

# **Budgeting and employee stress in times of crisis: Evidence from the Covid-19 pandemic**

## **Abstract**

Prior research has shown that management control practices change in response to global crises, yet we have little understanding of the behavioral consequences of these changes. The purpose of this study is to explore the behavioral effects that stem from crisis-induced changes to management control practices and the factors that intensify or diminish these effects. Using survey data from business unit managers in the Netherlands, our results show that firms tighten their budget controls in response to a negative impact of Covid-19. In turn, the tightening of budget controls is positively associated with employees' emotional exhaustion because of increased perceptions of role ambiguity and role conflict. We furthermore find that the effect of tighter budget controls on role ambiguity is mitigated when managers perceive that the budget controls are used in an enabling way prior to the crisis but heightened with increased trust in senior management. These results suggest that if firms use their budgets to help managers acquire a deeper understanding of their tasks and responsibilities, they are better able to respond to a negative shock and the accompanying tightening of budget controls, which helps mitigate the undesired behavioral response of increased role ambiguity and emotional exhaustion. Our findings also suggest that trust, which usually is beneficial to organizations, has a 'dark' side in that managers will push themselves harder to reciprocate the trust they have in their senior managers, which exacerbates the effect of tighter budget controls on role ambiguity and, in turn, emotional exhaustion.

**Keywords:** Role stress; Emotional exhaustion; Budgeting; Crisis; Enabling budgets; Trust in superiors.

## **Budgeting and employee stress in times of crisis: Evidence from the Covid-19 pandemic**

*“Six months into the pandemic, it is clear that our nation’s workers are experiencing mental and emotional exhaustion” Colleen McHugh, President, Health Care Policy Roundtable (Yahoo! Finance, 2020)*

### **1. Introduction**

In answer to calls from prominent researchers (Hopwood, 2009; Van der Stede, 2011), several studies have shown that management control (MC) practices change in response to global crises as firms attempt to manage the accompanying uncertainty and financial strain (Asel, Posch & Speckbacher, 2010; Becker, Mahlendorf, Schäffer & Thaten, 2016; Casas-Arce, Indjejikian & Matějka, 2020; Janke, Mahlendorf & Weber, 2014). A particularly common short-term response is to centralize decision-making and to intensify control (Czarniawska-Joerges, 1988, Milburn, Schuler & Watman, 1983, Staw, Sandelands & Dutton, 1981). However, our knowledge of the behavioral effects of these responses remains limited (Van der Stede, 2011). The purpose of this study is to develop more comprehensive insights into the effects of intensifying control in response to a crisis. Focusing on the budget as a central component of the MC package of most firms, we examine the following research questions: How do firms change budget tightness in response to a global crisis and what are the implications for employee stress and emotional exhaustion? Moreover, under what conditions are those stressors either mitigated or exacerbated?

The management and organization literatures define an organizational crisis as an event that “(1) threatens high-priority values of the organization, (2) presents a restricted amount of time in which a response can be made, and (3) is unexpected or unanticipated by the organization” (Hermann, 1963, p. 64). Across the globe, the Covid-19 pandemic triggered such a crisis. In 2020, world output shrank by 4.3 per cent, which is over three times more than during

the global financial crisis of 2009 (United Nations, 2021). Companies and entire industries faced disruption in their supply chain, mode of working, customer demand, and capital sufficiency, while people faced increasing unemployment and poverty. Overall, the Covid-19 pandemic is not only a public health crisis, but also an economic crisis with a substantial impact on firms' operations and financial performance.

The crisis brought about by Covid-19 has also had significant effects on employees. Employees are working remotely, for longer hours, dealing with increased uncertainty, worries, and disruptions, and experiencing demand overload from juggling multiple tasks, all of which can culminate in exhaustion and burnout (Schelenz, 2020). In the U.S. alone, workplace stress is estimated to cause a loss of 550 million workdays, costing the economy more than \$500 billion annually (Seppälä & Cameron, 2019). Accordingly, it is important to gain further insight into whether changes in budgeting practices that result from Covid-19 further compromise employees' well-being, and, if so, whether they can be mitigated.

We are specifically concerned with emotional exhaustion, which Maslach, Schaufeli and Leiter (2001, pp. 402-403) state "is the central quality of burnout and the most obvious manifestation of this complex syndrome." Emotional exhaustion is a chronic state of physical and emotional depletion that results from excessive job demands and sustained stress and is associated with negative effects on work attitudes and job performance (Cropanzano, Rupp & Byrne, 2003; Wright & Cropanzano, 1998). A typical response for firms facing a crisis is to tighten their budget controls (e.g., Czarniawska-Joerges, 1988; Staw et al., 1981). We define tighter budget controls as the increase in the attention paid to achieving more rigid budget targets. Under normal operating circumstances, judicious use of tight budget control may be associated with positive outcomes such as enhanced goal clarity, stronger sense of direction, and

increased probability that employees' actions are consistent with organizational objectives (Johansson & Siverbo, 2014; Marginson & Ogden, 2005; Simons, 1988). However, when firms tighten their budget controls suddenly in response to a crisis, these controls tend to become misaligned with longer-term strategic objectives. Consequently, we expect that employees will feel increased emotional exhaustion because they perceive uncertainty regarding what they are supposed to do (role ambiguity) or believe that they are expected to complete conflicting tasks and objectives (role conflict).

Using survey data from 83 business unit (BU) managers in the Netherlands, our results confirm that firms tighten their budget controls in response to an increasing negative impact of Covid-19. As expected, the tightening of budget controls increases managers' emotional exhaustion because of increased perceptions of role ambiguity and role conflict. We also find that the effect of tighter budget controls on emotional exhaustion through role ambiguity is mitigated when the budget controls were perceived to be used in an enabling way prior to the crisis but exacerbated by greater trust in senior management.

Our study makes three contributions to the literature. First, we further our knowledge of the changes firms make to budgeting practices in response to a crisis. Prior quantitative research of budgetary responses is limited to the study by Becker et al. (2016), who examine changes in the role of the budget following a global crisis. They concluded that the planning and resource allocation functions (performance evaluation) of budgeting become more (less) important as firms react to the financial distress that accompanies a crisis. We complement this research by examining changes in the tightness of budget control, contributing to a better understanding of how budgeting practices are implicated in and affected by organizational responses to a crisis.

Second, our results contribute to the MC literature by providing evidence on the behavioral implications of tightening budget control in the strenuous conditions of a global crisis. In relatively stable conditions, prior literature has provided mixed results on the relationship between MC practices and role stressors. For example, Marginson (2006) finds that rich information channels (e.g., face-to-face information flows) are not related to role stressors. Other research, though, finds that in some cases certain MC practices heighten role ambiguity and role conflict (e.g., Marginson & Bui, 2009), but in other cases diminish their effects (Burkert, Fischer & Schäffer, 2011; Burney & Widener, 2007; Marginson, 2006; Marginson, McAulay, Roush & van Zijl, 2014). We extend this line of research by examining the effects of tightening budget controls in response to a global crisis. Crises-driven budget tightening differs from regular intensification of budgetary control in that the former is sudden and ‘decoupled’ from strategic objectives. Consistent with our theoretical predictions, we show that, in this environmental situation, tightening budget controls increases role ambiguity and role conflict, and in turn, emotional exhaustion. This is an important extension to the MC literature, which thus far has been silent on whether MC practices are associated with emotional exhaustion, even though emotional exhaustion is a significant and costly phenomenon for organizations.<sup>1</sup> In addition, by specifically locating our research in a global crisis, we extend the empirical domain of our knowledge regarding the psychological consequences of MC choices (Hall, 2016). Our results also have practical implications since firms that are interested in more effectively managing the stress and mental health issues that employees are facing during Covid-19 (and other global crises) may need to be careful when they adapt their budget controls.

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<sup>1</sup> In the accounting literature, some studies have examined burnout and emotional exhaustion of accountants in their work setting (e.g., Dalton, Vinson, & Widener, 2020; Sweeney & Quirin, 2009), but we are not aware of studies examining whether and how MC practices can lead to increased emotional exhaustion or can help to mitigate this outcome.

Finally, our results indicate that there are important boundary conditions on the behavioral effects of tighter budget controls. Thus, we nuance the MC literature by showing that the effect of tighter budget controls on role ambiguity decreases as the organization has a history of using budget controls in an enabling way but increases as the trust BU managers had in their senior management increases. These findings result in two insights. Managers appear to respond more favorably to tighter budget controls if prior to the change, they were subjected to budgets that enabled them to effectively handle contingencies that arise in their work tasks and facilitate their learning. Such managers are better able to handle role ambiguity associated with a sudden tightening of budget controls, mitigating the undesirable effect on emotional exhaustion. This confirms that enabling controls help managers cope with job demands, but also shows that these benefits continue to hold in the extreme conditions that accompany a crisis. Consequently, if managers perceive the budget to be enabling, firms that decide that the appropriate response to a crisis is to tighten budget controls have more room to do so without overburdening their employees. Furthermore, we show that trust, which usually is beneficial to organizations, has a ‘dark’ side in that employees will push themselves harder to reciprocate the trust they have in their senior managers, thus exacerbating the stress induced by tighter budget controls in the form of role ambiguity and, in turn, their emotional exhaustion. Hence, firms where trust is high need to exercise caution when adapting their MC practices in response to a crisis.

Our study proceeds as follows. Section 2 provides background information and develops the hypotheses. Section 3 discusses research methods. Section 4 presents the results. Finally, in Section 5, we discuss the implications and limitations of this study.

## 2. Theoretical Development

In this section, we develop our theoretical expectations, which we depict in Figure 1. Our core argument is that firms' initial response to a negative shock of a crisis is to tighten budget controls, which leads to role stress for BU managers and, ultimately, to emotional exhaustion. The ability of these managers to cope with the sudden change, however, depends on pre-existing conditions, i.e., the extent to which they perceive that budgets were enabling, and the extent to which they formed trust in senior management in the time preceding the crisis. We first address firms' response to the crisis by examining the relationship between the crisis impact and the extent that tighter budget controls are imposed on BUs. We then assess whether tighter budget controls are associated with higher levels of emotional exhaustion because of perceptions that role ambiguity and role conflict increase. Finally, we consider boundary conditions on the relationship between tighter budget controls and role stressors by examining the moderating effects of the perceptions that budgets are enabling and the preexisting trust in senior management.

