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Managing risk as a duality of harm and benefit:

A study of organizational risk objects in the global insurance industry

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ABSTRACT

This study examines how organizations construct and manage risk objects as a duality of harm-benefit within their normal operations. It moves beyond the existing focus on accidents, disasters and crisis. We study the risk-transfer processes of 35 insurers where they navigate the tension of retaining risk in their insurance portfolio to increase the benefit of making profit and transferring risk to reinsurance to reduce the harm of paying claims. We show that organizations' constructions of risk are underpinned by everyday risk management practices of centralizing, calculating, and diversifying. Through variation in these practices not all organizations seek balance and we, in turn, uncover the sensemaking processes of abstracting and localizing that enable organizations to prioritize harm or benefit. This contributes to the risk literature by illuminating the co-constitutive relationship between risk sensemaking processes and everyday risk management practices. Following the complex linkages involved in the construction of risk objects as sources of harm-benefit, our analysis also contributes to the literature on dualities. It shows that while immediate trade-offs between harm-benefit occur, prioritizing one element of the duality is ultimately a means for attaining the other. Thus, while initial imbalance is evident, prioritization can be an enabling approach to navigating duality.

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Introduction

Organizations produce, evaluate and manage risks (Hardy and Maguire, 2016, Scheytt et al., 2006). Yet, few studies explore how risk is constructed and managed within organizations (Gephart et al., 2009, Maguire and Hardy, 2013), as existing research primarily focuses on ‘extreme’ organizational sites of accidents and disasters (Brown, 2004, Gephart, 1993, Leveson et al., 2009). We need to move beyond extreme cases to study the benefit – not just harm – of risk-taking activities (Geppert et al., 2013, Bromiley, 1991) inherent in everyday risk management (Power, 2016). How organizations navigate risk-taking and risk-reduction activities in their everyday risk management practices is critical to their sustainability and avoiding crises in the wider societal systems in which they participate (Palermo et al., 2017, Power, 2016). In response, this study explores how organizations construct and manage risk objects (Hilgartner, 1992, Maguire and Hardy, 2013, Boholm and Corvellec, 2011) as a duality of harm-benefit within their normal operations (Bourrier, 2002, Power, 2014, Power, 2016, Palermo et al., 2017).

Our qualitative examination of risk-transfer in multiple insurance organizations provides a theoretically salient context for this study due to the entanglement between harm (potential for large scale losses) and benefit (profits accruing from risk-taking) involved in trading risk. To manage uncertain losses following large-scale disasters, insurers pay a premium to transfer a portion of risk in those portfolios to reinsurers. A study of this risk-transfer process enables a nuanced analysis of how the duality of risk is navigated. Namely, protection through risk-transfer focuses on harm minimisation, yet also reduces the potential benefit as it comes as a cost. Increasing benefit by retaining the risk themselves as a source of profit is thus in tension with reducing harm by transferring risk to reinsurers. We focus on how insurers navigate the duality of harm-benefit.

We develop a framework that shows how organizations construct and manage risk objects as a duality of harm-benefit within their normal operations. We find considerable variation in how organizations construct and manage the duality of risk. Surprisingly, not all organizations seek to simply balance harm-benefit. Some organizations explicitly prioritize risk-transfer (to reduce harm) while others explicitly prioritize risk-retention (to increase benefit). This

variation is explained through three risk management practices we found: centralizing, calculating, and diversifying practices. In turn, these practices unfold within two distinct sensemaking processes about the duality of risk: abstracting and localizing. Drawing on the risk-object framework and its focus on how causal links to harm are socially constructed (Elliott, 2019, Hilgartner, 1992), our analysis surfaced weak, strong, and outcome links to the construction of harm and benefit within these sensemaking processes. In doing so, harm and benefit form a unified interdependent whole even as they remain contradictory elements within organizations (Putnam et al., 2016). Our analysis explains a complex dualistic relationship, whereby constructing and managing risk objects always entails a dynamic entanglement of harm and benefit, even where one or the other is prioritized.

