the necessity of having highly detailed and formalised reporting. For instance, if a PE firm has a longer investment horizon, there is a tendency for the firm to be more passive towards changing and developing diagnostic controls, especially in times of uncertainty. Although these firms showcase a need for having an established monthly report with a standard set of KPIs, close monitoring is not essential comparing with a PE firm with an investment horizon of 5-7 years. The reason for this might be driven by the strict return requirements which these firms adhere to and their focus on trying to follow the predetermined exit plan for each investment. As firms adhering

to a longer investment horizon base their assumptions on a long term agenda, there is less need to integrate ad hoc, short term, metrics. This, as uncertainty affecting short term performance should not impact long term objectives.

*“We are more concerned whether we need to provide additional capital or not. But operationally, we remain stuck with our investment thesis of being a long term partner. Short term fluctuations affecting performance negatively are therefore regarded as a bump in the road, which I believe is different from traditional BO funds.”* - Partner, Forever Capital

#### 4.1.3 Belief systems

The belief systems deployed and considered by the interviewed PE firms are to large extent similar to past research addressing MCMs in a PE setting (Barber, 2008; Bedford & Ditillo, 2021; Kaplan & Strömberg, 2009). Considering the interviewees responses, it is clear that belief systems are affected by PE firms ownership agenda. Indirectly, belief systems are impacted by other MCMs. Such MCMs impacting belief systems are e.g., contractual controls which are facilitated post acquisition and diagnostic controls (e.g., budgets or KPIs). Further, belief systems are integrated in basic recurring procedures such as board and management meetings. The implementation process of these controls, however, varies across the interviewed PE firms. Some of the interviewees stated that the implementation of a code of conduct and whistleblowing system was required and formally agreed upon in contractual terms. Other PE firms require that employee management systems need to be implemented, but that this requirement is rather agreed upon informally. Studying the empirical data this strongly relates to the size and history of the PE firm. That is, the bigger the firm the more thorough and standardised processes to implement belief systems are in place. As one respondent said:

*“We predominantly implement principles and values in the PC. Here the board plays a crucial role, as they enforce the belief system as a control tool. From our side, I believe we are able to control the PC behaviour. We require that the PCs should have a whistleblower function and a supplier code of conduct integrated. These requirements are not something that we regulate in our contractual controls, at least not anymore. Our firm employs a system called Troika where a senior person from the firm is responsible for the investment and a junior person handles the day to day contact with senior management in the PC. This allows us to remain close with the PC whilst at the same time impose indirect control by remaining up to date on business planning and decision making processes.”* - Partner, Silent Capital

##### 4.1.3.1 Belief systems during times of uncertainty

Concerning how PE firms approach and cope with uncertainty, it becomes apparent that belief systems are used to mitigate risks and form a supportive backbone to keep the developed strategic agenda. All formalities implemented, such as a code of conduct, supplier code of conduct and whistleblowing systems, allow the PE firms to prevent and implement early detection of misconduct in their PCs. The implementation process of these systems, however, differs across the interviewed PE firms. One key finding is the importance of formal meetings (board, troika, and site visits) and how these play a part to reinforce belief systems under normal

market conditions. In these forums, belief systems are a foundation for ongoing discussions as these are held in line with the strategic and operational objectives which have been outlined by the PE firm and PC senior management. This allows for the belief systems to continuously influence strategic decision making on every level of the organisation, with the board and with the PE firm. Furthermore, these forums allow for the PE firms, together with PC senior management, to evaluate uncertainty. Some PE firms adhere to a more frequent structure, where meetings are held on a more regular basis compared to others. A contributing factor to the choice of how many meetings are to be held was attributable to the investment horizon of the PE firm, correlating with how active the PE firms are as owners. In this case, the longer the investment horizon relates to a less number of meetings held. This finding, however, does not necessarily convey the full picture, as some interviewed PE firms with a typical investment horizon of 5-7 years also held less frequent meetings. This could suggest that it is rather the preference of the PE firm which dictates how control is imposed and how belief systems are enforced. Introducing uncertainty, it becomes apparent that all PE firms effectively schedule additional meetings to address uncertain topics. This was particularly evident during the COVID-19 crisis, where the PE firms started working more closely with the PCs, as the number of meetings held increased. The reason for this was due to a number of factors such as the PE firms need to monitor PC performance, to evaluate strategic plan and direction which dictates the belief systems and to follow up on various metrics such as employee wellbeing.

Diverging from past studies, the empirical data suggest that PE firms put emphasis on ensuring that the inherited or newly appointed management teams fit culturally in the PC. This is typically controlled in the pre acquisition stage, through a management audit, but all interviewees argued that continually evaluating management is imperative to ensure that the PC is managed in line with the strategic agenda. Naturally, the main point of contact in the PC, for the PE firms, will be senior management, making these individuals the primary channel for information sharing. As management is subject to incentives programmes dependent on e.g., the performance of the PC, the PE firms establish reporting to reduce potential information filtering by these managers. This is driven by the uncertainty that management has an incentive to withhold information which might impact their perceived performance negatively. Hence, other MCMs are established to cope with this information asymmetry. Through utilising and tracking KPIs, such as employee satisfaction and employee turnover, the PE firms can effectively track their implementation of belief systems through diagnostic control systems. In addition, on a less frequent basis the majority of the interviewed PE firms evaluate senior management through collecting feedback from the entire organisation. By establishing multiple channels for receiving and evaluating information the PE firms ensure effective establishment of belief systems in their PCs. The establishment of multiple information channels and a culturally fit management becomes especially important during times of uncertainty, as unstable market conditions usually put great constraints on organisations. The interviewed PE firms state that the extensive management audits and the tracking various employee KPIs, allows them to be comfortable that correct information will reach them in a time if uncertainty comes about.



*“It is imperative for us, especially in times when uncertainty is high, to be able to trust the information we are presented with from management of a specific PC as this information underlines all strategic decisions and actions we make with our investments. This trust is partly established in the pre investment process where we make sure that management is the right fit for the organisation, but also through the groundwork we are continuously conducting with our PCs.”* - Partner, Open Equity

Through implementing formal procedures, the PE firms also establish trust with the PC, which several interviewees highlight being a crucial aspect when trying to cope with, and reduce, uncertainty. By establishing trust with the entire organisation, uncertainty that arises internally or externally can be addressed either in informal forums or anonymously through implemented formal procedures. Allowing multiple information sources, enables the PE firms to receive updates of the current status of the organisation in different hierarchical levels, giving a more nuanced overview of the organisational situation. Some PE firms even go as far as conducting annual audits of senior management through external consultants which perform interviews with employees, looking at cultural and managerial aspects. All this is done to ensure proper fit of management and to uphold trust towards the PC organisation.