<insert Figure 1 about here>

### *2.1 The effect of a crisis on budgetary control*

Crises are typically characterized as presenting a substantial threat to an organization's goal achievement, a high degree of uncertainty and ambiguity, a lack of controllability, and a limited timeframe in which to respond (Bundy, Pfarrer, Short & Coombs, 2017; Pearson & Clair, 1988). The necessity to act quickly to minimize the potential impact of a crisis means that organizational decision-makers are unable to fully evaluate feasible alternatives. While more fundamental changes to strategy and structure may occur in the longer term, immediate

responses to crises tend to be rigid and risk averse (Sitkin & Pablo, 1992; Staw et al., 1981). Short-term responses take the form of more centralized decision-making and enhanced control to ensure that there is a concerted effort to address the threat (Milburn et al., 1983; Staw et al., 1981). Staw et al. (1981), for instance, observe that the typical response includes a tightening of available budgets and intensification of efforts to ensure accountability, while Czarniawska-Joerges (1988, p. 417) suggests that the “almost reflexive response of management to a decline situation is one of tightening control.” We therefore expect that in response to the Covid-19 pandemic, depending on the severity and direction of the perceived impact, firms will increase the tightness of budget control.<sup>2</sup>

Tightening budget control implies that the focus on achieving more rigid budget targets increases. Senior management puts additional emphasis on meeting the budget, becomes less tolerant of deviations from budget targets, and increases the frequency of diagnostic budget-related interactions with subordinate managers (Van der Stede, 2001), leading to a more pronounced budget culture (Anderson & Lillis, 2011). Our reasoning is consistent with Becker et al. (2016) who, in a related study, found that firms place more importance on planning and resource allocations purposes of budgeting during an economic crisis. This discussion leads to our first hypothesis:

**H1.** A more negative impact of the Covid-19 pandemic is positively associated with a tightening of budget controls.

## *2.2 Budget control tightening, role stress and emotional exhaustion*

In the literature, tight budgetary control has been associated with both positive and negative organizational and behavioral consequences. For instance, Johansson & Siverbo (2014)

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<sup>2</sup> Acknowledging that firms’ responses to a crisis may also include budgets cuts, increased centralization, and stricter control in general, we control for a broader set of potential responses in our empirical analysis.



show that in a context of volatile resource availability, budget tightness increases the likelihood of meeting budget targets, while Marginson and Ogden (2005) argue and find that managers confronted with uncertainties regarding expectations may embrace tight budgets as they offer a source of structure and certainty. On the other hand, a large body of work has examined the negative effects of budgetary tightness in terms of excessive short-term behavior, manipulation of performance measures, and increased job-related tension (e.g., Hopwood, 1972; Merchant, 1990; Otley, 1978). Our study, however, examines budget tightness changes as a sudden, ad hoc response to an immediate threat posed by a global crisis. Under normal circumstances, the level of budget tightness can be expected, at least on average, to be aligned with the overall MC package of which it is part, the objectives the organization is trying to achieve, and the circumstances in which the organization operates (Bedford & Malmi, 2015). Additionally, one would expect the budgets themselves to be consistent with the goals of the organization. This logic, however, does not necessarily apply if budget tightness changes as part of an almost instinctive reaction to a crisis. In a reflection on the global financial crisis, Hopwood (2009) notes that an increased focus on short-term financials is an internal, inward-looking response. The cause of the crisis, however, was external, and the “longer term adjusting, functioning and possibly survival of the organization required an externally oriented shift in strategy” (Hopwood, 2009, p. 800). Strategic objectives, however, are usually left untouched, at least initially.<sup>3</sup> In fact, organizations have been found to place renewed emphasis on their original objectives when confronted with external threats (Hall & Mansfield, 1971), rather than acknowledging that changing circumstances mean those objectives may no longer be viable (Hopwood, 2009; Staw et al., 1983). Consequently, budgets and strategies become misaligned – the budget is no longer

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<sup>3</sup> In the longer run, organizations will need to adjust their priorities if the effects of the crisis persist. The MC implications of this are studied in Janke et al. (2014). Our focus, however, is on the short run response.

the short-term financial translation of a longer-term plan, but rather an additional demand placed on the subordinate. Furthermore, the imposition of tighter budget control makes it more difficult to achieve the local objectives of the BU, further compounding the extent of demands place on the subordinate (Maas & Matějka, 2009). When faced with an intensification of job demands for an extended period, individuals incur psychological and physiological costs that drain their energy, resulting in emotional exhaustion (Crawford, LePine & Rich, 2010; Maslach et al., 2001). Accordingly, we expect that the effect of budget tightening will impact emotional exhaustion indirectly through the increased cost of role stress.

Role stress refers to the feeling of being unable to fulfill one's role expectations (Burkert et al., 2011) and has two main dimensions: role ambiguity and role conflict (House & Rizzo, 1972; Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964; Rizzo, House & Lirtzman, 1970). Meta-analyses on the correlates of burnout demonstrate that these role stressors are strongly associated with increases in emotional exhaustion (Alarcon, 2011; Crawford et al., 2010; Lee & Ashforth, 1996).

Role conflict denotes a perceived inconsistency in role expectations (House & Rizzo, 1972) and occurs when compliance with one demand makes it more difficult to comply with another, equally pressing request (Kahn et al., 1964). Prior accounting research suggests that emphasizing budget goal attainment in the presence of other role expectations that are perceived to be incompatible (e.g., to be innovative whilst simultaneously pursuing strict budget goals) will increase perceived role conflict (Marginson & Bui, 2009). Similarly, Maas and Matějka (2009) find that role conflict increases when subordinates have greater functional responsibilities from corporate superiors in addition to their local BU accountabilities. In line with these prior findings, we expect that the sudden budget tightening presents managers with additional role

pressures that are incompatible with existing local and organizational objectives. Increased role conflict, thus, is the likely result.

The lack of alignment of short-term budget controls and strategic aspirations also increases role ambiguity for budget holders. Literature conceptualizes role ambiguity as a gap between the available information and the information required to adequately perform a role, which causes employees to lack certainty regarding what they are to do (Kahn et al., 1964). The sudden tightening of the budget imposes significant uncertainty on a budget holder as they need to consider not only how decisions will address immediate financial concerns of the organization but also how they will impact the achievement of local and longer-term strategic objectives. As organizational decision-making becomes more centralized when faced with significant threats (Milburn et al., 1983; Staw et al., 1981), budget tightening is likely to be imposed through a top-down approach with minimal participation from subordinates. This restricted information flow deprives subordinates of the opportunity to clarify role expectations and responsibilities and receive instructions on how they should balance inevitable trade-offs (Chenhall & Brownell, 1988; Parker & Kyj, 2006). As such, subordinates imposed with crisis-induced budget tightening face greater ambiguity concerning how to fulfil multiple role responsibilities.

We summarize the preceding discussion in the following hypotheses:<sup>4</sup>

**H2a.** In a crisis setting, a tightening of budget controls is positively associated with emotional exhaustion of budget holders via role conflict.

**H2b.** In a crisis setting, a tightening of budget controls is positively associated with emotional exhaustion of budget holders via role ambiguity.

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<sup>4</sup> We formulate H2a and H2b as path hypotheses in which the effects of budget control tightening are mediated by role conflict and role ambiguity. This formulation implies that we expect positive associations between budget tightening and both role stressors.

### *2.3 The effect of enabling budgets*

The effects of a crisis-driven change in budget tightness are not expected to be universal but are conditional on pre-existing organizational factors. Specifically, we expect that budgeting systems designed to be enabling and perceived to work in that way, will function to mitigate the effects of a sudden budget tightening on role stressors. Following the seminal work of Adler and Borys (1996), enabling controls have been conceptualized as those that support managers in dealing more effectively with contingencies that arise in the course of their work by drawing on, rather than replacing, their intelligence and experience (Ahrens & Chapman, 2004; Chapman & Kihn, 2009; Jordan & Messner, 2012; Jørgensen & Messner, 2009; Wouters & Wilderom, 2008; see also Bisbe, Kruis, & Madini, 2019, for a meta-discussion of the concept).

It is important to emphasize that budgets can be both tight and enabling at the same time. Budget tightness refers to the attention that senior management gives to the achievement of more rigid budget targets, while enabling budgetary control refers to the way in which subordinate managers perceive budgets as a tool to support their work. Apart from this conceptual distinction, the two aspects of budgetary control also differ in their malleability. Budget tightness is a true choice variable that can be quickly adjusted in the short-term, for instance, in response to an acute crisis. Building a budgetary system to be enabling, however, takes considerable time. In their case study on the development of an enabling performance measurement system, Wouters and Wilderom (2008) report that the success of development efforts hinged on the ability to mobilize and incorporate employee experience in the form of existing skills and local practices, a willingness to experiment, and a general openness to learning. This implies a process that cannot simply be imposed on the organization, but one that requires patience, persuasion, and local autonomy. Moreover, the enabling quality of budgetary control is predicated on the

experiences and beliefs of the subordinates that work with these budgets, and which need to become entrenched in the informal structure of the organization before enabling control can be fully effective. Informal structures are slow-moving as they are subject to inertia (Nickerson & Zenger, 2002; Hofmann & van Lent, 2017), meaning that changes only become manifest with a substantial time-lag. Thus, even though organizations can deliberately seek to enhance the enabling quality of their control systems and enabling budget control can accordingly be seen as a choice variable, it is only a true choice in the longer term. In the short term, it effectively functions as a contextual factor.

This pseudo-contextual factor is important to better understand how employees react to the sudden crisis-induced tightening of budget control, and as such, we need to take into account employees' cumulative experience with the budgeting system at the moment the crisis emerged. We expect that budgets perceived as enabling will mitigate the effect of budget tightness on role stressors, and ultimately on emotional exhaustion, for two main reasons. First, subordinates that view the budget as an enabling device are likely to perceive that they have greater self-determination and capacity to respond to the increased role demands resulting from crisis-induced budget tightening. Budgets with an enabling design provide transparency around how costs are constructed, the nature of their behavior in response to changes in activity and allow budget information to be tailored to local circumstances (Ahrens & Chapman, 2004). This provides individuals a greater opportunity to learn how best to meet enhanced job demands imposed by tighter budgets. Therefore, the effect of tightening the budget on role conflict is at least partially mitigated. Enabling budgets also connect local actions to the concerns of other departments and the wider organization, allowing for a better prioritization of tasks and coordination of efforts to meet budget objectives (Chapman & Kihn, 2009). This improved

informational position reduces the uncertainty around how tighter budget targets are to be achieved, thus helping to mitigate the effect of budget tightness of role ambiguity. In sum, as enabling budgets are designed to support individuals in responding to emerging contingencies in a structured but flexible manner, they increase the ability to identify appropriate courses of action, strengthen the feelings of competence to choose between them, and imply a license to do so. Accordingly, we expect that enabling budgets will enhance individuals' perceived discretion regarding alternative courses of action and provide them with increased psychological resources, thus, reducing the tendency of budget tightening to increase role ambiguity and role conflict. This expectation is consistent with job demands-resources theory, which posits that whether increased job demands result in exacerbating role stressors and burnout is dependent on the level of discretion and psychological resources available to the individual (Bakker, Demerouti, & Euwema, 2005; Crawford et al. 2010; Karasek, 1979).<sup>5</sup>

Second, the attributions made by individuals to the job demands imposed by tighter budgets will be influenced by how the budget is designed. Initial attributions of job demands as either challenges or hindrances have subsequent effects on individuals' cognition and their ability to cope (Crawford et al., 2010). In isolation, crisis-induced budget tightening is likely to be seen as hindering or constraining the capacity for goal attainment, resulting in increased role conflict, role ambiguity, and emotional exhaustion. However, increased job demands in the context of an enabling budget are more likely to be perceived as a challenge than as a hindrance. An enabling budget is designed to be a tool that supports active problem-solving and flexible adjustment (Ahrens & Chapman, 2004), giving individuals a sense of control in their ability to

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<sup>5</sup> Please note that other resources (e.g., physical, social, or organizational) are also likely important for perceived job demands (Bakker et al., 2005) during a crisis. We revisit this issue in our robustness checks, where we specifically control for additional resource constraints via crisis-induced target adjustments.

adapt to the job demands they face (Kilroy, Flood, Bosak, & Chênevert, 2016). Therefore, the effect of budget tightness on role ambiguity and conflict, and subsequently emotional exhaustion, should be lessened as individuals who perceive the budget as enabling are better able to cope with the increased challenge of tighter budgets.