The resultant framework contributes to literature on the social construction of risk within organizational theory (e.g. Maguire and Hardy, 2013, Palermo et al., 2017). We move beyond the existing focus on disasters and accidents to explain the normal operations through which organizations manage risk as a duality. In doing so, we also extend research on sensemaking about risk (Gephart, 1993, Weick, 2010), and managing organizational dualities (Putnam et al., 2016, Farjoun, 2010).

Theoretical framing

Organizational risk objects

This study draws from organizational scholarship showing that risk is socially constructed (Gephart et al., 2009, Miller, 2009, Tierney, 1999). We build on the ‘risk objects’ concept (Hilgartner, 1992, Maguire and Hardy, 2013); an explicitly organizational framework that focuses analytically on the *practices* within organizations. In doing so, we shift attention from culture and society (e.g. Beck, 1992, Douglas, 1986, Giddens, 1999, Tsoukas, 1999) and individual-level cognition and decision making (e.g. Stein, 2000, Holt, 2004, Mitchell, 1995) in relation to risk, to focus on the less studied aspects of organizational work and interaction (Power, 2014, Power, 2016).

The risk object framework examines how objects are constructed as risky through processes of social construction that causally link them to specific harms (Maguire and Hardy, 2013, Samsonova-Taddei and Humphrey, 2015). The dominant focus within organizational research

has been on the construction of risk through managerial sensemaking and perception (e.g. Gephart, 1993, Roberts et al., 2007, Weick, 2010, Winch and Maytorena, 2009). Such research has explored how sensemaking breakdowns cause accidents (Weick, 2010, Weick and Roberts, 1993) and sensemaking processes post-disasters (Topal, 2009, Gephart, 1993). For example, in high reliability organizations that avoid such harmful disasters and crises, sensemaking involves collective mindfulness that orientates actors towards preoccupation with failure and sensitivity to operations to avoid harm (Weick et al., 2008, Weick and Roberts, 1993). These studies have shown how risk sensemaking unfolds in the actions of organizational actors as they react or fail to react to events. Other related studies have shown the role of discursive work in sensemaking about managing risk (Brown, 2000, Malenfant, 2009). For instance, Brown's (2004: 95) study of the public inquiry following a disaster shows that public discourse can concoct "myths that emphasize our omnipotence and capacity to control". Maguire and Hardy (2013) further explore the discursive work involved in stabilizing and destabilizing dominant meanings associated with risk objects.

The focus of this literature has been on the social construction of risk as harmful or not, predominantly in relation to disaster and accident; a focus with a long-lineage in organizational research about risk (Turner, 1976, Perrow, 1984). Namely, organizational studies of risk share "a tendency to gravitate, with a few exceptions, towards [...] dramas or disaster" (Power, 2014: 378; e.g. Gephart, 1993, Gephart, 1997, Roberts et al., 2007, Brown, 2004, Leveson et al., 2009, Lounsbury and Hirsch, 2010, Stein, 2000). This dominance has prompted calls to uncover the construction of risk objects as a source of benefit not only harm, particularly within the normal operations of organizations (Bourrier, 2002, Power, 2014, Power, 2016, Palermo et al., 2017) that highlight the 'continuity of organizational activities' rather than instability and change (Maguire and Hardy, 2013: 240).

The social construction of risk objects is entangled with efforts to control them (Maguire and Hardy, 2013, Hilgartner, 1992). Controlling risk objects involves organizational attempts to displace 'harm' or, at least, weaken the link between a risk object and harm (Hilgartner, 1992). Here, we use the term managing risk, rather than controlling, to reflect that risk in many organizational contexts cannot be fully controlled. The organizational literature on managing

risk is preoccupied with calculation. Moving away from the notion of objective calculation of risk (e.g. Lupton, 1999, McNamara and Bromiley, 1997, Tversky and Kahneman, 1974) to its social construction, it has focused on how calculative practices not only measure but also construct risk. In this literature, managing risk is linked with calculation (e.g. Power, 2004, Millo and MacKenzie, 2009) as the central “infrastructure of the risk industry” (Ciborra, 2006: 1339). Such calculative practices are entangled with and reflect other elements beyond metrics, such as values and political interests. Indeed, such studies note varied risk management approaches and calculative cultures within organizations (Palermo et al., 2017, Mikes, 2009, Mikes, 2016, Mikes, 2011). Building on this, we need to delve into the everyday normal operation of risk management to expand understanding of organizational risk management beyond calculating practices. This will enable management scholars to account for the plurality of risk work (Power, 2016) and identify the dynamic and consequential relationships between a broader array of organizational practices (Feldman and Orlikowski, 2011) involved in managing risk.