*“If there is no harmony between us as a PE firm and our PC, and the intentions mismatch, it will become difficult to find sound solutions when sound solutions are needed. The whole relationship and governance system depends on this”* - Partner - More Capital

#### 4.1.4 Interactive control systems

Past research proposes that PE firms impose a wide range of control mechanisms (see e.g., Bedford & Ditillo, 2021; Dello Sbarba et al., 2020). It is apparent that these controls work independently of each other. On the other hand, considering past research and the empirical data in this study, these MCMs also depend on each other, fostering close interaction. The interviews showcase a set of interactive controls reminiscent of past studies conducted on MCMs in the PE industry (see e.g., Barber, 2008; Bedford & Ditillo, 2021; Sbarba et al., 2020). The formal control mechanisms in this lever primarily consist of interactive forums which PE firms hold with managers from the PCs (Simons, 1995). Clear examples of formal mechanisms which foster interaction are meetings occurring in various forums which facilitate a closely intertwined interactive control system that allows for business, financial and strategic decisions to be made. In this sense one can see that these interactive forums go beyond pure knowledge sharing by framing what actions are needed to achieve the strategic agenda, accountability and authority of decision making act as an integrative liaison device in the inter organisational relationship. Through imposing interactive control systems, the PE firms are in addition able to control and avoid short term, ad hoc, decisions made by managers in the PCs which are not aligned with the overall strategic agenda.

Although the overall findings are in line with previous research, the empirical data of this study shed new light on what type of controls are interactive in nature and how these permeate MCMs developed and deployed by PE firms. Hence, interactive controls affect every aspect of the

overall MCM implementation, helping PE firms to impact the PCs' way of operating, enabling value creation.

*“There are basically three forums part of the interactive control system that permeates the relationship between us and the PC. Firstly, there is the board meeting. This meeting is in essence ruled under formal procedures. Here, strategic and operational uncertainties are discussed, and major decisions made. Preparations before these meetings are extensive since the agenda and topics for discussions are usually heavily structured. Secondly, there is the troika meeting where a member of Sun Capital, often a partner, the CEO, sometimes the CFO, of the PC and the Chairman of the Board partakes. This meeting allows for all present parties to discuss, hence preventing information asymmetry. Lastly, we have our own internal meetings, e.g., our weekly meetings and our quarterly meetings, where we internally discuss our PCs and where people not part of the deal team can give their view on a specific topic concerning a specific PC.” - Partner, Sun Capital*

#### 4.2.4.1 Interactive control systems during times of uncertainty

When analysing the empirical data, it becomes apparent that PE firms heavily rely on interactive control systems during times of uncertainty. If, for instance, internal uncertainty rooted in information asymmetry comes up, interactive controls systems are used to bridge this gap, allowing a status quo to be maintained. In the inter organisational relationship interactive control systems have the purpose to interactively engage parties, providing forums where various topics can be addressed and managed. In situations where external uncertainty becomes evident, such as losing an important supplier or customer for the PC, the interactive controls engage to find potential solutions. Hence, interactive control systems in the PE context act as solution tools for managing uncertainty. Another aspect of this form of control is that it exists in order to identify any uncertainties which might arise externally or internally in the PC. Hence, these forums enable the testing of hypotheses and, if any uncertainty is detected, allow for effective uncertainty management.

As interactive control systems bring together key stakeholders from the PE firm and the PC, uncertainties which may impact the organisation are often a key topic of discussion, allowing early detection and mitigation. In uncertain situations, the respondents argue that it becomes important to act swiftly and find common ground in the inter organisational relationship. In other words, it is crucial to have well established and functioning interactive controls which can adapt depending on the need of the specific situation. After a period of uncertainty has passed, the empirical data indicate that implemented changes in the controls might remain if the changes add an improved function to the specific MCM. Hence, interactive controls have iterative characteristics, as it has the ability to adapt to uncertainty and incorporate changes in future interactive processes.

*“We use the imposed interactive control systems in predominantly two ways. Firstly, the interactive formal meetings facilitate knowledge and solution sharing when uncertainty arises. Secondly, these control systems allow for proactive detection of uncertainty before this*

*materialises into a problem for the organisation, since all forms of controls are discussed in these forums.*” - Partner, Growth Capital

In summary, the reliance of interactive control systems is high for all of the interviewed PE firms, and the importance of having a sound MCM of this type is imperative when coping with and reducing uncertainty. This especially became evident during the COVID-19 crisis, as all PE firms increased the frequency of the number of meetings (internal meetings, board meetings and troika meetings) as discussed in section 4.2.3. This does not solely allow for knowledge sharing between the PE firm and its PCs, but also enables efficient decision making, minimising ad hoc processes. On another note, what was also apparent, is that interactive controls provide a core toolset for how to manage uncertainty, acting as an arena where other MCMs are conjoined to facilitate discussion and derive solutions. Another finding vital for enabling knowledge sharing, is the yearly PC management forum which some PE firms have implemented. This forum is a large workshop, where senior managers from the respective PCs are gathered to discuss certain key strategic topics. Some of the interviewed PE firms highlight this forum as especially important during COVID-19, as it fostered discussions on how to handle uncertainty, creating a best practice among managers of different PCs.

## 4.2 Informal MCMs

### 4.2.1 Informal MCMs in a PE context

During normal market conditions, the informal MCMs identified in the empirics are similar to that depicted by past research (Bedford & Ditillo, 2021; Dello Sbarba, 2020). As Bedford & Ditillo (2021) reasons, informal controls are used to strengthen the inter organisational relationship by creating a sense of trust and mutual understanding. In addition, informal controls reduce information asymmetry as information exchange becomes facilitated through both formal and informal channels. This, in turn, allows PE firms to influence the strategic direction of their PCs more effectively. However, the primary conclusion made by Bedford & Ditillo (2021), that informal controls (social controls) are primarily used by PE firms having a minority ownership regardless of the perceived cognitive style (entrepreneurial vs. managerial), differ from our empirical findings. Studying the empirical data, it becomes apparent that informal MCMs are important when managing the inter organisational relationship for all PE firms. Interestingly, two of the interviewed PE firms, albeit recognising the importance of informal controls, also emphasised that it is essential to closely monitor how informal MCMs interact with formal controls. This, as informal MCMs easily can overrun and undermine established formal controls (see section 4.3).

*“The contractual formalities have to be in place, as it is vital when we conduct our governance. It is also important that informal controls do not undermine the formal procedures and accountabilities. In cases when this has happened, especially in situations where minority owners have tried to undermine formal procedures, smaller “kingdoms” in the PCs have formed with tensions between different groups. In such scenarios these owners need either to*

*oblige the contractual agreements or be bought out. Hence, some procedures have to be formally managed.*” - Partner, More Capital

Reviewing the empirical data, three categoric themes of informal MCMs are crystallised. We find that PE firms use these categories to impose informal control in different settings, influencing their PCs in various ways. The first emergent category is *informal interaction in a formal setting*, depicting the conversations and interactions of informal characteristics held in connection to formal forums. These interactions can for example be coffee break discussions held prior, during or after formal meetings, e.g., board or troika meetings, where strategic topics can be informally discussed. Analysing the PE firms' responses, these interactions play a crucial role in discussing proposed solutions or strategic directions which are going to be/have been on the agenda in the formal forum. Having such informal interactions are, to large extent, important in framing the formal discussions, as many of the interviewees state that discussions in the coffee room influence decisions taken in the formal room. This as less formal settings allow discussants to be less bound by procedures and hierarchical dimensions.