This discussion leads to the following hypotheses:

**H3a.** In a crisis setting, enabling budgets mitigate the effect of a tightening of budget controls on role conflict.

**H3b.** In a crisis setting, enabling budgets mitigate the effect of a tightening of budget controls on role ambiguity.

#### *2.4 The effect of trust in senior management*

A central factor for understanding role stress and job outcomes is trust, which refers to the willingness of an individual to accept vulnerability to the actions of another party based on positive expectations about their attributes (Mayer, Davis, & Schoorman, 1995; Rousseau, Sitkin, Burt, & Camerer, 1998). In this study, we are concerned with BU managers' trust in senior management (i.e., their direct superiors), as this is a central determinant of role outcomes (Maslach et al., 2001). Most prior research considers trust in superiors as an inherently positive trait and has been concerned with demonstrating the direct effects on outcomes such as organizational commitment, psychological safety, job satisfaction, and performance (Colquitt, Scott, & LePine, 2007; Dirks & Ferrin, 2002; Li & Tan, 2013). Some evidence also indicates that trust in superiors directly reduces role ambiguity and role conflict (Burkert et al., 2011). However, research in organizational psychology suggests that many of the important consequences of trust are not direct determinants of behaviors, but rather act by influencing the direction or strength of the relationship between a behavioral cue and the resulting behavior (Dirks & Ferrin, 2001). Furthermore, recent research argues that trust can have a dark side, in

that the consequences of trust are not always positive for one or more of the parties involved (Skinner, Dietz, & Weibel, 2014).

Trust in one's superiors is at least partly the result of a series of beneficial social exchanges based on a norm of reciprocity, whereby beneficial treatment in the present creates an obligation in the future (Blau, 1964; Cropanzano & Mitchell, 2005; Gouldner, 1960). Rousseau et al. (1998) note that while researchers often consider trust to be a static construct, it does evolve over time. For example, with repeated interactions over time, subordinates are able to assess whether their superiors behave consistently and act in accordance with their words (Whitener, Brodt, Korsgaard, & Werner, 1998). As subordinates observe their superiors' behavior across time and in different situations, trust develops and evolves from weaker to stronger forms (e.g., Jones & George, 1998; Whitener et al., 1998). While trust can also decline, time is required as subordinates may 'forgive' initial behaviors that they perceive are in opposition to their expectations (Jones & George, 1998). Consequently, the level of trust that subordinates have in their superiors will condition how they respond to increased role demands. When requests come from trusted superiors, individuals are likely to devote greater attention and effort towards achieving expected performance outcomes than if the task is imposed by parties that are less trusted (Dirks & Ferrin, 2001). However, they are likely to feel more restricted in how they respond to a request made from someone they trust, with the pressure to fulfil the obligation felt more intensely (Skinner et al., 2014). As such, individuals who have high levels of trust in their superiors are more likely to feel pressured to comply with requests even if fulfilling the obligation leads to negative cognitive and affective outcomes.

Specifically, we expect that BU managers' trust in senior management will increase emotional exhaustion by exacerbating the negative effect of crisis-induced budgeting tightening



on role stressors. When tighter budgets are imposed, these new obligations for role performance are considered in relation to existing obligations that the subordinate has. When subordinates have high trust in their superiors, they will feel more intensely the pressure to meet existing as well as prior obligations. This is especially the case for BU managers whose primary loyalty tends to reside with their local team (Maas & Matějka, 2009). However, with a decreased tolerance from senior management for budget deviations, these sets of obligations are likely to be in conflict. Therefore, trust will amplify the effect of budget tightening on role conflict.

Trust in senior management is also expected to moderate the relationship between budget tightening and role ambiguity. As we argued previously, the sudden increase in budget tightness places considerable uncertainty on budget holders as to how these new expectations are to be realized. When these expectations come from a trusted party, the uncertainty imposed by budget tightening will be felt more acutely as they experience greater pressure not to disappoint their senior managers, while at the same time feeling obligated to fulfil local role responsibilities.

In sum:

**H4a.** In a crisis setting, trust in senior management exacerbates the effect of a tightening of budget controls on role conflict.

**H4b.** In a crisis setting, trust in senior management exacerbates the effect of a tightening of budget controls on role ambiguity.

### **3. Research method**

Our study is set in the Netherlands. The Dutch economy shrank considerably during the early phases of the Covid-19 pandemic: GDP in the second quarter of 2020 (i.e., the time when we collected the data) was 8.5 per cent lower than the first quarter of that year, and 9.3 per cent

below the second quarter of the year before (CBS 2020).<sup>6</sup> Schools and businesses in the restaurant, hospitality, entertainment and cultural sectors had mandatory closure from March 15 to June 1, 2020. This was followed by restricted openings afterwards, requiring significant adjustments to operational facilities to implement safe working conditions. In all other sectors, apart from healthcare, workers were generally advised to work from home, necessitating substantial changes to how organizations operated. Overall, the ramifications of Covid-19 for organizations in the Netherlands make it a particularly relevant setting for our study.

### *3.1 Sample selection and data collection*

Data were obtained from an online questionnaire, which we designed and administered following the recommendations of Dillman, Smyth and Christian (2009). We pre-tested the questionnaire with seven managers representative of the target population (who were not included in the final sample) and three academics in the field of MC. This process resulted in minor changes to item wording and questionnaire structure.

A concern in collecting data during the Covid-19 pandemic is adequate respondent identification and response rate. To mitigate these issues, we relied on students from a part-time, post-experience MSc-program to identify and contact potential respondents. Although this means that our sample is not random, we are not aware of any systematic bias in our study. Firm and respondent characteristics are sufficiently diverse and responses to questionnaire items demonstrate comparable variation to prior studies examining similar constructs. Students were instructed to apply the following criteria in selecting potential respondents: (1) respondents are BU managers in for-profit organizations, (2) respondents have either profit or investment center

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<sup>6</sup> Some sectors benefitted, however. For example, in the Netherlands the total revenues of home improvement stores in the second quarter of 2020 were more than 20 per cent higher than in Q2 of 2019.

accountability, (3) BUs employ at least 15 full time equivalent employees, (4) BUs serve external customers, and (5) respondents report to a higher hierarchical level holding executive responsibilities within the firm. These criteria were implemented to ensure that BUs face market pressures, are likely to have budget systems in place, and respondents have appropriate decision-rights and responsibilities.

A total of 172 BU managers were contacted. Following initial contact, instructions to complete the online questionnaire were sent on May 25<sup>th</sup>, 2020. The survey remained open until June 24<sup>th</sup>, 2020, during which time three reminder emails were sent to those yet to respond. From the 107 respondents that started the survey, 85 were completed.<sup>7</sup> Two completed responses did not meet our selection criteria. This resulted in a usable sample of 83 observations, representing a response rate of 48.3%, which compares favorably to survey research in the MC literature (Bedford & Speklé, 2018a). The final sample of 83 respondents are from unique BUs across 55 companies.<sup>8</sup> Tests show no significant differences between early and late respondents regarding firm and respondent characteristics as well as mean values of variables used in tests of hypotheses ( $p > 0.05$ ). Table 1 provides an overview of industry, firm, and respondent characteristics.

<Insert Table 1 about here>

We minimize the potential for common method bias through careful questionnaire design and implementation (Speklé & Widener, 2018). Specifically, we pretested our survey instrument

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<sup>7</sup> A handful of completed surveys contained a few missing items. However, these did not affect any of the variables used in this study.

<sup>8</sup> Although our sample includes multiple respondents from the same organizations, the level of analysis is the BU, and specifically the individual perceptions of BU managers. However, to alleviate any concerns regarding the independence of our observations, we reran the analysis shown in Table 6 with 55 observations. Where multiple responses came from the same organization, we randomly selected one response to retain. In this analysis, although the magnitude of coefficients varied, the outcome of hypothesis tests remained the same as those reported in Section 4.2.

to ensure questions were clearly and concisely stated. We avoided double-barreled questions, varied the number of response categories and types of scale anchors, included reverse worded items, and provided anonymity to respondents. The topic was salient to respondents, and we took care to ensure that respondents had the necessary knowledge and expertise to respond the survey questions (MacKenzie & Podsakoff, 2012). We also conduct Harman's one factor test on all items used in the analysis. The results suggest that common method bias is unlikely to be a concern, with the first factor explaining just 17.6% of the total variance. Moreover, a focal point of this study concerns interaction terms, which cannot be inflated by common methods bias (Siemens, Roth, & Oliveira, 2009).

### *3.2 Variable measurement*

Where possible, we draw on established constructs that have been validated in prior literature (Bedford & Speklé 2018b). In addition, if we have the data to do so, we test for criterion validity of the main constructs in our analysis by examining the correlation of the construct with its known antecedents or consequences. For all other key constructs, we verify construct-level convergent validity by testing the correlation of the construct with an alternative measure for the same construct. Questionnaire items are reported in Appendix A. To measure crisis impact (*CRISIS*) we use the scale developed by Becker et al. (2016). Their scale was designed to assess the impact of economic crises on firm operations (e.g., sales, capital availability, supplier reliability). While most of the items are applicable for this study, we make small modifications to better suit the context of the Covid-19 pandemic. Accordingly, we add one item to capture the impact on employee productivity. We also change the item anchors to allow for the possibility that the pandemic has had beneficial outcomes for the firm (e.g., firms

providing medical supplies and equipment). We aggregate the six items (shown in Appendix A) to form a composite measure that indicates the extent to which the crisis has had a positive or negative effect on the firm. We assess convergent validity of the construct by correlating our composite measure to a single item measure that captures the perceived overall impact of the crisis on the firm. A significant and positive correlation ( $r = 0.59, p < 0.01$ )<sup>9</sup> between the two measures supports the validity of the composite measure.

Items used to measure the change in budget tightness (*ΔTIGHT*) are derived from Van der Stede (2000, 2001) and Anderson and Lillis (2011). We use six items as reflective indicators of the emphasis on the attention paid to the achievement of rigid budget targets within the organization. To assess criterion validity, we use a single item that asks respondents to indicate whether their time spent on budget related tasks has increased since the crisis. A positive and significant correlation between *ΔTIGHT* and time spent on budget tasks ( $r = 0.21, p < 0.05$ ) provides support for criterion validity.

The measures for enabling budget design (*ENBUD*) are based on the items developed by Chapman and Kihn (2009). Each item captures one of the four enabling design principles (repair, internal transparency, global transparency, flexibility) as described by Adler and Borys (1996). Respondents were asked about their perceptions of each design feature at the moment before the crisis materialized. This is consistent with the argument that enabling control is relatively inert and can only be changed in the long run (see Section 2.3). Each item represents a defining facet of enabling budget design, implying a causal formative measurement model. We construct the measure using equal rather than empirically derived weights, as the latter can be unreliable when

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<sup>9</sup> Tests of criterion and convergent validity are reported with one-tailed  $p$ -values from Pearson correlation tests.

based on small samples (MacKenzie, Podsakoff, & Podsakoff, 2011).<sup>10</sup> To examine criterion validity, we ask respondents about the extent to which they have information on developments that might affect their BU. As enabling budgets are designed to support local decision makers (Ahrens & Chapman, 2004), they should be associated with greater perceived availability of information about the impact of organizational changes. Criterion validity is corroborated by a positive and significant correlation with *ENBUD* ( $r = 0.46, p < 0.01$ ).

Our measure of trust in senior management (*TRUST*) is based on the instrument of Read (1962), which has been previously used in the MC literature (e.g., Hopwood, 1972; Ross, 1994; Lau & Scully, 2015). As we seek to examine the impact of this factor as a pre-existing condition, we measure trust as it had accumulated at the point in time the crisis emerged. Because our respondents may not report exclusively to one individual but rather to a broader senior leadership team, we adapt the wording of the original four items to allow for the possibility that our respondents' interactions are with senior management in general. To test criterion validity, we examine the association between *TRUST* and a single item representing job satisfaction ("In general, I like my work a lot"), which according to prior meta-analyses is related to trust in one's superior (Dirks & Ferrin, 2002). Criterion validity is supported with a significant and positive correlation ( $r = 0.33, p < 0.01$ ).