Risk as a duality of harm and benefit

Within organizations, the association with profit-making (Geppert et al., 2013, Delis et al., 2015) means that risk can signify not only harm but also opportunity (Power, 2009, Maguire and Hardy, 2013, Palermo et al., 2017, O'Malley, 2000). For example, the safety literature has highlighted the contradiction between protection and production in the organizational accidents context, whereby more of one leads to less of the other (Reason, 2000, McLain and Jarrell, 2007, Reason, 1997). In a rare exception within the management literature, Palermo et al. (2017) recognize that risk culture can be defined by both the opportunity logic (benefit) and the precaution logic (harm). They show, within a single organizational case, how this institutional complexity is translated into an organization's efforts to reform its risk-taking culture.

We turn to the literature on dualities to further theorize the linkages to harm and benefit that are formed in socially constructing risk objects (Hilgartner, 1992). Dualities are two interdependent opposites that exist within a unified whole (Putnam et al., 2016, Farjoun, 2010). Whereas dualism involves division into ‘separate, paired elements’, duality constructs

contradictory elements (such as harm and benefit) as ‘no longer separate or opposed, although they remain conceptually distinct’ (Jackson, 1999: 545; also see Costanzo and Di Domenico, 2015, Feldman and Orlikowski, 2011, Farjoun, 2010). As Putnam et al. (2016) summarize, duality involves oppositional elements that, because of their interdependence, exist in complex both/and rather than an either/all relationships (Smith and Lewis, 2011). This perspective informs our understanding of how linkages are constructed between risk objects and their harm or benefit potential, including the way that risk management efforts generate various, often unintended, linkages (Brivot et al., 2017, Hilgartner, 1992, Boholm and Corvellec, 2011, Elliott, 2019). Such an approach enables insight into the social construction of multiple causal linkages to both harm and benefit that unfold within the everyday risk management efforts of organizations (Lê & Bednarek, 2017).

In sum, this study attempts to unpack the multiple linkages between harm and benefit that unfold in the varied constructions of a particular risk object. To do so we explore the normal operations through which organizations construct risk object as part of the everyday practices of managing risk. Drawing on the risk object framework and the notion of organizational dualities, we set out to address the following theoretically-informed research question: *How are risk objects socially constructed within multiple linkages between harm and benefit during the everyday risk management practices of organizations?*

Methods

Research context

Insurance organizations are a salient empirical context for studying the duality of risk as they make profit from trading in risk (Allen and Santomero, 1997, Adams and Jiang, 2017). They offer protection to individuals and firms by providing them with insurance policies. These policies, collectively, form their insurance portfolio, which is the focal risk object that insurers construct and manage as a source of both harm from which they need protection and benefit on which they need to capitalize. This portfolio can cumulatively expose insurers to harm: having to pay many claims after a catastrophic event, such as an earthquake in Japan, could strip their capital reserves. Yet, it also provides insurers with benefit: insurers make a profit when the earned premiums outperform the paid claims.

This study focuses on the *risk-transfer* process where decisions about how to navigate this complex relationship between harm and benefit are made (Jarzabkowski, Bednarek & Spee, 2015). Transferring risk from their portfolio to the reinsurance industry is the central way that insurers manage their risk object. This involves decisions about how much risk to retain themselves and how much to transfer to reinsurers. Transferring some risk from their insurance portfolio provides *protection* from harm: the more risk transferred to reinsurers the more protection gained. Yet insurers make profit from retaining risk which means the more risk they transfer the more potential benefit (profit) they lose since transferring risk comes at a cost as insurers pay premiums to reinsurers. This entanglement generates an additional link between harm and benefit: paying too much for reinsurance erodes the potential benefit inherent in the risk object.