*“The conversations held in the hallway between strategic board meetings can be as important as the actual meeting itself, as less formal settings usually foster creativity in my opinion. In this sense, these hallway conversations can have as much impact on the final decision taken as the actual discussion in the formal meeting.”* - Associate, Structure Capital

The second theme which can be deduced from the empirical data is *informal communication devices*, classified as continuous dialogue by Bedford & Ditillo (2021). These communication devices consist of e.g., ad hoc phone calls between the PE firm and the PC, email correspondence and unplanned meetings. For the PE firms these communication devices act as the primary source of information sharing between them and senior management of the PC, where strategic and operational decisions are discussed informally. This further establishes a sense of transparency in the inter organisational relationship, as informal communication devices allow for informal tracking and influencing of operational performance as well as strategic progression. In mitigating information asymmetry, these devices also provide a backbone to formal discussions, where key information is shared, and interests are aligned in informal settings. As previously discussed, establishing trust is a crucial component when PE firms integrate their strategic agenda in their PCs. The final theme, *socialisation events*, plays an important role in developing trust, as it facilitates social interaction in informal settings such as office parties, ad hoc site visits and lunches with PC management. All interviewees stated that personalisation fosters trust, hence social interactions arguably make the inter organisational relationship less formal as they bring down barriers for future formal settings and forums.

#### 4.2.2 Informal MCMs as a uncertainty mitigation device

Having investigated which formal MCMs PE firms use in their control of PCs as conducted in prior research (see e.g., Barber, 2008; Kaplan & Strömberg, 2009; Dello Sbarba et al., 2020; Kaplan & Strömberg, 2021), this paper seeks to develop the understanding of informal MCMs.

The importance of informal controls in the overall control system are underlined in previous studies, but have not yet been extensively studied, nor studied in an uncertainty context. Similar to the formal forms of control which PE firms' exercise towards their PCs, informal MCMs play a crucial role in allowing information flow between the PE firm and the PC as well as allowing for the managing of strategic uncertainties. Studying the concept of uncertainty, it becomes clear that the reliance of informal controls amongst all the PE firms increases as uncertainty becomes more apparent. As evident, following the discussion in section 4.2.1, imposed MCMs adapt to cope with uncertainty. A unanimous finding among the respondents is the importance of the informal contact which is conducted on a daily basis (*informal communication devices*). In times of uncertainty, this informal contact often increases as there is an interest from both the PE firm and the PC managers to jointly discuss different coping methods. Even the informal contacts which one has in the corridor (internal at the PE firm) or the informal discussions before a formal meeting which act as a supporting device fostering interaction and collaboration.

*"I sometimes talk with the CEO, CFO or Chairman of the Board on a daily basis. Doing this, I believe, enforces the purpose of our relationship. That we, as an active owner, can act as a close partner, always open to discuss anything with the key persons which are imperative to drive the PC forward".* - Partner, Open Capital

Further, given the respondents line of reasoning, the different informal controls, adhering to the categorisation depicted in section 4.3.1, vary in degree of importance depending on the given uncertainty. For instance, if an uncertainty revolves around something which might have a smaller impact on the PC in the short term, then *informal interactions in a formal setting* and *informal communication devices* increase in importance.

In some cases, uncertainty comes abruptly, having a destabilising impact on formal controls, where these fail to capture the impact of the uncertainty. In such situations, diffusion on how to respond may spread, causing decisionmakers to become overwhelmed and fail to respond in time and correctly. This, as the foundational MCMs designed to operate under stable environments might prove to be insufficient when answering to new, uncertain, environmental contexts. Considering the interviewees' responses, the informal controls can, in such cases, act as either a *complementing*, *repairing*, or *replacing tool* to the formal controls. Initially, the informal controls have the ability to complement formal MCMs, as these drive discussion, allowing the stakeholders to derive what problems in the MCMs need to be addressed. Going beyond a pure complementary tool, informal controls can repair the destabilised formal controls and push them on the right track by setting new structures which stabilises existing formal MCMs. If the new informal processes become standardised and actively integrated in the overall control system, these MCMs suggestively have the ability to fully replace existing formal controls through formalisation. During the COVID-19 crisis, this was evident among all the PE firms. At first, the PE firms failed to realise the severity of the situation, as formal controls, such as budgeting and KPIs (diagnostic controls), failed to convey the full picture of the pandemics impact. To cope with and reduce this uncertainty, all PE firms therefore, in various forms, used informal MCMs as complementing and repairing tools. What was apparent,

was that the formal measures which the PE firms took to cope with this uncertainty, was heavily influenced and foundationally built on discussions and conclusions initially held in informal forums.

As informal MCMs are increasingly relied upon in times of uncertainty, these controls might even go as far as becoming standardised and as a result become formalised in characteristics. For example, during the COVID-19 crisis, Silent Capital deemed it necessary to start having daily meetings with some of their PC's. Implementing daily follow up meetings was initially a result of informal discussions. These meetings, however, quickly became formalised as it became the new "normal". Another example drawn from COVID-19, can be seen in Open Equity which during the early days of the pandemic started to informally discuss potential financial impact on each of their PCs during weekly meetings. As the crisis escalated, this quickly developed into a forum where the operational performance of each PC was presented by each investment team and further discussed by all professionals in the firm. This, implying that the informal processes transformed into a formal forum. Hence, informal controls have the ability to hijack formal processes in times of uncertainty, turning focus onto what needs to be addressed to cope with a specific uncertainty.

#### 4.3 Interplay of control mechanisms in a uncertainty context

It is apparent that formal and informal MCMs imposed by PE firms on the one hand work independently of each other but are also dependent on each other. In this context, both formal and informal controls provide forums where matters such as performance, position and strategic uncertainties are in focus. Through fostering interactiveness, such forums give PE firms' the opportunity to influence culture, performance, boundaries and strategic agenda throughout the organisation of the PC. Assessing the empirical data, the MCMs allow information to flow effectively between all stakeholders. Through facilitating knowledge sharing and prohibiting information asymmetry PE firms are able to incorporate organisational changes in assumptions underlying the overall control mechanisms of their PCs. As uncertainty increases, the interactiveness of these controls are enforced.