We measure role ambiguity (*RA*) and role conflict (*RC*) using the widely adopted instruments of Rizzo et al. (1970).<sup>11</sup> For role ambiguity, we include the conventional six-item

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<sup>10</sup> Modelling the construct with empirically defined weights does not substantively change the results of hypothesis tests.

<sup>11</sup> Role stressors and emotional exhaustion are measured as respondents perceive them at the point in time in which they took the survey. Given that we want to examine the impact of a recent event (the crisis and the accompanying change in budget tightness) on these psychological outcomes, we would have preferred to measure changes in stress and psychological well-being rather than levels. Such changes, however, cannot reliably be assessed in a cross-sectional study, and the best we could do is to ask respondents about the role stress they currently experience. This stress is affected by recent stress-inducing events, but not fully determined by them, with pre-existing stress levels

scale in the questionnaire. However, the six-item measure has an average variance extracted (AVE) of 0.45. To ensure sufficient convergent validity, the two items with the lowest loadings are dropped from the analysis.<sup>12</sup> For role conflict, we use four items from the original eight-item scale.<sup>13</sup> Prior research consistently finds a negative association between co-worker support and role stressors (Jackson & Schuler, 1985; Viswesvaran, Sanchez, & Fisher, 1999). A single item measure representing perceived co-worker support (“most people in my unit take a personal interest in other employees”) has significant and negative correlations with role ambiguity ( $r = -0.38, p < 0.01$ ) and role conflict ( $r = -0.23, p < 0.05$ ), providing support for criterion validity.

We measure emotional exhaustion (*EMOEX*) using the six-item scale from Wharton (1993). These items tap into respondents’ feeling about the emotional toll of their work (Liu et al., 2015). We drop one item from the scale as the average variance extracted (AVE) is marginally below 0.5 for the six-item measure, although retaining the item does not affect the results of the analysis. We assess criterion validity with a single item that asks respondents to indicate the extent to which they think about leaving the organization, as prior research documents that one of the consequences of emotional exhaustion is withdrawal from the work environment and increased turnover intention (Cropanzano et al., 2003). A positive and significant correlation supports the validity of the measure ( $r = 0.27, p < 0.05$ ).

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likely to be at least a partial determinant of current levels. As we cannot control for these pre-existing levels, this implies that our measurement may include some amount of error. Because there is no reason to assume that this error is systematic, the consequence is that this would increase the risk of type II errors, biasing against finding results.

<sup>12</sup> Retaining the two items does not materially affect the results of our analysis.

<sup>13</sup> From the original eight-item measure, one item was dropped as in pretesting there was some inconsistency in interpretation, while another three items performed poorly in the factor analysis reported by Burney and Widener (2007).

In our analyses, we control for role tenure, which may influence how managers respond to the crisis and subsequent organizational changes. We also control for possible direct effects of the moderator variables (i.e., *ENBUD*, *TRUST*).

#### **4. Analysis of results**

We use partial least squares (PLS) regression analysis to examine the data in this study because it requires relatively small sample sizes and incorporates an evaluation of measurement error (Hair, Hult, Ringle, & Sarstedt, 2017). We next present an assessment of the measurement model followed by the hypotheses test results.

##### *4.1 Measurement model assessment*

The cross-loadings of items used in reflectively measured constructs are shown in Table 2. All items load above 0.4 on their respective constructs. Construct reliability is assessed by calculating Cronbach's Alpha and composite reliability (CR) scores. Table 3 reveals Alphas and CR above 0.7 for all variables, except for role ambiguity, whose alpha of 0.68 is marginally below the conventional threshold. We calculate AVE statistics to assess convergent validity of measurement items. As noted earlier, two variables, *RA* and *EMOEX*, have initial AVEs below the recommended threshold of 0.5 (Hair et al., 2017). After dropping the lowest loading items of these variables, adequate convergent validity is obtained for all variables.

<Insert Table 2 about here>

<Insert Table 3 about here>

We assess discriminant validity in two ways (Hair et al., 2017). First, we compare the square root of the AVE statistics to the correlations between latent variables. As displayed in



Table 4, the square roots of the AVEs are all greater than the respective correlations between the variables. Second, we calculate the heterotrait-monotrait (HTMT) ratio of correlations. The HTMT ratios shown in Table 5 are all well below the threshold of 0.9, providing further support for discriminant validity.

<Insert Table 4 about here>

<Insert Table 5 about here>

#### 4.2 Tests of hypotheses

Table 6 and Figure 2 presents the results of the PLS regression analysis. H1 states that a more negative impact of the Covid-19 pandemic is positively associated with a tightening of budget controls. Results are consistent with this expectation, with a significant negative association between *CRISIS* and *ΔTIGHT* ( $\beta = -0.371, p < 0.01$ ).<sup>14</sup>

H2a and H2b argue that crisis-induced budget tightening will be positively associated with emotional exhaustion through role conflict and role ambiguity, respectively. Initial support is provided by the positive and significant paths between *ΔTIGHT* and *RC*, *ΔTIGHT* and *RA*, *RC* and *EMOEX*, and *RA* and *EMOEX*. A formal test of H2a and H2b, however, requires an examination of the indirect effects of *ΔTIGHT* on *EMOEX* through *RC* and *RA*. To test the indirect effects, we follow the recommended practice of calculating bias-corrected confidence intervals on the mediated paths, using bootstrapping (Preacher & Hayes, 2004; Zhao, Lynch, & Chen, 2010). The lower (0.037) and upper (0.193) 90% confidence intervals for the indirect effect of *ΔTIGHT* on *EMOEX* through *RC* are both positive, indicating a significant and positive

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<sup>14</sup> Note that our model implicitly assumes that a positive impact of the Covid-10 pandemic will be associated with a loosening of budget controls. To the extent that the relationship is not symmetrical, we are biased against finding a significant result.

indirect effect, which supports H2a. Similarly, the lower (0.011) and upper (0.130) confidence intervals for the indirect effect of *ΔTIGHT* on *EMOEX* through *RA* support a significant positive effect, providing support for H2b. Additionally, as the direct path between *ΔTIGHT* and *EMOEX* is insignificant after controlling for the indirect paths, the results suggest that the effect of *ΔTIGHT* on *EMOEX* is mediated by the role stressors.

<Insert Table 6 about here>

<Insert Figure 2 about here>

Recall that we expect enabling budgets to mitigate the positive effect of tightening budgets on role conflict and role ambiguity. To test this, we create interaction terms between *ENBUD* and *ΔTIGHT* using standardized variables (Hair et al., 2017). Contrary to expectations, we do not find that enabling budgets moderate the relationship between budget tightening and role conflict. Thus, no support is provided for H3a. However, the effect of *ENBUD\*ΔTIGHT* on *RA* is significant and negative, supporting H3b.

Because our theory implies that the effects of budget tightening on role conflict and role ambiguity subsequently affect emotional exhaustion, a fuller examination of H3a and H3b requires a test of conditional indirect effects (Preacher, Rucker and Hayes, 2007). Therefore, we additionally calculate the confidence intervals of the indirect effect of the interaction term on *EMOEX* through *RA*.<sup>15</sup> The results in Table 6 indicate that this effect is negative and significant. Jointly, these results suggest that perceptions that a budget is enabling do not help managers handle the inherent conflict that arises from crisis-induced budget tightening. However, these perceptions do improve managers' informational position, increasing their ability to deal with the associated uncertainty and alleviating the effect of budget tightening on role ambiguity.

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<sup>15</sup> There is no need to test the path through *RC* as we already established that enabling budgets do not moderate the effect of budget tightening on role conflict. Nevertheless, we report the result in Table 6.

Interestingly, we also observe an (unhypothesized) direct effect of *ENBUD* on *RA*, but not on *RC*, supporting the contention that the beneficial effects of enabling budgets are associated more with informational advantages of greater transparency and flexibility than with the capacity to reconcile or resolve conflicting demands.

H4a and H4b predict that trust in senior management exacerbates the positive effect of tighter budget control on the role stressors of conflict and ambiguity and, subsequently, on emotional exhaustion. We find support for this moderation for *RA* but not for *RC*. The conditional indirect effect of  $TRUST * \Delta TIGHT$  on *EMOEX* through *RC* is negative and insignificant. However, consistent with our prediction, we find a significant positive association between  $TRUST * \Delta TIGHT$  and *EMOEX* through *RA*. Hence no support is provided for H4a, but H4b is supported. These results indicate that the ‘dark side’ of trust operates via exacerbating the uncertainty around how to meet multiple role obligations, rather than by increasing the perceived incompatibility of job demands placed on the manager.

Our analysis also shows a negative direct effect of *TRUST* on *RA*, while the direct effect on *RC* is insignificant. These findings suggest that subordinates gain greater certainty around role expectations and responsibilities with senior managers they trust (e.g., through the sharing of private information) (Dirks and Ferrin, 2002), but such relationships do not help to overcome inherent conflicts between obligations to senior management and their local unit (Maas & Matějka, 2009).

To further examine our base model results, we replicate the analysis using covariance-based SEM (CB-SEM) with manifest variables (Kline, 2005). The results of the analysis are included in Table 6. After trimming insignificant non-hypothesized paths for the control variable

*TENURE*, the resulting model has adequate fit, and the findings are consistent with the main PLS analysis, providing additional support for our findings.<sup>16</sup>

#### 4.3 Robustness tests

We conduct a series of additional tests to assess the robustness of our main analysis. First, we verify that the effects we observe are driven by the *change* in budget tightness (as we claim in our theory) rather than by the *level* of budget tightness during the Covid-19 pandemic. To assess this, we measure the current level of budget tightness (*TIGHT*) using six items that parallel the questions we used to measure the change in budget tightness. This new construct has good measurement properties (AVE = 0.57; alpha = 0.86; CR = 0.89). We report the results of this analysis in Table 7 (alternative model 1). We find that *TIGHT* is positively associated with *EMOEX*, but that the inclusion of this variable does not affect our base model inferences.

Second, we examine whether the effect of budget controls occurs through constraining resource availability rather than through budget tightening. To assess this possibility, we add to our model a two-item measure, which asks respondents whether capital expenditure budgets and operational cost budgets have increased (or decreased) since the crisis ( $\Delta TARGET$ ).<sup>17</sup> The results of this alternative model are in Table 7 (alternative model 2). Replicating the same paths of  $\Delta TIGHT$ , we find a significant and positive association between *CRISIS* and  $\Delta TARGET$ , indicating that the more positive (negative) the effect of the crisis the more budget expenditures were increased (decreased). However, we find no significant direct effects of  $\Delta TARGET$  on *RA*, *RC*, or *EMOEX*. Interactions between  $\Delta TARGET$  and *ENBUD* and *TRUST* on *RA* and *RC* are also

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<sup>16</sup> Rather than reporting confidence intervals like we did for the PLS model results, we report *p*-values for the conditional indirect effects in this supplemental analysis. The reason for this is that the AMOS plugin we relied on in the analysis (Gaskin & Lim, 2018) only returns confidence intervals for unstandardized estimates.

<sup>17</sup> We treat this construct as a formative-composite, as theoretically the items do not need to covary.

insignificant. More importantly, there are no substantive changes to the results of our main hypothesis tests.