Research Design

We purposefully selected a wide range of insurers to imbue organizational variation into our research findings (Eisenhardt, 1989). We explored 35 ‘mini’ cases that differed in size and geographic scope (Table 1; column 3) and spanned seventeen countries, from more developed insurance markets (e.g. United States) to developing ones (e.g. Indonesia). Our purposeful sample included the world’s largest global insurers with turnover as high as US\$50 billion, as well some of the smallest single-territory insurers with a turnover of US\$100 million. We focused only on their non-life business (e.g. property) in our sampling and discussions.

[Table-1]

Consistent with the qualitative data triangulation principles (Yin, 2009, Miles and Huberman, 1994), we collected data from multiple sources, including 76 transcribed interviews (60-180min), 39 observations, and 150 documents all pertaining to our firms. Specifically, during 2011-2012 we conducted interviews with 52 individuals across 35 insurers. As risk-transfer to the reinsurance industry is a specific and clearly identifiable role in insurers, we interviewed those managers responsible (i.e. reinsurance department head and/or chief reinsurance buyer). Where it was relevant to those risk-transfer roles, we interviewed more than one person in these organizations. Interviews focused on four areas: risk-transfer overview; organizing risk-transfer; relationships with reinsurers; and specific practices and activities related to risk-

transfer. We asked practical questions about how their organization managed risk. In short, these interviews focused on organizational approaches to risk rather than individual perceptions of risk and risk-transfer.²

To corroborate this organizational picture, we triangulated through the additional following data sources. We conducted 28 triangulating interviews with reinsurers and reinsurance brokers about the risk transfer processes of 15 of our 35 insurers. We also conducted 39 observations across 22 of our cases. These included risk-transfer meetings between our insurers and their reinsurers at their premises or industry conferences; informal insurer-broker interactions (in person or via telephone); social dinner events between insurers and reinsurers; and internal meetings discussing risk-transfer. Finally, we collected 150 organizational-specific secondary documents including annual reports, media articles and internal documents for all our organizations (2011-2013).

To ensure our dataset trustworthiness (Lincoln and Guba, 1985), we thus undertook several steps (Yin, 2009, Miles and Huberman, 1994). Interviews targeted the most relevant people vis-à-vis risk-transfer in each organization. For nearly all our organization we supported these data with additional relevant interviewees, from both inside and outside and with observational data. Secondary data on all 35 cases was used to complement and validate the findings, building a picture of each organization to confirm, clarify, or challenge our emerging coding. Further, our data and analysis were complemented through contact with industry, including monthly meetings on the emerging findings with insurers, reinsurers and brokers. We also provided these organizations with reports on their risk-transfer practices, which we benchmarked against the industry. These formed the basis of follow-up meetings and emails with them to confirm veracity with their experience in accordance with qualitative principles of verification (Miles and Huberman, 1994, Weick, 1989). The dataset is, thus, consistent with others who have examined variation through a spread of interviews of individuals in a similar role across a sample of organizations (e.g. Lozeau et al., 2002, Stenfors et al., 2007), complemented by other

² Our approach is consistent with Weick et al's (2005) organizational sensemaking theorization, which unfolds not through the individual cognition or interpretive acts of managers but in the collectively enacted organizational practices (e.g. Hutchings, 1995, Maitlis, 2005); and with other studies that have used interviews with managers to uncover organizational practices and dynamics (e.g. Paroutis and Heracleous, 2013, Jarzabkowski and Balogun, 2009).

triangulated interview, observation, and documentary data, to uncover variation in organizational dynamics (e.g. Paroutis and Heracleous, 2013)

Data analysis

We engaged in several phases of thematic analysis (Miles and Huberman, 1994). First, sensitizing ourselves to our primary dataset of comparable interview data with participants across all our case organizations (Seale, 1999), we identified two distinct approaches: emphasizing risk-transfer to *protect* their business from the harm arising from high claims and deemphasizing risk-transfer (emphasizing risk-retention) to capitalize on the benefit (profit) and avoid paying too much on reinsurance. We turned to the literature on risk (Palermo et al., 2017) and organizational dualities (Putnam et al., 2016) and began to theorize this finding as a duality of harm and benefit. Drawing upon existing methods for coding variation in the relative strength of phenomena in qualitative data (Bailey et al., 2012, Andriopoulos and Lewis, 2009), we developed a coding system for identifying whether the evidence for capitalisation on the benefit versus protection from harm was strong, moderate or weak in individual cases. This provided us with the initial contours for a continuum upon which our different organizations were clustered (Table 1).