*"It is important to establish a strong foundation of formal controls. This allows us to be responsive as uncertainty of different severity and temporal impact arises. In parity to this, it is important to be responsive when a dilemma is identified, to sit together and try to find a solution to the problem. This shall be rooted in formal controls, solid governance and ownership structures. Quick fix solutions never work."* - Partner, More Capital

With regard to section 4.1 and 4.2, the PE firms during COVID-19 initially refocused existing diagnostic controls, by starting to tightly monitor liquidity and bank covenants as well as alternative financing options such as governmental aid to guarantee the survival of their PCs. Furthermore, belief systems and interactive control systems were enforced, in some cases implementing daily follow up meetings of PCs' health and performance. Although these MCMs are formal in nature, the change in focus could be argued to be a result of informal processes, as solutions and adaptations are initially discussed in informal settings. For instance, when

uncertainty comes about, existing diagnostic controls can prove to be insufficient to handle the new situation. In order to resolve the irrelevance of such controls, new ideas of how to monitor a situation come up on an informal basis (e.g., phone calls with senior management of the PC) which later on is brought up in formal settings (e.g., a board meeting) where decisions are made. The same goes for boundary controls in situations where these are deemed insufficient. A specific problem in the contractual business plan can be brought up in a phone call, which later drives a discussion regarding the need to revise the business plan in a formal setting. Hence, informal controls have a significant impact on how formal controls are designed, which is spearheaded as uncertainty drives the need to change and adapt. On the other hand, as was stressed by the interviewees, informal controls, albeit being an important complement to formal controls, can also destabilise the inter organisational relationship as informal settings can open up for information asymmetry. To regulate this, PE firms try to establish formalised processes where informal controls are managed, in order to prevent informal controls from undermining formal agreements.

*“Formal controls need to be correctly established as they are imperative, having a function on their own but also when combined. The worst thing I know is when information is shared on any other level than on a formal basis. Of course, other forms of controls other than formal are brilliant and have a purpose. If they become too extensive, however, the whole operation comes at risk.”* - Partner, More Capital

Assessing the empirical data, the common thread among the respondents is that there is great importance to continuously be attentive to changes in the external environment. In line with this reasoning, any uncertainty that arises shall be managed through any of the implemented formal or informal controls in the inter organisational relationship. What is clear is that when uncertainty increases, existing formal and informal MCMs are not always sufficient to cope with such events. Therefore, as all the respondents argue, there is a need to be responsive, and continuously question one's underlying assumptions. In this, it becomes apparent that formal and informal controls need to be balanced. In addition, these controls need to be adaptable in accordance with what is needed to manage the specific uncertainty. Considering the dynamics of how change in MCMs is formalised to manage PCs in uncertainty, it is apparent that both formal and informal MCMs influence each other through continuous learning and interaction. As stated in section 4.2.2, informal processes become key to drive the development of formal controls, hence having a complementing, repairing, or replacing function.

## 5. Concluding discussion

### 5.1 Managing uncertainty through MCMs in a PE setting

#### 5.1.1 Formal control mechanisms

To explore the identified research gaps in previous literature on PE firms and MCMs, this paper has conducted a cross sectional case study to understand how MCMs utilised by PE firms change during times of uncertainty (see Figure 3, section 2.5). In general, past research has extensively pointed out the traits of MCMs deployed by PE firms, which has revolved around e.g., contingency, agency and institutional theory and the important role contractual and results controls play when steering and implementing strategies in PCs (see e.g., Dello Sbarba, 2020; Kaplan & Strömberg, 2009; Gilligan & Wright, 2020). By introducing uncertainty to this context, this study expands on the dynamics of each MCM and sheds light on their adaptable nature. In this section, findings related to formal MCMs are addressed, both with regards to their implementation and their continuous development by PE firms.

Firstly, considering uncertainty it becomes evident that boundary controls play an important role for PE firms, working as an insurance policy by regulating the inter organisational relationship, through formal contractual agreements. This is hardly a new finding, however, considering past research (see e.g., Barber, 2008; Bedford & Ditillo, 2021; Rogers et al., 2002). By introducing uncertainty, we add to this literature as we find that boundary controls are iterative in nature. That is, they can be revised over time to remain relevant, as uncertainties arise. For instance, this iterativeness becomes evident when decision makers, in the inter organisational relationship, come at crossroads. In such situations, it might become necessary for the PE firm to adapt existing boundary controls to cope with the new, uncertain, situation. One example of this is when underlying assumptions of a business plan prove insufficient or outdated. In such cases, a revision of original boundary controls might be needed to encapsulate the new situation. This implies that uncertainty has an extensive impact on boundary controls and opens up for the discussion whether past studies collected sufficient amounts of data to fully explain the boundary controls used by PE firms. Hence, this finding indicates that scholars must observe boundary MCMs over a long period of time to fully grasp how these might change and what impact they have on overall PC governance. Whether boundary controls iterative characteristics are conditioned on uncertainty, however, is not necessarily the case. Other variables such as a change in strategic focus or new management might drive a change of boundary controls. With regard to this added nuance, one is able to develop an extended view of boundary controls as described in past literature (see e.g., Bedford & Ditillo, 2021; Dello Sbarba, 2020), which becomes possible when studying the uncertainty context. As uncertainty might not be the only explanatory variable to why boundary controls change, we call for further studies on the topic which analyse data over a longer period of time, to detect how boundary controls change and what factors might drive such changes.

Secondly, our empirical findings suggest that PE firms heavily rely on diagnostic control systems in times of uncertainty as they allow for extensive monitoring and follow up of financial and operational performance of PCs. Moreover, we find that PE firms tend to focus



on specific performance metrics to evaluate the situation as uncertainty increases, similar to the findings by Becker et al. (2016) on how organisations adapt diagnostic controls in times of crises. In line with these findings, diagnostic control systems are found to be crucially important in times of uncertainty and are never fully abandoned or overlooked in the PE context, as some studies have indicated in a broader organisational setting (Bourmistrov & Kaarbøe, 2017; Czarniawska & Hedberg, 1985; Hoopwood, 2009). The choice of what diagnostic controls to use, we find, is not necessarily driven by a set standardised framework which PE firms use to reduce and cope with uncertainty. Rather, the choices are a result of a combination of established tools and intangible variables, such as how long the PE firm has existed, experience of investment professionals, and investment horizon, which jointly influence such decisions. Further, PE firms' PCs operate in different industries meaning that uncertainty might affect these differently. Therefore, how to deploy diagnostic control systems, when uncertainty increases, often differ depending on the characteristics of each PC as specific metrics can vary in degree of relevance. Moreover, what diagnostic controls PE firms use during times of uncertainty is a result of reactive and ad hoc processes. Whether this implies a need to freeze any potential incentive programmes in the short term, to secure liquidity in the PC, or increase follow up processes of specific financial metrics on a day to day basis, depends on what the decision makers deem relevant. These findings expand on the overall understanding of how diagnostic control systems are used and implemented, and further elaborates on how these are affected by increased organisational constraints. What becomes evident, contrasting with past studies (see e.g., Barber, 2008; Bedford & Ditillo, 2021; Dello Sbarba et al., 2020; Kaplan & Strömberg, 2009), is that it is not as easy to classify diagnostic control systems into predetermined procedures as past studies have done. For future studies, it is therefore called for to scrutinise the studied companies on a case by case level, to truly pinpoint how the ad hoc reactive processes impact diagnostic controls.