Third, realizing that the MC response to the crisis may be broader than only a change in budget tightness, we rerun our model including two additional potential responses, i.e., a change in centralization of decision-making authority, and a change in the reliance on action controls (alternative model 3 in Table 7). The crisis management literature often mentions increased centralization as a means to ensure a concerted effort to address imminent threats (Milburn et al., 1983; Staw et al., 1981). Inclusion of a change in emphasis on action controls in the form of rules and procedures is driven by anecdotal evidence suggesting that organizations may temporarily allow employees to by-pass procedures to speed-up decision-making processes. We measure increased centralization ( $\Delta CENTR$ ) with two self-developed items asking respondents about concentration of decision-making authority following the crisis and the change in strictness of the boundaries set by top management to opportunity-seeking behavior. We measure the change in the importance of rules and procedures ( $\Delta R\&P$ ) with a self-developed four-item instrument capturing changes in the insistence on rules and procedures, insistence on compliance, the importance of hierarchical reviews of action plans, and the degree of bureaucracy in general. Both constructs have good measurement properties ( $\Delta CENTR$ : AVE = 0.77; alpha = 0.71; CR = 0.87;  $\Delta R\&P$ : AVE = 0.66; alpha = 0.85; CR = 0.88). The results indicate that the relevance of both additional potential responses is limited in our sample: whereas we find evidence of significant effects of  $\Delta TIGHT$  (in all models) and  $\Delta TARGET$  (in alternative model 2), we find no such results for  $\Delta CENTR$  and  $\Delta R\&P$ . Moreover, our original results still hold.

<Insert Table 7 about here>

Finally, we assess the model with several additional control variables.<sup>18</sup> In untabulated analyses, we control separately for BU size and firm size by taking the natural log of the number of employees. Size may influence how the firm responds to the crisis as well as how respondents cope with organizational changes. We also include a measure for perceived co-worker support and an individual's psychological resilience, as both may lessen the role stressors and emotional exhaustion experienced by managers, especially during times of crisis.<sup>19</sup> Finally, we include industry dummy variables. None of these additional control variables substantively alter our results.

## 5. Conclusion

Prior literature shows that firms adapt their MC practices in response to external shocks such as a crisis (e.g., Becker et al., 2016; Janke et al., 2014). However, there is little understanding of the behavioral consequences of crisis-induced changes to MC practices. It is particularly important to understand the psychological impact, given that during a crisis, employees are already subject to increased stress and emotional exhaustion, which has significant costs for both the individual and the firm (Schelenz, 2020). In this study, we seek to understand the impact of the Covid-19 crisis on changes to budget tightness and the consequences of these changes for role stress and emotional exhaustion. Additionally, we examine relevant contextual conditions that act to exacerbate or mitigate these undesirable effects of crisis-induced budget tightness.

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<sup>18</sup> Given our sample size, we assess the effect of additional control variables separately. Adding more simultaneously would reduce the ratio of observations to paths below minimum recommended thresholds (Hair et al., 2017)

<sup>19</sup> To measure perceived co-worker support we use six items adapted from the measure developed by Williams and Anderson (1991). We use three items from Campbell-Sills and Stein (2007) to assess psychological resilience.

This study contributes to both theory and practice. We extend the MC literature (e.g., Becker et al., 2016) that links changes in budget practices to global crises by showing that firms increase (decrease) their budget tightness corresponding to a negative (positive) impact of the crisis on the firm. If firms experience an increase (decrease) in organizational factors such as orders, sales, and availability of capital, senior managers respond by decreasing (increasing) budget rigidity and the attention paid to budget targets.

Furthermore, our results show that crisis-induced budget tightness impacts an organization's workforce by increasing role stressors in the form of conflict and ambiguity, which translate to increased emotional exhaustion. Even prior to Covid-19, emotional exhaustion was a costly problem for organizations (Seppälä & Cameron, 2019). Importantly, we show that some of these negative behavioral effects are alleviated when prior to the crisis firms had designed their budgets in an enabling way and employees perceived them as such, which facilitates their ability to respond to problems that arise in the course of their work. However, while trust in superiors is usually beneficial in the workplace (and indeed we find that trust is negatively associated with role ambiguity), we also show that it has a 'dark side' since the more BU managers have trust in their senior management the more negative is the effect of budget tightening on role ambiguity, and, in turn, their emotional exhaustion. Taken together, these results respond to Van der Stede (2011) and contribute theoretically to the MC literature by providing additional insight on changes in budgeting practices in response to a crisis, introducing a focus that extends beyond role stressors to the effect that MC practices have on emotional exhaustion, and finally by highlighting the existence of two boundary conditions on these relationships in the form of the enabling use of budget control and trust in senior management.

Our results have important implications for practice since we demonstrate how employees are likely to react to the tightening of budget controls. If the response to a crisis is to tighten budget controls, firms should consider whether they have a history of using those budget controls in an enabling way and if employees perceive them as such. If that is the case, this reduces the cost of budget tightening in terms of emotional exhaustion of their employees. However, firms also need to be aware of tightening budget controls if they have a high trust environment, as in this context, tightening the budget exacerbates employees' role stress and emotional exhaustion.

This study is subject to several potential limitations. First, we collected the data during the first lockdown period in the Netherlands. This unique timing of our study helps ensure the relevance of the observations for our purposes, but also implies that our request to participate came at a moment in time in which potential respondents had other, more pressing things on their mind. This predictably resulted in a relatively small sample size, which limits the power of our analysis and may have caused us to overlook some associations in the data. In addition, it constrains our ability to probe deeper into the relationships in alternative, more complex models. Second, we use perceptual survey data, which can contain measurement noise and be subject to common method bias. As reported, we perform a variety of *ex ante* procedures and *ex post* tests to mitigate these issues. Moreover, a focal point of our study is the analysis of interaction terms, which cannot be artificially inflated by common methods bias (Siemsen et al., 2010). However, common method bias can lead to deflated estimates, making it more difficult to observe true population associations in a sample. As such, our unsupported hypotheses may be worth examining in future research.



Third, our study is set in The Netherlands and uses a convenience sample of respondents from personal networks. Although we are not aware of any systematic bias in our set of respondents that would limit generalizability, nevertheless, caution should be used in generalizing our results to other populations. Our convenience sample, though, is appropriate for a test of theory, which is the purpose of this study (Speklé & Widener, 2018).

Notwithstanding these potential limitations, our study has several implications for future research. While we provide evidence on two boundary conditions, they hold only in relation to role ambiguity but not to role conflict. Thus, an interesting direction for future research is to tease out the contextual factors that will either mitigate or exacerbate the role conflict and emotional exhaustion that results from a crisis inducing tightening of the budget. In addition, it may be worthwhile to include psychological factors that may help to understand how individuals cope with organizational responses to exogenous shocks. Another potentially interesting avenue is to examine whether the effects of budget tightening on role stress differ depending on the functions of the budget. Prior research has found that in response to a crisis, firms tend to reconsider the importance they attach to the planning, resource allocation, and performance evaluation functions of budgeting (Becker et al., 2016). Studies looking simultaneously at changes in the roles of the budget and changes in tightness could prove informative. For example, the effects we find may be more pronounced for organizations that attach significant weight to the performance evaluation function of the budget.<sup>20</sup> In addition, our study focuses on one key change to MC practices that occurs during a crisis. We control for changes in centralization and the reliance on action controls in a supplementary analysis, but more MC practices are likely implicated in formulating an effective response to an exogenous shock. For

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<sup>20</sup> We thank an anonymous reviewer for this suggestion.

instance, firms may increase the emphasis they place on behavioral controls such as monitoring procedures to ensure ongoing compliance or may be too overloaded to engage in increased compliance and instead shift their focus to short term performance measures. Furthermore, as MC choices may be interdependent, the degree to which one MC practice is tied to other MC practices may act to facilitate or hinder an effective crisis response and have important behavioral implications (Bedford, 2020). Considering changes to a wider array of MC practices and their potential interdependencies, and linking those changes to important behavioral outcomes, is an important area to increase our understanding of the consequences of MC practices in the context of a crisis.

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## References

- Adler, P. S., & Borys, B. (1996). Two types of bureaucracy: Enabling and coercive. *Administrative Science Quarterly*, 41, 61-89.
- Ahrens, T., & Chapman, C. S. (2004). Accounting for flexibility and efficiency: A field study of management control systems in a restaurant chain. *Contemporary Accounting Research*, 21(2), 271-301.
- Alarcon, G. M. (2011). A meta-analysis of burnout with job demands, resources, and attitudes. *Journal of Vocational Behavior*, 79(2), 549-562.
- Anderson, S. W., and Lillis, A. M. (2011). Corporate frugality: Theory, measurement and practice. *Contemporary Accounting Research*, 28(4), 1349-1387.
- Asel, J. A., Posch, A., & Speckbacher, G. (2011). Squeezing or cuddling? The impact of economic crises on management control and stakeholder management. *Review of Management Science*, 5, 213-231.
- Bakker, A. B., Demerouti, E., & Euwema, M. C. (2005). Job resources buffer the impact of job demands on burnout. *Journal of Occupational Health Psychology*, 10(2), 170-180.
- Becker, S. D., Mahlendorf, M. D., Schäffer, U., & Thaten, M. (2016). Budgeting in times of economic crisis. *Contemporary Accounting Research*, 33(4), 1489-1517.
- Bedford, D. S. (2020). Conceptual and empirical issues in understanding management control combinations. *Accounting, Organizations and Society*, 86, 101187.
- Bedford, D. S., & Malmi, T. (2015). Configurations of control: An exploratory analysis. *Management Accounting Research*, 27, 2-26.
- Bedford, D. S., & Speklé, R. F. (2018a). Construct validity in survey-based management accounting and control research. *Journal of Management Accounting Research*, 30(2), 23-58.
- Bedford, D. S., & Speklé, R. F. (2018b). Constructs in survey-based management accounting and control research: An inventory from 1996 to 2015. *Journal of Management Accounting Research*, 30(2), 269-322.
- Bisbe, J., Kruis, A. M., & Madini, P. (2019). Coercive, enabling, diagnostic, and interactive control: Untangling the threads of their connections. *Journal of Accounting Literature*, 43, 124-144.
- Blau, P. M. (1964). *Exchange and power in social life*. New York: John Wiley.
- Burkert, M., Fischer, F. M., & Schäffer, U. (2011). Application of the controllability principle and managerial performance: The role of role perceptions. *Management Accounting Research*, 22(3), 143-159.
- Bundy, J., Pfarrer, M. D., Short, C. E., & Coombs, W. T. (2017). Crises and crisis management: Integration, interpretation, and research development. *Journal of Management*, 43(6), 1661-1692.
- Burney, L., & S. K. Widener. (2007). Strategic performance measurement systems, job-relevant information, and managerial behavioral responses—role stress and performance. *Behavioral Research in Accounting*, 19, 43-69.