Second, we searched for patterns across our data to explain the variation, moving from structural explanations (see Table 1; Size/Geo)³ to engaging in first-order coding to assess the dominant activities related to risk-transfer. Clustering these first-order codes (activities) three organizational practices emerged as second-order themes – *centralizing, calculating and diversifying* (detailed in Appendix 1) that explained our observed variation in how organizations navigate the harm-benefit duality (Gioia et al., 2013). As these three practices varied between organizations, we categorized them for each case as high, moderate, and low, using the same methods as our previous coding of relative evidence of phenomena (Bailey et al., 2012, Andriopoulos and Lewis, 2009). Based on the systematic coding of each separate excerpt, we then classified each organization’s overall ‘approach’ to each practice.

³ We organized our organizations by size and geographic scope, drawing largely from our secondary data. We found these structural features to be only partially explanatory of the dynamic variation. Namely, while there is tendency of large/global organizations to prioritize benefit and small/local ones to prioritize harm, many large firms were found to prioritize protection from harm and many smaller organizations to prioritize benefit. Such contingency explanations did not appear to hold as evident in Table 1.

Third, we returned to our continuum to cluster our organizations according to the way patterns in these three practices explained their different emphases on protecting from harm versus capitalizing on benefit. We found three clusters that allowed us to label organizations as Risk-Balancers, Risk-Capitalizers, or Risk-Protectors. As we theorized these patterns, we found the risk object framework particularly illuminating for explaining the dynamics involved in constructing and managing the insurance portfolio as a risk object within our particular and varied organizational practices (Hilgartner, 1992, Power, 2014).

Fourth, consistent with our research design, to further validate our emerging framework and analysis we delved deeper into some of the cases, selecting a spread of ‘Balancers’, ‘Capitalizers’ and ‘Protectors’. Using the additional interviews and observations about their risk transfer process to delve into these select cases for more depth, we reconfirmed our initial classification. This additional data and analytical step were not only confirmatory of our initial analysis, providing confidence and robustness to our emerging framework; it also helped us to build rich vignettes of illustrative cases (Jarzabkowski, Bednarek & Lê, 2014) that became the basis for our final analytical step.

Finally, as we returned and interrogated our analysis in this way, this prompted a last round of interpretation (Wolcott, 1994) to explore how particular constructions of the risk object (harm-benefit) were enacted within specific variations of the organizational practices (Hilgartner, 1992). We found the processes of abstracting and localizing to be explanatory, which we theorized as different ways of making sense of the risk duality (Gephart, 1993, Weick, 2010). Exploring these sensemaking processes in greater detail allowed us to take the implications of the risk object framework seriously to theorize the construction of three main linkages (weak, strong and outcome) to harm and benefit within the specific and varied risk object enactments in our different organizational clusters (Boholm and Corvellec, 2011). Specifically, within processes of either abstracting or localizing, organizations constructed a strong linkage with either benefit or harm respectively, but also formed a weaker linkage with the other end of the duality. Yet as they never neglected any part of the duality, these also formed an outcome linkage by constructing an interdependent relationship between both realising protection and accessing benefit for all organizations (Putnam et al., 2016).

Findings

We first outline the varied *harm* and *benefit* constructions of the risk object, in terms of how organizations juggle the dual-foci of *protecting* from harm versus *capitalizing* on benefit within the risk-transfer process (Fig.1; A). We show that this variation is underpinned by how organizations manage risk objects (B) through the three organizational risk management practices of *centralizing* (B1), *calculating* (B2), and *diversifying* (B3). We also introduce the two sensemaking processes (C) about risk - *abstracting* (i) and *localizing* (ii) - that both shape and are shaped by these practices and construct multiple linkages to harm and benefit that vary between organizations. We bring this analysis together within a framework (Fig.1) which we present below as a means of navigating the layers of analysis in the findings.