Thirdly, the study provides additional evidence to past research (Bedford & Ditillo, 2021; Dello Sbarba et al., 2020) on how belief systems are integrated in the overall implementation process of the PE firm's strategic agenda in the PC. Even though the empirical data does not showcase diverging findings with regards to the overall design and formality of this MCM, differences in implementation processes, and the vitality of these, are reinforced during times of uncertainty. For instance, belief systems play a crucial role in ensuring overall adoption of a strategic agenda throughout the PC as well as in maintaining continuous strategic alignment in day to day operations. Not only is this made sure in procedure manuals such as a code of conduct but is also reinforced in formal meetings such as in the troika, board meetings or on site visits. In such settings, belief systems guide discussions and influence strategic decisions made on all organisational levels. While previous studies showcase the extensive usage of such mechanisms (see e.g., Barber, 2008; Bedford & Ditillo, 2021; Dello Sbarba et al., 2020; Kaplan & Strömberg, 2009), the empirical findings provide evidence that these affect the wider organisational adoption of the strategic agenda. The findings underline that belief systems constitute a crucial lever, especially when uncertainty is introduced. Further, investigating how uncertainty influences belief systems, the vitality of having implemented processes ensuring that senior management teams are operationally and culturally fit for each PC becomes apparent. Hence, it becomes vital to continuously evaluate senior management to proactively

mitigate information bias while at the same time establishing trust. Integrating multiple information sources, PE firms further ensure that correct information is presented in time, which is essential to cope with and reduce uncertainty. What becomes evident from these findings, is that past research (see e.g., Barber, 2008; Bedford & Ditillo, 2021; Dello Sbarba et al., 2020; Kaplan & Strömberg, 2009) has to some extent failed to capture the full extent and importance which belief systems pose when PE firms manage their PCs. This, as belief systems act as a formal way of facilitating trust in the inter organisational relationship. Even though belief systems do not play an active role in times of uncertainty, as depicted by the empirical data, these lay a strong foundation which influences how well uncertainty is managed. Hence, future studies should not overlook this mechanism when studying how PE firms control their PCs.

Lastly, this study finds that interactive control systems consist of both formal and informal characteristics, expanding on past findings by Bedford & Ditillo (2021), Bruining et al. (2004) Dello Sbarba et al. (2020). The informal characteristics of this lever are further discussed in section 5.1.2. Bearing uncertainty in mind, we add another dimension to past literature by arguing that interactive control systems constitute the most crucial lever for PE firms, as it acts as a forum where all MCMs are utilised. This contradicts past literature (see e.g., Barber, 2008; Kaplan & Strömberg, 2009) on the notion that diagnostic and boundary controls are argued to be the most important levers. As has been discussed, uncertainty affects all MCMs as these change to effectively cope with and reduce uncertainty. The MCMs, however, do not adapt on their own. Rather, their adaption is a result of interactive processes with key stakeholders in the inter organisational relationship. This is enabled through the existence of an interactive control system, acting as a key enabler for knowledge sharing and strategic opportunity searching. Further, it becomes apparent that this form of MCM is vital in times of uncertainty as it enables and facilitates solution findings, which was especially evident for the PE firms during the COVID-19 crisis. Consequently, the frequency and reliance of interactive forums increases as key strategic decisions and solutions need to be quickly implemented. Thus, we confirm the findings of Bruining et al. (2004), that interactive controls are important for PE firms to detect uncertainty. Moreover, we also expand to Bedford & Ditillo (2021), Bruining et al. (2004), and Dello Sbarba et al. (2020) in that we recognise the importance of all Simons (1995) four levers when PE firms cope with, and reduce, uncertainty. Through interactive engagement from all parties in the inter organisational relationship, these forums, especially the troika and board meetings, have the ability to go beyond knowledge sharing by framing accountability and establishing anchor practices to avoid ad hoc decision making. Being of such nature, interactive controls deployed by PE firms have strong resemblance with what Goretzki & Kraus (2019) describes as an integrative liaison device, forming strong social controls which are formal in nature. Hence, the interactive use of all levers plays a crucial role in PE deployment of MCMs, which becomes evident when studying uncertainty. Considering the impact capabilities which this control has on other formal MCMs, we find that interactive control systems can act as an arena which spurs other controls to change, as the control itself has an ability to adapt to uncertainty and incorporate changes in future interactive processes. One could argue that uncertainty is not the sole driver of this finding as PE firms clearly have

become a driver for operational value creation (see e.g., Kaplan & Strömberg, 2009), a tight interactive use of MCMs could be argued to be a key part in enabling such value creation.

In summary, this discussion pinpoints how uncertainty affects formal MCMs deployed by PE firms and adds depth and nuance to past research (see e.g., Barber, 2008; Bedford & Ditillo, 2021; Dello Sbarba et al., 2020). On the one hand, the study gives a more extensive view on the characteristics of each MCM and develops the understanding of these by arguing that MCMs are adaptable, which is necessary considering the everlasting presence of uncertainty. Moreover, introducing uncertainty allows one to understand that interactive control systems act as an incubator which drives the adaptiveness of other formal MCMs. Overall, this study adheres to the call from Granlund & Lukka (2016), by introducing uncertainty as a new perspective, shedding new light on management accounting theory from a PE context. Through the uncertainty lense, one is able to add to contingency based research, hence addressing the problem of past research being institutionalised. Important to note, however, is that the findings are heavily affected by the COVID-19 perspective, which have influenced how the respondents have reasoned. Without the COVID-19 perspective, the findings might have been deduced differently (e.g., the adaptability of the MCMs). To complement this, for further studies, we propose a more thorough study, scrutinising MCMs change over time, in order to reduce the dependency of a specific uncertain event. Such a study would also allow one to explore other factors, than uncertainty, which might drive MCMs to change over time.

#### 5.1.2 Informal controls

On the notion of informal controls, Simons' (1995) lever interactive control systems have been expanded in this study, to include a categorisation of informal controls influenced by the informal characteristics described by Bedford & Ditillo (2021). In line with Bedford & Ditillo (2021), this study finds that informal MCMs are present and heavily relied upon in the inter organisational relationship. However, when introducing uncertainty, one is able to expand on the role which informal controls have in the PE context. It becomes evident that informal MCMs reduce information asymmetry as information exchange is facilitated through informal communication channels. This finding is similar to Preston's (1986) conclusions, that informal controls are highly valued and of utmost strategic importance as PE firms through informal controls are able to develop trust and conviction with PCs and senior management teams. What has been previously noted by Bedford & Ditillo (2021) however, is that equity ownership and perceived cognitive style have an impact on the degree to which a PE firm relies on informal MCMs, which is not the case when reflecting over the empirical findings of this study. Rather, informal MCMs are constantly present in the inter organisational relationship, especially when uncertainty is considered. In addition, what is visualised in the empirical analysis is that informal controls play an even more important role in how PE firms manage PCs through MCMs than depicted by previous studies (see e.g., Bedford & Ditillo, 2021; Dello Sbarba et al., 2020). Hence, future studies on PE MCMs ought to take informal MCMs into consideration, as failing to do so would not capture the entire inter organisational dynamic between the PE firms and their PCs.