- Campbell-Sills, L., & Stein, M. B. (2007). Psychometric analysis and refinement of the Connor–Davidson resilience scale (CD-RISC): Validation of a 10-item measure of resilience. *Journal of Traumatic Stress*, 20(6), 1019-1028.
- Casas-Arce, P., Indjejikian, R. J., & Matějka, M. (2020). Bonus plan choices during an economic downturn. *Journal of Management Accounting Research*, 32(2), 85-105.
- CBS (2020). CBS cijfers Coronacrisis. <https://www.cbs.nl/nl-nl/dossier/cbs-cijfers-coronacrisis>. Retrieved on August 19, 2020.
- Chapman, C. S., & Kihn, L. A. (2009). Information system integration, enabling control and performance. *Accounting, Organizations and Society*, 34(2), 151-169.
- Chenhall, R.H. and Brownell, P. (1988). The effect of participative budgeting on job satisfaction and performance: Role ambiguity as an intervening variable. *Accounting, Organizations and Society*, 13(3), 225-233.
- Colquitt, J.A., Scott, B.A. & LePine, J.A. (2007). Trust, trustworthiness, and trust propensity: A meta-analytic test of their unique relationships with risk taking and job performance. *Journal of Applied Psychology*, 92(4), 909-927.
- Crawford, E.R., LePine, J.A. & Rich, B.L. (2010). Linking job demands and resources to employee engagement and burnout: a theoretical extension and meta-analytic test. *Journal of Applied Psychology*, 95(5), 834-848.
- Cropanzano, R., & Mitchell, M. S. (2005). Social exchange theory: An interdisciplinary review. *Journal of Management*, 31(6), 874-900.
- Cropanzano, R., Rupp, D. E., & Byrne, Z. S. (2003). The relationship of emotional exhaustion to work attitudes, job performance, and organizational citizenship behaviors. *Journal of Applied Psychology*, 88(1), 160-169.
- Czarniawska-Joerges, B. (1988). Dynamics of organizational control: the case of Berol Kemi AB. *Accounting, Organizations and Society*, 13(4), 415-430.
- Dalton, D. W., J. M. Vinson, & Widener, S. K. (2020). Is prestige only beneficial? A cost of perceived external prestige among accounting employees. *European Accounting Review* 29, 753-780.
- Dillman, D. A., Smyth, J. D., & Christian, L. M. (2009). *Internet, mail, and mixed-mode surveys: The tailored design method*. 3rd ed. John Wiley and Sons.
- Dirks, K. T., & Ferrin, D. L. (2001). The role of trust in organizational settings. *Organization Science*, 12(4), 450-467.
- Dirks, K. T., & Ferrin, D.L. (2002). Trust in leadership: Meta-analytic findings and implications for research and practice. *Journal of Applied Psychology*, 87(4), 611-628.
- Gaskin, J., & Lim, J. (2018), *"Indirect Effects", AMOS Plugin*. Gaskination's StatWiki.
- Gouldner, A. W. (1960). The norm of reciprocity. *American Sociological Review*, 25, 161-78.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)* (2 ed.). Thousand Oaks, CA: Sage.
- Hall, M. (2016). Realising the richness of psychology theory in contingency-based management accounting research. *Management Accounting Research*, 31, 63-74.
- Hall, D. T., & Mansfield, R. (1971). Organizational and individual response to external stress. *Administrative Science Quarterly*, 16(4), 533-547.

- Hermann, C. F. (1963). Some consequences of crisis which limit the viability of organizations. *Administrative Science Quarterly*, 89(1), 61-82.
- Hofmann, C., & Van Lent, L. (2017). Organizational design and control choices. In M. A. Hitt, S. E. Jackson, S. Carmona, L. Bierman, C. E. Shalley, & D. M. Wright (Eds), *The Oxford Handbook of Strategy Implementation* (pp. 451-480). New York : Oxford University Press.
- Hopwood, A. G. (1972). An empirical study of the role of accounting data in performance evaluation. *Journal of Accounting Research*, 10, 156-182.
- Hopwood, A. G. (2009). The economic crisis and accounting: Implications for the research community. *Accounting, Organizations and Society*, 34(6-7), 797-802.
- Hopwood, A. (1972). An empirical study of the role of accounting data in performance evaluation. *Journal of Accounting Research*, 47 (Supplement), 156–182.
- House, R. J., & Rizzo, J. R. (1972). Role conflict and ambiguity as critical variables in a model of organizational behavior. *Organizational Behavior and Human Performance*, 7(3), 467-505.
- Jackson, S.E., & Schuler, R.S. (1985). A meta-analysis and conceptual critique of research on role ambiguity and role conflict in work settings. *Organizational Behavior and Human Decision Processes*, 36(1), 16-78.
- Janke, R., Mahlendorf, M. D., & Weber, J. (2014). An exploratory study of the reciprocal relationship between interactive use of management control systems and perception of negative external crisis effects. *Management Accounting Research*, 25(4), 251-270.
- Jones, G. R., & George, J.M. (1998). The experience and evolution of trust: Implications for cooperation and teamwork. *The Academy of Management Review*, 23(3), 531-546.
- Jordan, S., & Messner, M. (2012). Enabling control and the problem of incomplete performance indicators. *Accounting, Organizations and Society*, 37(8), 544-564.
- Jørgensen, B., & Messner, M. (2009). Management control in new product development: The dynamics of managing flexibility and efficiency. *Journal of Management Accounting Research*, 21(1), 99-124.
- Kahn, R. L., Wolfe, D. M., Quinn, R. P., Snoek, J. D., and Rosenthal, R. A. (1964). *Organizational Stress*. New York, NY: Wiley.
- Karasek Jr, R. A. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. *Administrative Science Quarterly*, 24(2), 285-308.
- Kilroy, S., Flood, P. C., Bosak, J., & Chênevert, D. (2016). Perceptions of high-involvement work practices and burnout: the mediating role of job demands. *Human Resource Management Journal*, 26(4), 408-424.
- Kline, R. B. (2005). *Principles and practice of structural equation modeling* (2nd ed.). New York: The Guildford Press.
- Lau, C. M., & Scully, G. (2015). The roles of organizational politics and fairness in the relationship between performance management systems and trust. *Behavioral Research in Accounting*, 27(1), 25-53.
- Lee, R. T., & Ashforth, B.E. (1996). A meta-analytic examination of the correlates of the three dimensions of job burnout. *Journal of Applied Psychology*, 81(2), 123-133.

- Li, A. N., & Tan, H. H. (2013). What happens when you trust your supervisor? Mediators of individual performance in trust relationships. *Journal of Organizational Behavior*, 34(3), 407-425.
- Liu, Y., Wang, M., Chang, C.H., Shi, J., Zhou, L., & Shao, R. (2015). Work–family conflict, emotional exhaustion, and displaced aggression toward others: The moderating roles of workplace interpersonal conflict and perceived managerial family support. *Journal of Applied Psychology*, 100(3), 793–808.
- Maas, V. S., & Matějka, M. (2009). Balancing the dual responsibilities of business unit controllers: Field and survey evidence. *The Accounting Review*, 84(4), 233-1253.
- MacKenzie, S. B., & Podsakoff, P. M. (2012). Common method bias in marketing: Causes, mechanisms, and procedural remedies. *Journal of Retailing*, 88(4), 542–555.
- MacKenzie, S. B., Podsakoff, P. M., & Podsakoff N. P. (2011). Construct measurement and validation procedures in MIS and behavioral research: Integrating new and existing techniques. *MIS Quarterly*, 35(2), 293-334.
- Marginson, D. (2006). Information processing and management control: A note exploring the role played by information media in reducing role ambiguity. *Management Accounting Research*, 17, 187-197.
- Marginson, D., & B. Bui. (2009). Examining the human cost of multiple role expectations. *Behavioral Research in Accounting*, 21, 59-81.
- Marginson, D., McAulay, L., Roush, M., & van Zijl, T. (2014). Examining a positive psychological role for performance measures. *Management Accounting Research*, 25(1), 63-75.
- Marginson, D., & Ogden, S. (2005). Coping with ambiguity through the budget: the positive effects of budgetary targets on managers' budgeting behaviours. *Accounting, Organizations and Society*, 30(5), 435-456.
- Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology*, 52(1), 397-422.
- Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An integrative model of organizational trust. *Academy of Management Review*, 20(3), 709-734.
- Merchant, K. A. (1990). The effects of financial controls on data manipulation and management myopia. *Accounting, Organizations and Society*, 15(4), 297-313.
- Milburn, T. W., Schuler, R. S., & Watman, K.H. (1983). Organizational crisis. Part I: Definition and conceptualization. *Human Relations*, 36(12), 1141-1160.
- Nickerson, J. A., & Zenger, T. R. (2002). Being efficiently fickle: A dynamic theory of organizational choice. *Organization Science*, 13(5), 547-566.
- Otley, D. T. (1978). Budget use and managerial performance. *Journal of Accounting Research*, 16: 122-149.
- Parker, R.J., & Kyj, L. (2006). Vertical information sharing in the budgeting process. *Accounting, Organizations and Society*, 31(1), 27-45.
- Pearson, C. M., & Clair, J. A. (1998). Reframing crisis management. *Academy of Management Review*, 23(1), 59-76.

- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, and Computers*, 36(4), 717–731.
- Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Assessing moderated mediation hypotheses: Theory, method, and prescriptions. *Multivariate Behavioral Research*, 42, 185–227.
- Read, W. H. (1962). Upward communication industrial hierarchies. *Human Relations*, 15(1), 3–16.
- Rousseau, D. M., Sitkin, S. B., Burt, R. S., & Camerer, C. (1998). Not so different after all: A cross-discipline view of trust. *Academy of Management Review*, 23(3), 393–404.
- Ross, A. (1994). Trust as a moderator of the effect of performance evaluation style on job-related tension: A research note. *Accounting, Organizations and Society*, 19(7), 629–635.
- Rizzo, J. R., House, R. J., & Lirtzman, S. I. (1970). Role conflict and ambiguity in complex organizations. *Administrative Science Quarterly*, 15(2), 150–163.
- Schelenz, R. (2020) Sept. 3. Job burnout is a billion-dollar problem. Can we fix it, despite Covid-19? <https://finance.yahoo.com/news/according-mental-health-index-employees-130800424.html>. Last accessed September 24, 2020.
- Seppälä, E., & Cameron, K. (2015). Proof that positive work cultures are more productive. *Harvard Business Review*, 12(1), 44–50.
- Siemens, E., Roth, A., & Oliveira, P. (2010). Common method bias in regression models with linear, quadratic, and interaction effects. *Organizational Research Methods*, 13(3): 456–476.
- Sitkin, S. B., and Pablo, A. L. (1992). Reconceptualizing the determinants of risk behavior. *Academy of Management Review*, 17(1), 9–38.
- Simons, R. (1988). Analysis of the organizational characteristics related to tight budget goals. *Contemporary Accounting Research*, 5(1), 267–283.
- Skinner, D., Dietz, G., & Weibel, A. (2014). The dark side of trust: When trust becomes a ‘poisoned chalice’. *Organization*, 21(2), 206–224.
- Speklé, R. F., & Widener, S. K. (2018). Challenging issues in survey research: Discussion and suggestions. *Journal of Management Accounting Research*, 30(2), 3–21.
- Staw, B. M., Sandelands, L. E., & Dutton, J. E. (1981). Threat rigidity effects in organizational behavior: A multilevel analysis. *Administrative Science Quarterly*, 26(4), 501–524.
- Sweeney, J. T., & J. J. Quirin. (2009). Accountants as layoff survivors: A research note. *Accounting, Organizations and Society*, 34, 787–795.
- United Nations, Department of Economic and Social Affairs (2021). World Economic Situation and Prospects: February 2021 Briefing, No. 146. <https://www.un.org/development/desa/dpad/publication/world-economic-situation-and-prospects-february-2021-briefing-no-146/>. Last accessed April 15, 2021.
- Van der Stede, W. A. (2000). The relationship between two consequences of budgetary controls: budgetary slack creation and managerial short-term orientation. *Accounting, Organizations and Society*, 25(6), 609–622.
- Van der Stede, W. A. (2001). Measuring ‘tight budgetary control’. *Management Accounting Research*, 12(1), 119–137.