[Figure-1]

Constructing the risk object as a duality: Risk juggling along a continuum

Insurers construct their insurance portfolio, the focal risk object, as simultaneously harmful and beneficial. This represents a trade-off as insurers transfer risk to protect from harm and retain risk to capitalize on benefit. The more risk is transferred to reinsurers the more protection gained and harm reduced, but the more potential profit (benefit) is also transferred away. And yet, conversely, the more risk retained the more benefit is capitalized, but also the more potential harm is retained. This harm and benefit cannot be separated and are always entangled in a complex fashion given that insurers make profit from sources of potential harm. Insurers navigated this in different ways (see Table 2).

[Table-2]

First, given this inescapable duality, many insurers enacted risk-transfer as a process of balancing the harm and benefit inherent in the risk object (insurance portfolio). For them risk-transfer involved a necessary balance between protection from harm and capitalizing on benefit through risk-retention. We called these ten organizations we found in the dataset, *Risk Balancers* (Table 1). Second, surprisingly, rather than balancing, many organizations constructed the duality by consistently prioritizing either harm or benefit at the expense of the other. Some insurers constructed the risk object as primarily a source of *benefit*, strengthening the link to benefit by retaining as much risk as possible: “*maximise return and make sure we*

minimise the risk-transfer which we think we can easily absorb with our balance sheet [retention]” (Org.3, Interview). We labelled the nine such organizations we found in the dataset *Risk-Capitalizers* (Table 2). By contrast, other insurers constructed the risk object as primarily a source of the *harm* of having to pay many claims after a disaster and transferred as much risk as possible to reinsurers to maximize *protection* from that harm: “*if I could, I would have brought reinsurance [risk-transfer] on everything*” (Org.31, Interview). We labelled the sixteen organizations we found in the dataset *Risk-Protectors* (Table 2).

Regardless of their prioritization, all insurers still recognized and actively navigated both ends of the duality. Risk-Capitalizers, while wanting to minimize risk-transfer, still transferred the risk that they considered most volatile to gain some protection. Conversely, while Risk-Protectors transferred a significant portion of their risk, they still retained some as source of profit. Thus Risk-Capitalizers still constructed a minimal link to harm (from which they needed protection) and Risk-Protectors still constructed a minimal link to benefit (that they needed to capitalize on).

*Three organizational practices of managing the risk object*⁴

We found three organizational practices [Fig.1, B1-B2-B3] that appeared critical to explaining how organizations manage the risk object. *Centralizing* reflects whether decision making about risk-transfer is centralized within the organization versus decentralized to those closest to the risk (e.g. individual underwriters or local operating hubs). We identified three activities that explain the extent to which centralizing risk-transfer was high, moderate or low in any one organization: authorizing (who authorizes risk-transfer), monitoring (how standardized versus flexible the risk-transfer process is) and consolidating (whether risk-transfer is consolidated or done within multiple separate accounts and profit centres). *Calculating* concerns technical modelling to analyse portfolios and make risk-transfer decisions. Insurers could be high, moderate or low on two calculating activities: *using* models to make risk-transfer decisions (e.g. the degree to which models were used as part of decisions) and *assessing* information/data quality (e.g. the confidence expressed in the information underpinning the models).

⁴ Appendix 1 provides examples of the organizational activities and practices (low, medium, high) for all organizational clusters – Risk-Capitalizers, Risk-Balancers and Risk-Protectors (columns 3-5).

Diversifying involves spreading uncorrelated types of risks and geographies across a portfolio. While some diversification is fundamental to the notion of insurance, its extent varies considerably and represents an insurer's overall strategic approach to risk. Two related activities explain whether diversifying is high, moderate or low within particular organizations: *incorporating* diversification benefits in portfolio evaluations and *growing* diversification.