Previous studies have depicted informal controls in a broader MCM categorisation (social controls) (Bedford & Ditillo, 2021; Dello Sbarba et al., 2020). Our findings validate past research on their coherent reasoning that social controls are important, as they help to create a sense of trust while allowing for effective facilitating information exchange and helping PE firms to influence the strategic direction of PCs. The findings provide nuances to the overall perspective of how to regard social controls. This is done, partly by separating social controls into what can be considered as formal (see section 5.1.1) and informal characteristics. This separation allowed us to recognise the importance of social controls in the inter organisational relationship in line with past research (see e.g., Bedford & Ditillo, 2021), while at the same time pinpointing which aspects are formal and informal, and what role these take in the overall MCM dynamic. Further, we partly diverge from the conclusions reached by Bedford & Ditillo (2021), stating that ownership and perceived cognitive style affect what MCMs are used. This study finds that the MCMs classified under social controls are equally important in majority as minority investments, and this is further not affected by the perceived cognitive style of each specific PC. We do not necessarily disagree with Bedford & Ditillo's (2021) conclusion, but rather argue that, considering the empirical data, that their findings do not necessarily convey the entire picture of which MCMs are used by PE firms, especially when adhering to the uncertainty context.

Moreover, this separation allowed us to expand on the characteristics of informal MCMs through the categorisation provided in section 4.2.1. Through the first category, *informal interaction in a formal setting*, one can conclude that informal MCMs (e.g., interactions in the corridor, over a coffee or smalltalk before, during or after a formal meeting) play an important role in influencing decision making activities. The second categorisation, *informal communication devices*, primarily enable efficient information flows between the PE firm and the PC, through ad hoc phone calls and emails. The third category, *socialisation events*, allows for trust building among stakeholders in the inter organisational relationship. Through this categorisation of informal MCMs, one is able to distinguish on a more detailed level what different characteristics informal MCMs' consist of, and further understand their contrasting impingement on the inter organisational relationship. With this, it is possible to extend one's comprehension regarding the dynamics of how informal MCMs affect formal MCMs. Additionally, this study is able to add to past literature (see e.g., Bedford & Ditillo, 2021; Dello Sbarba, 2020) regarding the overall function of informal controls, as these seemingly possess complementing, repairing and replacing characteristics, derived from their influencing and improving capabilities on formal MCMs. These qualities take form in informal processes producing new formal MCMs, implying that informal controls can transform to become formal through standardisation and later formalisation. With these conclusions, this study recognises a need for PE firms to closely monitor informal MCMs as they, if becoming too extensive, can have an ability to undermine formal procedures (see further discussion on the interplay of informal and formal controls in section 5.1.3).

### 5.1.3 Interplay of formal and informal MCMs

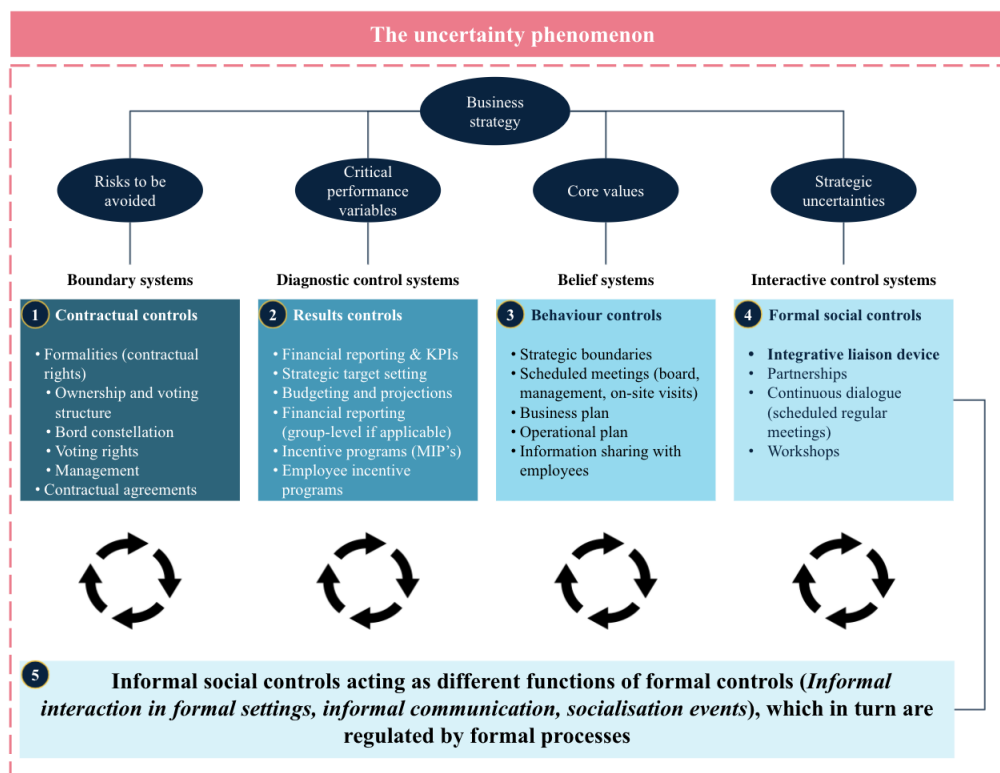
In past literature, diagnostic and boundary control systems have been portrayed as primary levers used in strategic adoption procedures (see e.g., Barber, 2008; Bedford & Ditillo, 2021; Dello Sbarba et al., 2020; Kaplan & Strömberg, 2009). With regard to section 5.1.1 and 5.1.2, we find that this is not necessarily the case, considering that uncertainty sheds light on the interactiveness of the formal and informal MCMs. As there is an apparent interaction between all controls, where informal MCMs influence formal MCMs (and vice versa), allowing PE firms to effectively respond to uncertainty.

Rather, as is evident from the discussion above, MCMs work interdependently. Introducing uncertainty, the reliance of formal and informal controls varies depending on e.g., the situation or the need in the inter organisational relationship. Reflecting on Goretzki & Kraus (2020) COVID-19 article, it becomes apparent that the interactiveness of formal controls is not only a balancing act of diagnostic and interactive control systems. Rather, considering the empirical analysis, there is a need for all MCMs to constantly be balanced allowing for increased awareness and ability to cope with and reduce uncertainty. Clearly, MCMs provide organisations with effective tools to integrate and impose their strategic agenda through tight monitoring, formations of boundaries and rewards for managers and employees. As Simons (1995) reasons, however, these systems need to be balanced, proving to be the main challenge for organisations to cope with. The empirical findings indicate that this phenomenon is highly present when PE firms' steer their PCs. Integrating formal MCMs act as tools allowing PE firms to steer their holdings according to their strategic agenda. This is further complemented by informal MCMs, which becomes increasingly evident during times of uncertainty. For instance, using the example of a crisis, such as the COVID-19 crisis, there is a significant risk that formal controls can become destabilised. In such cases, informal controls can foster interaction and allow solutions to be developed and deployed. Hence, dependence on both *informal interactions in formal settings* and *informal communication devices* heavily increase, as information and idea generation is vital for coping with and reducing such uncertainty. On the other hand, as previously mentioned, having developed trust in the inter organisational relationship is crucially important for tackling uncertainties, and is hence, a continuous process facilitated predominantly through *socialisation events*. Important to understand with this, is that it is imperative to establish foundational trust early the inter organisational relationship, as this could indicate how successful the PE firm and the PC will be when coping with and reducing uncertainty. This balancing act of MCMs permeates all interviewed PE firms' operating strategy, influencing the implementation and usage of these MCMs. In part, this relates to how closely PCs will be monitored, which comes down to the strategic philosophy of the PE firm, e.g., what stake of ownership they take when investing, how long their investment horizon is and the size of the PE firm.