- Van der Stede, W. A. (2011). Management accounting research in the wake of the crisis: Some reflections. *European Accounting Review*, 20, 605-623.
- Viswesvaran, C., Sanchez, J. I., & Fisher, J. (1999). The role of social support in the process of work stress: A meta-analysis. *Journal of Vocational Behavior*, 54(2), 314-334.
- Wharton, A. S. (1993). The affective consequences of service work: Managing emotions on the job. *Work and occupations*, 20(2), 205-232.
- Whitener, E. M., Brodt, S.E., Korsgaard, M. A., & Werner, J. M. (1998). Managers as initiators of trust: An exchange relationship framework for understanding managerial trustworthy behavior. *The Academy of Management Review*, 23(3), 513-530.
- Williams, L.J., & S. E. Anderson (1991). Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviors. *Journal of Management*, 17(3), 601-617.
- Wouters, M., & Wilderom, C. (2008). Developing performance-measurement systems as enabling formalization: A longitudinal field study of a logistics department. *Accounting, Organizations and Society*, 33(4-5), 488-516.
- Wright, T. A., & Cropanzano, R. (1998). Emotional exhaustion as a predictor of job performance and voluntary turnover. *Journal of Applied Psychology*, 83(3), 486-493.
- Yahoo! Finance (2020). Sept. 17. According to mental health index: Employees' ability to focus attention and complete tasks down 31%. <https://finance.yahoo.com/news/according-mental-health-index-employees-130800424.html>. Last accessed September 24, 2020.
- Zhao, X., Lynch Jr, J. G., & Chen, Q. (2010). Reconsidering Baron and Kenny: Myths and truths about mediation analysis. *Journal of Consumer Research*, 37(2), 197-206.



## Appendix A

### Questionnaire items

Construct and items	Anchors
<p><i>Crisis Impact</i></p> <p>Please indicate to what extent your unit faces the following types of impact of the Coronavirus pandemic</p> <ol style="list-style-type: none"> <li>1. Have orders been affected?</li> <li>2. Have sales been affected?</li> <li>3. Has the ability of customers to pay been affected?</li> <li>4. Has the availability of capital been affected?</li> <li>5. Has reliability of supplies been affected?</li> <li>6. Has employee productivity been affected?</li> </ol>	<p>1 = We faced a significant decrease / 7 = We faced a significant increase</p>
<p><i>Budget tightness change</i></p> <p>Have there been any changes in how budget targets are being used since the crisis kicked in?</p> <ol style="list-style-type: none"> <li>1. Since the crisis, the pressure to meet short-term targets ...</li> <li>2. Since the crisis, the pressure to take corrective action to reduce budget variances ...</li> <li>3. Since the crisis, budget target rigidity ...</li> <li>4. Since the crisis, the attention from senior management for budget variances ...</li> <li>5. Since the crisis, monitoring of budget achievement by senior management ...</li> <li>6. Since the crisis, the queries we get from senior management about budget target achievement ...</li> </ol>	<p>Sliding scale: -50 = Decreased substantially / 0 = Stayed the same / 50 = Increased substantially</p>
<p><i>Enabling budget design</i></p> <p>The following questions ask you about your experiences with the budgeting process before the crisis. So, irrespective of whether or not this has changed recently, before the crisis:</p> <ol style="list-style-type: none"> <li>1. I easily got access to detailed information in order to investigate budget deviations</li> <li>2. The budget process increased my understanding of what drives our revenue/cost levels in my unit</li> <li>3. The budgeting process helped to align unit strategy with the objectives of the larger organization.</li> <li>4. The budgeting process is adapted to the way in which I perform my job.</li> </ol>	<p>1 = Strongly disagree / 2 = Somewhat disagree / 3 = Neither agree nor disagree / 4 = Somewhat agree / 5 = Strongly agree</p>
<p><i>Trust in senior management</i></p> <p>What do you think about the following statements?</p> <ol style="list-style-type: none"> <li>1. I feel free to discuss problems with senior management.</li> <li>2. I feel that senior management will keep me fully informed about things that might concern me.</li> </ol>	<p>1 = Strongly disagree / 2 = Somewhat disagree / 3 = Neither agree nor disagree / 4 = Strongly agree</p>

- |  |                      |
|--|----------------------|
| 3. I trust that senior management's decisions are justified by other considerations when they make decisions against my interests. | = Somewhat agree / 5 |
| 4. Senior management will always act in my favor if they have the chance.  | = Strongly agree     |

#### *Role conflict*

Please indicate the extent to which you agree with these statements about your feelings at this moment:

- |  |  |
|--|--|
| 1. I have to work on things that should be done differently. | 1 = Strongly disagree  |
| 2. I receive incompatible requests from people.              | / 2 = Somewhat disagree / 3 = Neither agree nor disagree / 4 |
| 3. I work on unnecessary things.                             | = Somewhat agree / 5   |
| 4. I do things that are accepted by one but not by another.  | = Strongly agree   |

#### *Role ambiguity* (items reverse scored)

These questions are about yourself and how you see yourself in relation to your work at this moment:

- |  |  |
|--|--|
| 1. I feel certain about how much authority I have. | 1 = Strongly disagree  |
| 2. I know what my responsibilities are.*           | / 2 = Somewhat disagree / 3 = Neither agree nor disagree / 4 |
| 3. I know that I have divided my time properly.    | = Somewhat agree / 5   |
| 4. I receive explanations that make work clear.    | = Strongly agree   |
| 5. I have clear, planned goals.                    |  |
| 6. I know what is expected.*                       |  |

#### *Emotional exhaustion*

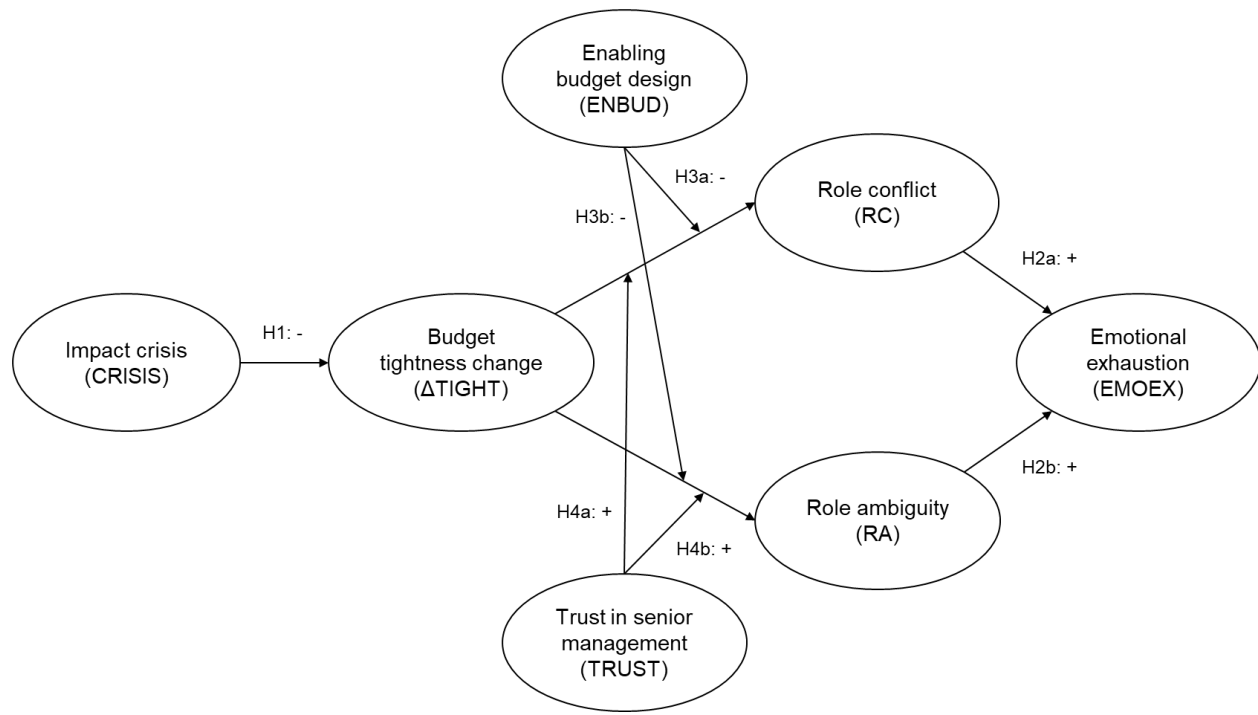
Please indicate the extent to which you agree with these statements about your feelings at this moment:

- |   |  |
|---|--|
| 1. I feel emotionally drained from my work.                                     | 1 = Strongly disagree  |
| 2. I feel used up at the end of the work day.                                   | / 2 = Somewhat disagree / 3 = Neither agree nor disagree / 4 |
| 3. I dread getting up in the morning and having to face another day on the job. | = Somewhat agree / 5   |
| 4. I feel burned out from my work.  | = Strongly agree   |
| 5. I feel frustrated by my job.*  |  |
| 6. I feel I am working too hard on my job.                                      |  |

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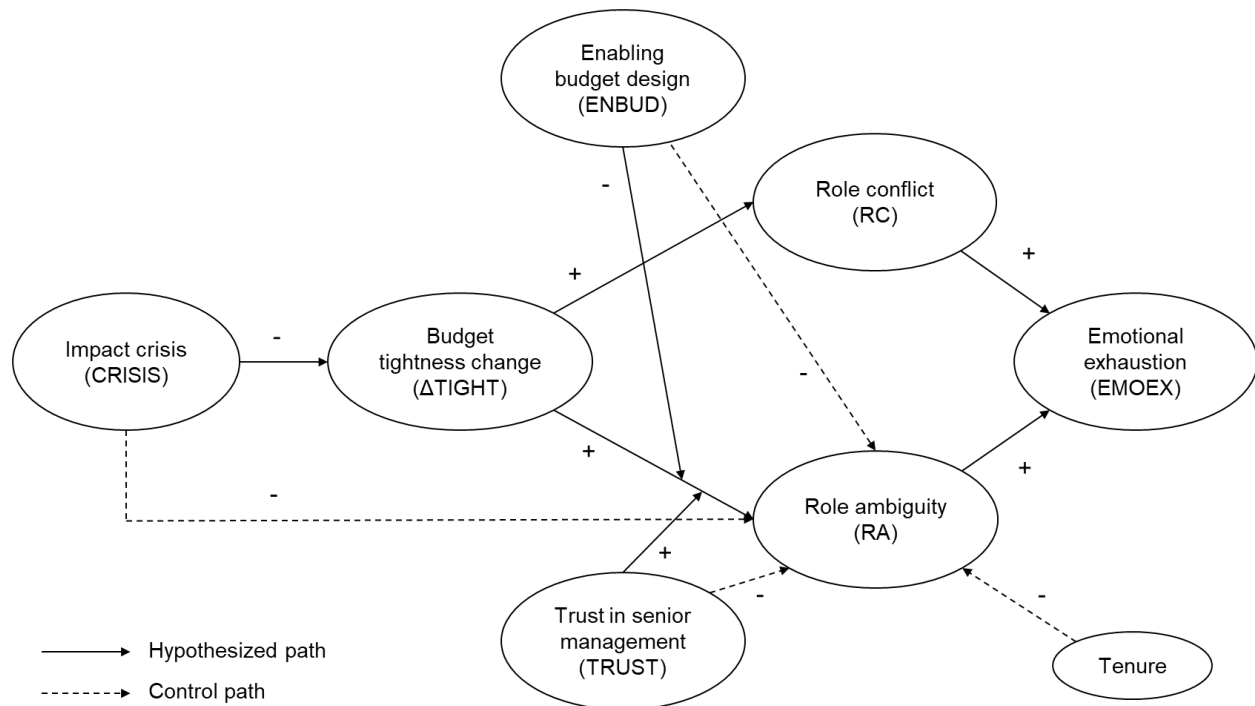
\*Items removed from the analysis

**Figure 1**  
Theoretical model



Note: H2a and H2b are mediating hypotheses of the change in budget tightness on emotional exhaustion via role conflict and role ambiguity.