Insurers showed varied patterns in the extent to which they were high, moderate, or low on these centralizing, calculating and diversifying practices. Risk-Balancers took a flexible approach, being moderate or balanced across the three practices as they sought to balance harm and benefit. Risk-Capitalizers constructed a strong linkage to benefit by being high in centralizing, calculating, and diversifying, whereas Risk-Protectors were low on these practices which enabled them to construct a strong linkage to harm (see Appendix 1).

Interconnections-in-action

We now show the unfolding *interconnections* between these practices and risk objects' varied constructions as dualities of harm and benefit through three representative, anonymized, vignettes. In particular, we surface two sensemaking processes that construct the risk object duality in particular ways and arise from but also prompt the particular risk management practices.

Balancing harm and benefit: Risk-Balancers. The first vignette illustrates how organisations balanced the duality of protecting from harm and capitalizing on benefit. Retaining more risk increased benefit but also decreased protection from harm, while transferring more risk to reinsurers increased protection but also decreased benefit. These organizations therefore sought to balance risk-transfer and retention.

Vignette 1. Risk-Balancer

Paragraph1. “20% growth this year!” Tony exclaims. It is 8am and the BalancerInc. team are discussing risk-transfer for Western Continental Europe. Sam, the underwriter, explains that the diversification benefits had made European growth “*a sensible thing to do*” to balance the U.S. business in their portfolio [Fig.1, B3 - moderate]. Tony, the chief reinsurance buyer who had flown in from Bermuda, states “*given this, I wonder whether the reinsurance spend is too expensive. We could buy a shitload less reinsurance*” [A1]. Yet, despite the diversification benefit, they believe they still need to buy some protection for this new risk [A2]. They mention CompetitorA who took more TerritoryA risk: “*one big flood and they were screwed*” [A2].

Paragraph2. Pointing to the figures in their intensive modelling of the region, Sam queries, “*I mean, what on earth does that mean? I don't believe a word of it.*” They discuss the figures, why they don't make sense in some areas. “*Do we need to do more modelling?*” Tony shrugs, if Sam, as the local underwriter, has a good gut-feel for it, then “*just get on with the discussions with reinsurers*” [B2 - moderate]. They agree, given the ambiguity, it is certainly better to buy additional protection for flooding [A2]. However, Tony reiterates they can carry some extra windstorm as “*diversifying income*” and not buy extra protection in that area. He'll look at the overall capital diversification model tomorrow [B1/B3, A2/A1].

Paragraph3. At a follow-up interview Tony further summarized the BalancerInc. approach: “*I COULD buy reinsurance to protect us for everything. But that will mean profit will drop - we'll spend too much money*” [A2/A1]. Reinsurance buying at BalancerInc. was organized to enable this balance. Each division estimates the cover they needed, with the buying negotiated locally but in close collaboration with the chief reinsurance buyer. “*No separate line of business can just buy reinsurance*” without consultation. Tony references his relationship with Sam as an example: many meetings, telephone, and video-conference calls. “*Nonetheless, if they [local underwriters] really want to protect their bottom-line, we'll let them buy it. As long as they are within the broad parameters I set*”. He explains it can get a bit complex: “*there's all sorts of different models, different versions loaded in 10 different ways between the local divisions.*” But he manages to reflect on the overall portfolio [B1 - moderate, A2/A1].

This vignette provides a typical example of balancing. First, Risk-Balancers made trade-offs *within* the individual practices. Tony and Sam iterate between decisions regarding risk-transfer that are neither centralized at the group level nor fully decentralized to local underwriters (moderate centralizing; Paragraph2-3). Similarly, BalancerInc. both modelled extensively and simultaneously displayed caution regarding models' efficacy, using managerial judgement when appropriate. Second, Risk-Balancers also make trade-offs *between* the practices (see mixes of low, high and moderate in Table 1; Org.11-12, 17-18). For instance, low centralization by giving localized underwriting teams autonomy, but trading this off with high modelling and moderate diversifying to give those local, decentralized teams “*information to consider whether or not we should internalise some of your [reinsurance] purchase*” generates balancing and avoids over-prioritizing protection (Org.11). In this way, the organizational practices shifted according to the portfolio specifics, as when Sam and Tony shifted from high

diversifying vis-à-vis windstorm to low diversifying on flood (Paragraph2). Risk-Balancers, thus, enacted the organizational risk management practices flexibly and dynamically in specific ways to balance risk as a duality of harm-benefit (see Table 1).