In summary, formal and informal MCMs complement each other in the inter organisational relationship. Seemingly, how MCMs are affected by uncertainty is rooted in the interactive control systems, suggesting that PE firms rely on the interactiveness of both formal and informal MCMs when steering their PCs. This finding is in line with past research (e.g.,

Bedford & Ditillo, 2021; Dello Sbarba et al., 2020) suggesting the presence of both formal and informal MCMs play a vital part of the overall governance strategy. The uncertainty context, however, explicates this relationship more clearly while giving additional insights on the overall MCM dynamics on how these controls work interactively, hence providing additional nuance to past studies on PE firms usage MCMs (see e.g., Barber, 2008; Bedford & Ditillo, 2021; Dello Sbarba et al., 2020; Kaplan & Strömberg, 2009). In situations where such an interactive control system is flawed, the entire management control system in the inter organisational relationship could arguably become sluggish, resulting in slow, or even wrong, responses to uncertainty. This, as information, suggested by past research and reiterated in this study, must be effectively shared in order for PE firms to be successful in developing and implementing solutions in PCs (Bedford & Ditillo, 2021). When studying uncertainty in a PE context, an additional aspect which is evidently important, is that the underlying assumptions of the overall investment thesis and strategic development should continuously be reworked to remain relevant over time. This suggests that MCMs, being adaptable in nature, are subject to a reactive loop learning process where all MCMs, formal and informal, are under continuous scrutiny to maintain organisational balance. If this balance fails to be maintained, issues such as information asymmetry can arise eventually causing undermining of stakeholders in the inter organisational relationship.

Given the findings of this study, practitioners must therefore recognise the constant need to balance the formal and informal controls, in order to mitigate the possibility of undermining either. As a result, we update the theoretical framework presented in section 2.5 (Figure 3) to include the dynamics between formal and informal MCMs during times of uncertainty, which is also applicable for organisations in what can be considered as stable market conditions. For future scholars, and when studying past literature on MCMs in a PE setting, there needs to be stronger recognition and investigation of the informal MCMs PE firms utilise, to effectively cover the entire realm of MCMs (see figure 5). Here it also becomes important for future research to bear in mind the everlasting need to balance all MCMs. Furthermore, practitioners can draw upon this study in their everlasting coping with uncertainty in their PCs, as the findings highlight the importance of recognising uncertainty as a phenomenon, and constantly need to reevaluate assumptions underlying MCMs used.



**Figure 5:** Updated framework crystallising the everlasting impact of informal social controls on all four formal controls categories, with a visualisation of the influence these MCMs have on each other

## 5.2 Added perspectives to MCMs in a broader setting

Reflecting on past literature on MCMs in a broader organisational setting, this study raises some theoretical observations and contributions. Past research investigating organisational response to uncertainty exclusively focus on interactive and diagnostic control systems as important to cope with uncertainty, indicating less use of boundary and belief systems (see e.g., Bourmistrov & Kaarb e, 2017; Comfort, 2007; Firoozye & Ariff, 2016; Goretzki & Kraus, 2020; Janke et al., 2014). Throughout said studies, there is a common focus on one or two primary MCMs, suggesting that past research has to some extent overlooked other MCMs and the role they play in an uncertainty context. In past years, however, some studies have brought forward a nuanced topic by recognising the importance of balancing interactive and diagnostic control systems (see e.g., Goretzki & Kraus, 2020), suggesting that some recognition of the need to balance formal and informal MCMs is needed in organisations. This trend of recognising formal and informal MCMs is similar to the setting which this study has explored. That is, in the cross sectional field study which this study has conducted, several traits of the MCMs used by PE firms can be applied to a broader organisational topic.

The findings presented in this study lay forward an updated view on how uncertainty is to be studied in organisational contexts, and what implications uncertainty might have on MCMs. Past studies have concluded, largely coherently, that, in an uncertainty context, that interactive and diagnostic control systems are deemed of utmost importance for organisational coping and reducing of such uncertainty (see e.g., Bourmistrov & Kaarb e, 2017; Comfort, 2007; Firoozye

& Ariff, 2016; Goretzki & Kraus, 2020; Janke et al., 2014). This study presents findings which indicate that boundary and belief systems may play an even more important role than previously depicted, as they set a foundational backbone from which accountability and decision making power is framed. Diverging from interactive and diagnostic control systems, which may be adapted on short notice according to the needs of the specific situation, boundary and belief systems are reworked reactively after uncertainty has impacted the organisation, as a call to incorporate means to tackle future events. This process can be a result of decisions taken long after such uncertainty is coped with, proving hard to initially distinguish. Hence, considering this study's finding that belief systems and boundary systems are adaptable and play a significant role for organisations in their overall work in coping with uncertainty, future research studying uncertainty in a broader organisational context should take these MCMs into consideration. To do this, scholars must allow for uncertain events to fully emerge, so that the organisation's MCMs, both formal and informal, can adapt accordingly. As this has occurred, one would be able to deduce the true impact of MCMs in such a setting and would further allow one to see how MCMs help steer the organisation out of uncertainty and manage future uncertain events.

Finally, concerning the construction of formal and informal MCMs, we allow for a deeper understanding revolving around how MCMs deployed by organisations are affected by uncertainty. This insight could be adopted to existing management accounting theory, as it allows for nuanced perspectives on how organisations use MCMs to cope with uncertainty. As argued in this study, in line with Ferreira & Otley (2009), Simons' (1995) four levers of control does not account for the full width of MCMs present in organisations, with the framework failing to adhere to cultural and social contexts. Setting these aspects in an uncertainty context, this study is able to further crystalise the importance of such contexts and their influence on MCMs, and moreover visualise a continuous need to balance these with controls considered as formal. In line with Ferreira & Otley (2009), we find that informal MCMs influence how MCMs are developed and deployed in an organisation. Our study adds a nuance to Ferreira & Otley's (2009) line of reasoning, by adding uncertainty as an additional explanatory factor which can provide guidance on how MCMs are affected and deployed by informal factors. Further, this study's findings add to Ferreira & Otley's (2009) findings on informal controls, as we provide a more concrete categorisation of the informal aspects of MCMs, and how these can transform as uncertainty becomes present.