**Figure 2**  
Base model results (significant paths only)



**Table 1**  
Industry, firm, and respondent demographics

<i>Panel A: Industry distribution</i>		#	%
Manufacturing		24	28.9
Business services		11	13.3
Other services		11	13.3
Wholesale and retail		5	6.0
Transportation		4	4.8
Hospitality		3	3.6
IT and communication		5	6.0
Financial		5	6.0
Agriculture		2	2.4
Construction		2	2.4
Healthcare		2	2.4
Other		9	10.8
Total		83	100
<i>Panel B: Firm characteristics</i>			
	Mean	Min	Max
Firm size	9077.0	15	200,000
BU size	139.0	6	3,000
<i>Panel C: Respondent characteristics</i>			
	Mean	Min	Max
Age	46.7	28	65
Tenure			
Firm	11.8	1	37
Job	4.8	0.5	20
Gender		#	%
Male		75	90.4
Female		8	9.6
Other		0	0.0
Total		83	100.0

**Table 2**

Cross-loadings from PLS measurement model

	$\Delta$ TIGHT	TRUST	RA	RC	EMOEX
$\Delta$ TIGHT1	<b>0.491</b>	0.055	0.085	0.051	0.110
$\Delta$ TIGHT2	<b>0.680</b>	-0.025	0.282	0.089	-0.021
$\Delta$ TIGHT3	<b>0.494</b>	0.129	-0.039	-0.088	0.117
$\Delta$ TIGHT4	<b>0.794</b>	0.086	0.129	0.144	0.069
$\Delta$ TIGHT5	<b>0.934</b>	0.066	0.233	0.226	0.253
$\Delta$ TIGHT6	<b>0.840</b>	0.039	0.183	0.139	0.223
TRUST1	0.084	<b>0.768</b>	-0.316	-0.019	-0.051
TRUST2	0.039	<b>0.880</b>	-0.392	-0.177	-0.180
TRUST3	0.047	<b>0.688</b>	-0.179	-0.206	-0.135
TRUST4	-0.002	<b>0.607</b>	-0.171	-0.194	-0.154
RA1	0.151	-0.192	<b>0.695</b>	0.108	0.430
RA3	0.311	-0.105	<b>0.695</b>	0.220	0.371
RA4	0.171	-0.475	<b>0.714</b>	0.289	0.298
RA5	0.066	-0.268	<b>0.748</b>	0.078	0.274
RC1	0.223	-0.207	0.276	<b>0.819</b>	0.401
RC2	0.028	-0.142	0.129	<b>0.803</b>	0.515
RC3	0.274	-0.238	0.291	<b>0.829</b>	0.360
RC4	0.020	0.053	0.040	<b>0.688</b>	0.304
EMOEX1	0.141	-0.197	0.376	0.397	<b>0.807</b>
EMOEX2	0.119	-0.127	0.404	0.416	<b>0.815</b>
EMOEX3	-0.023	-0.106	0.187	0.325	<b>0.586</b>
EMOEX4	0.124	-0.116	0.420	0.408	<b>0.783</b>
EMOEX6	0.288	-0.113	0.351	0.344	<b>0.706</b>

$\Delta$ TIGHT = Change in budget tightness, TRUST = Trust in senior management, RA = Role ambiguity, RC = Role conflict, EMOEX = Emotional exhaustion

**Table 3**

Descriptive, reliability, and average variance extracted statistics

	Mean	Std Dev	Range	Min.	Max.	Alpha	CR	AVE
Crisis impact (CRISIS)	3.42	0.66	[1,7]	1.67	5.00	–	–	–
Budget tightness change ( $\Delta$ TIGHT)	12.72	12.33	[-50,50]	-25.67	44.00	0.84	0.86	0.53
Enabling budget design (ENBUD)	3.95	0.75	[1,5]	1.75	5.00	–	–	–
Trust in senior management (TRUST)	4.01	0.64	[1,5]	2.25	5.00	0.73	0.83	0.55
Role ambiguity (RA)	3.92	0.69	[1,5]	2.25	5.00	0.68	0.81	0.51
Role conflict (RC)	2.47	0.88	[1,5]	1.00	4.25	0.80	0.87	0.62
Emotional exhaustion (EMOEX)	2.10	0.78	[1,5]	1.00	4.20	0.80	0.86	0.55
Job tenure (TENURE)	4.77	4.60	–	0.50	20.00	–	–	–

**Table 4**  
Correlations

	CRISIS	$\Delta$ TIGHT	ENBUD	TRUST	RA	RC	EMOEX	TENURE
Crisis impact (CRISIS)	–							
Budget tightness change ( $\Delta$ TIGHT)	-0.371	0.725						
Enabling budget design (ENBUD)	-0.036	0.017	–					
Trust in senior management (TRUST)	-0.013	0.058	0.375	0.743				
Role ambiguity (RA)	-0.128	0.243	-0.458	-0.379	0.714			
Role conflict (RC)	0.029	0.189	-0.141	-0.195	0.250	0.787		
Emotional exhaustion (EMOEX)	0.000	0.182	-0.155	-0.177	0.477	0.510	0.744	
Job tenure (TENURE)	-0.208	-0.082	0.005	-0.167	-0.172	0.011	-0.003	–

Diagonal values are the square roots of the AVE statistics. Reported correlations above 0.24 are significant at  $p < 0.05$



**Table 5**

Heterotrait-monotrait ratios

	$\Delta$ TIGHT	TRUST	RA	RC
Trust in senior management (TRUST)	0.173			
Role ambiguity (RA)	0.303	0.502		
Role conflict (RC)	0.214	0.301	0.305	
Emotional exhaustion (EMOEX)	0.238	0.231	0.640	0.629

**Table 6**

Structural model results; standardized

		Base Model (PLS-SEM)	Base Model (CB-SEM)
Hypothesized direct paths		Path coefficients; significance	
H1	CRISIS → ΔTIGHT	-0.371***	-0.228**
H2a	ΔTIGHT → RC	0.271**	0.175*
	RC → EMOEX	0.401***	0.402***
H2b	ΔTIGHT → RA	0.184*	0.207**
	RA → EMOEX	0.388***	0.376***
H3a	ΔTIGHT*ENBUD → RC	0.038	-0.031
H3b	ΔTIGHT*ENBUD → RA	-0.256***	-0.362***
H4a	ΔTIGHT*TRUST → RC	-0.133	-0.032
H4b	ΔTIGHT*TRUST → RA	0.268**	0.248**
Control paths			
	CRISIS → RC	0.135	0.082
	CRISIS → RA	-0.173*	-0.228**
	CRISIS → EMOEX	0.069	0.060
	ΔTIGHT → EMOEX	0.044	0.071
	ENBUD → RC	-0.101	-0.084
	ENBUD → RA	-0.273***	-0.362***
	TRUST → RC	-0.187	-0.181
	TRUST → RA	-0.320***	-0.332***
	TENURE → RC	0.042	--
	TENURE → RA	-0.252***	-0.232***
	TENURE → EMOEX	0.072	--
Hypothesized indirect paths		Paths; confidence intervals/significance	
H2a	ΔTIGHT → RC → EMOEX	0.109 [0.037, 0.193]	0.070*
H2b	ΔTIGHT → RA → EMOEX	0.071 [0.011, 0.130]	0.078**
H3a	ΔTIGHT*ENBUD → RC → EMOEX	0.015 [-0.045, 0.095]	-0.012
H3b	ΔTIGHT*ENBUD → RA → EMOEX	-0.099 [-0.172, -0.049]	-0.136***
H4a	ΔTIGHT*TRUST → RC → EMOEX	-0.053 [-0.167, 0.013]	-0.013
H4b	ΔTIGHT*TRUST → RA → EMOEX	0.104 [0.048, 0.191]	0.093***
		Variance explained	
	ΔTIGHT	13.8%	5.2%
	RC	10.5%	8.2%
	RA	44.8%	46.4%
	EMOEX	39.7%	36.7%

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$  (1-tailed for hypothesized associations, 2-tailed otherwise)

CRISIS = Crisis impact, ΔTIGHT = Change in budget tightness, TRUST = Trust in senior management, RA = Role ambiguity, RC = Role conflict, EMOEX = Emotional exhaustion; ENBUD = enabling budget design; TENURE = job tenure

**Table 7**  
Alternative models

Base Model Paths		Alternative Model 1		Alternative Model 2		Alternative Model 3	
H1	CRISIS → ΔTIGHT	-0.371***		-0.371***		-0.371***	
H2a	ΔTIGHT → RC	0.205*		0.297***		0.233**	
	RC → EMOEX	0.368***		0.397***		0.422***	
H2b	ΔTIGHT → RA	0.164*		0.261***		0.259***	
	RA → EMOEX	0.408***		0.375***		0.353***	
H3a	ΔTIGHT*ENBUD → RC	0.030		0.001		0.049	
H3b	ΔTIGHT*ENBUD → RA	-0.259***		-0.286**		-0.241***	
H4a	ΔTIGHT*TRUST → RC	-0.107		-0.068		-0.141	
H4b	ΔTIGHT*TRUST → RA	0.276**		0.292**		0.228**	
	CRISIS → RC	0.113		0.108		0.100	
	CRISIS → RA	-0.179*		-0.111		-0.086	
	CRISIS → EMOEX	0.040		0.032		0.051	
	ΔTIGHT → EMOEX	-0.064		0.077		0.060	
	ENBUD → RC	-0.121		-0.080		-0.114	
	ENBUD → RA	-0.280***		-0.281***		-0.283***	
	TRUST → RC	-0.170		-0.209		-0.181	
	TRUST → RA	-0.315***		-0.303***		-0.284***	
	TENURE → RC	0.059		--		--	
	TENURE → RA	-0.246***		--		--	
	TENURE → EMOEX	0.112		--		--	
Model-specific paths		TIGHT → RC	0.136	CRISIS → ΔTARGET	0.321***	CRISIS → ΔCENTR	0.069
		TIGHT → RA	0.043	ΔTARGET → RC	0.067	CRISIS → ΔR&P	-0.095
		TIGHT → EMOEX	0.257***	ΔTARGET → RA	0.029	ΔCENTR → RA	-0.101
				ΔTARGET → EMOEX	0.107	ΔCENTR → RC	0.174
				ΔTARGET*ENBUD → RC	-0.005	ΔCENTR → EMOEX	-0.077
				ΔTARGET*ENBUD → RA	-0.023	ΔR&P → RA	-0.026
				ΔTARGET*TRUST → RC	0.093	ΔR&P → RC	-0.050
				ΔTARGET*TRUST → RA	0.110	ΔR&P → EMOEX	-0.076
Variance explained		ΔTIGHT	13.8%	ΔTIGHT	13.8%	ΔTIGHT	13.8%
		RC	11.7%	RC	11.2%	RC	13.1%
		RA	44.9%	RA	40.0%	RA	40.2%
		EMOEX	44.9%	EMOEX	40.2%	EMOEX	40.6%
				ΔTARGET	10.3%	ΔCENTR	0.50%
						ΔR&P	0.90%

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$  (1-tailed for hypothesized associations, 2-tailed otherwise).

CRISIS = Crisis impact, ΔTIGHT = Change in budget tightness, TRUST = Trust in senior management, RA = Role ambiguity, RC = Role conflict, EMOEX = Emotional exhaustion; ENBUD = enabling budget design; TENURE = job tenure; TIGHT = Current level of budget tightness, ΔTARGET = Change in capital expenditure and operational cost budgets, ΔCENTR = Change in centralization, ΔR&P = Change in importance of rules and procedures.