### 5.3 Limitations and suggestions for further research

Naturally, this study is subject to limitations. Firstly, the choice of conducting a cross sectional study was made in order to receive a wider perspective from several PE firms. Nevertheless, such a study suffers a degree of uncertainty in terms of the opportunity to truly pursue an in depth detail and might therefore risk the information transmitted in this study to be biased and flawed. Further, the uncertainty regarding how the findings have been structured and interpreted could be subject for some form of generalisation. Secondly, the interviewed firms are geographically limited to the Nordics, making the findings subject to cultural aspects which might differ from the rest of the world. Lastly, uncertainty is a broad and intangible topic which



is open for interpretation why respondents' answers could be critically viewed. In addition, the interviewed population (16 individuals) could be considered small, why additional interviews with 1) the already interviewed candidates and 2) additional candidates could have further strengthened the empirical findings. In addition to this, the interviewed population is homogeneous, as becomes evident in Chapter 3. The reason is that most of the interviewed PE firms are BO funds. The study, hence, does not convey a diverse picture with insights from various forms of PE firms. Having a wider set of empirical data would have allowed for the authors to convey a more holistic view of the Nordic market, and cluster responses based on different PE types. Further, interviewing the same candidates more than once would have allowed for a more in depth understanding to be developed around specific topics which might not have been as thoroughly discussed, such as ownership stake implication.

The authors furthermore consider the PE industry to be an interesting domain for future research within management accounting theory. Not only could one continue investigating the topic for this study, by partly broadening the interviewed population to include representatives from both the PE firms and PCs, which would allow for further insight to be gained on the notion of how uncertainty is coped with through MCMs. Further, adding diversity to the PE firm type by incorporating firms with longer investment horizons, such as investment firms, VC and GC funds would also allow for additional perspectives and explanatory variables. This, as the study could be argued to solely capture the traditional PE funds way of managing PCs and uncertainty. Further, it could be interesting to expand this study to comprise PE firms from different countries / regions, to get insight into whether MCMs differ depending on cultural setting and if MCMs change differently in such a setting to cope with, and reduce, uncertainty. Through conducting a comparative study, future research could make more general conclusions applicable on a wider organisational context. In doing so, further understanding and nuance can be added to current research on PE firms, and their usage of MCMs. Aside from conducting studies which could add to the PE domain, the authors also call for greater attention on uncertainty research focused on a wider organisational context.

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## 7. Appendices

### 7.1 Appendix 1: Conducted interviews

| PE firm                 | Interviewee         | Interview no. | Forum                   | Duration  | Date       |
|-------------------------|---------------------|---------------|-------------------------|-----------|------------|
| Growth capital          | Partner             | 1             | Teams                   | 45        | 28/9/2021  |
| Forever capital         | Partner             | 1             | Teams                   | 55        | 16/9/2021  |
| Sun Capital             | Partner #1          | 1             | Teams                   | 55        | 17/9/2021  |
| Sun Capital             | Partner #2          | 1             | Teams                   | 50        | 28/9/2021  |
| Sun Capital             | Investment Manager  | 1             | Teams                   | 50        | 15/9/2021  |
| Ghost Capital           | Partner             | 1             | Teams                   | 60        | 10/9/2021  |
| Silent Capital          | Partner             | 1             | Teams                   | 45        | 16/9/2021  |
| Open Equity             | Partner             | 1             | Teams                   | 50        | 11/10/2021 |
| Open Equity             | Business controller | 1             | Teams                   | 55        | 8/10/2021  |
| Heart Capital           | Partner             | 1             | Teams                   | 50        | 13/10/2021 |
| Structure Capital       | Partner             | 1             | Teams                   | 50        | 13/10/2021 |
| Structure Capital       | Associate           | 1             | Teams                   | 40        | 13/10/2021 |
| More Capital            | Partner             | 1             | Teams                   | 50        | 14/10/2021 |
| More Capital            | Associate           | 1             | Teams                   | 50        | 14/10/2021 |
| Raise Capital           | Partner             | 1             | Teams                   | 45        | 15/10/2021 |
| Boast equity            | Partner             | 1             | Teams                   | 50        | 26/10/2021 |
| <b>Total interviews</b> |                     | <b>16</b>     | <b>Average duration</b> | <b>50</b> |            |

**Table 3:** Overview of all interviews held, specified on which firm, position of the interviewee, duration (minutes) and date of each interview



## 7.2 Appendix 2: Interview guide

The interview guide was over time adapted and customised over time, based on the authors becoming more confident in asking guiding questions, but also based on the role and position of the interviewee. Below is an indicative list of some themes which were commonly addressed during the interviews.

### **Background of interviewee**

- Education
- Professional experiences prior to joining [PE firm]
- Why did you join [PE firm]?

### **Broad questions about [PE firm]**

- Foundational principles and investment strategy
- Team setup and organizational structure

### **The investment process at [PE firm]**

- Selection criteria (e.g., environmental impact, financial)?
  - How is risk assessed in the selection phase?
- Due diligence and strategy formulation?
- Typical procedure post acquisition?
  - Strategy, implementing new management, Governance, Centralise accounting?
- What contractual controls are relevant after the transaction?
- What belief systems (Code of conduct, cultural controls) do you use?
- Do you have any forums where you discuss strategic uncertainties internally and with the portfolio companies?
- What diagnostic control systems do you use?

### **Management Control systems**

- What do you think when we say control systems (to impose governance control)
  - If dividing them into formal and informal, what would you classify as formal vs informal?
- The overall control system(s) of (internal and for portfolio companies)
  - Implementation of the control system (how is it constructed, implemented, and used): Mobilization of KPIs to steer portfolio companies, follow up
- What typical formal controls do you use?
  - To what extent does this impact your day to day interaction with the portfolio company?
- What typical informal controls
  - To what extent does this impact your day to day interaction with the portfolio company?
  - Do you have an example of an informal control becoming standardised to the extent that it can be considered formal?

## Uncertainty

- What do you think of when we say uncertainty? Based on this, how would you separate risk and uncertainty?
  - Into what categories would classify uncertainty?
    - Operational (day to day uncertainty) - example: ship in Suez Canal causes bottleneck in supply chain - costs and inventory affected in portfolio company. What do you, as an active owner, do? What have you learnt from past day to day uncertainties and how is this reflected in MCMs?
    - Crisis (black swans) - example: COVID-19 or 08' financial crisis.
  - When you handle uncertainty (day to day or in a crisis), you base your action on a set of assumptions. There is probably uncertainty in that those assumptions might be wrong or outdated (does not work on the case-specific uncertainty? How do you approach this?
    - More specifically, how do you deal with uncertainty in assumptions?
    - If your assumptions always are the same, consider a stable environment. How would you deal if the environment changes?
- Are there any specific formal MCMs (budgets, KPIs etc,.) that are of extra importance in helping you manage day to day & crisis uncertainty?
  - Which are most important?
- Are there any specific informal MCMs (day to day meetings, informing employees) that are of extra importance in helping you manage day to day uncertainty?
  - Which are most important?