A reinforcing cycle of abstracting: Risk-Capitalizers. The following vignette shows how Risk-Capitalizers consistently prioritized risk-retention through being ‘high’ on the organizational practices of centralizing, calculating and diversifying. We show how this enables them to *abstract* (i) the harm in their risk object and thus make sense of it as ‘manageable’.

Vignette 2. Risk-Capitalizer

Paragraph1. In the interview, CapitalizerInc.’s CEO dismissed the notion of harm when a specific flood event was mentioned: “[X]00m loss doesn’t make a difference to the profit forecast” (Interview) [Fig.1, A1]. They could recover like that (he snapped his fingers) from such a localized event [i]: “People shouldn’t worry about cover [A1] ... what they’ve got to worry about is making profit [A1]. It’s all about ROE [return on equity].” [A1, i]. Indeed, in the media, he emphasized how the portfolio is a source of benefit and through the risk management practices the need for risk-transfer is reduced: “CapitalizerInc. has consolidated and centralized its reinsurance buying [B1 - high] ... viewing our portfolio in its entirety reveals an inherent risk diversification [B3 - high] that reduces the external reinsurance needed [A1]”.

Paragraph2. This drive to buy as little reinsurance as possible was a central topic in CapitalizerInc.’s interactions with reinsurers. During one meeting in Zurich a manager at a reinsurer, Manuel, expressed his frustration. “We have suffered from this restructuring in your buying behaviour, this overall reduction in your buying.” After the briefest of silent pauses Rose, one of CapitalizerInc.’s reinsurance buyers, smiled and shrugged. It made them money, so they weren’t going to be changing. If anything, they will be retaining more next year [A1]. She explains they are comfortable buying less reinsurance now they have centralized their decision making about their portfolio diversification [B1, B3 – high, i].

Paragraph3. Rose outlines they are confident to transfer only what they need now they have in-depth understanding of their exposure: “The data quality is good, we have no real issues.” She states they model their whole portfolio at the head office to get a global picture [B2, B3 – high, i]. The good news is they pass that quality analysis onto their reinsurers. Manuel agrees reinsurers appreciate the very technical modelling at CapitalizerInc. [B2 – high].

Paragraph4. As we walk to the tram after the meeting, we ask Rose what this all means on a day-to-day level. She explains “the information needs to be gathered from all the operations”. Centralizing information flow for modelling increases connectivity within the firm [B1/B2 - high]. Standardisation of data is part of this flow into the centre, and has enabled them to model their portfolio better: “we now have standardised formats for the risk profiles, the claims profiles. That enables us to consolidate it at the group level” [B1 - high].

This vignette illustrates that Risk-Capitalizers retain as much risk as possible and prioritize benefit [A1] via a *reinforcing* cycle of being high on all practices [B1-3]. Through these practices such organizations retain more risk without however increasing the harm they are

exposed to and thus the protection they require. First, high centralizing, for instance consolidating local profit centres, reinforces their ability to evaluate the diversifying benefits of the whole portfolio. In turn, this drive to capture the diversification benefits further reinforces the desire to centralize (Paragraph1). Second, high calculating activities, such as building models and quality databases, reinforces and enables confidence in the diversification evaluations based on those modelled outputs. Simultaneously, understanding the diversification benefits inherent in a portfolio is technically complex and therefore reinforces the drive for more extensive modelling (Paragraph3). Third, prioritizing highly technical modelled data about harm abstracts it from the local operating context, making it transferrable to those at the corporate centre and enabling them to make risk-transfer decisions (high centralizing). Simultaneously, standardization and consolidation support the complex large databases that underpin high modelling (Paragraph4). In sum, capitalizing on benefit by retaining more risk, rather than buying more reinsurance, unfolds through reinforcing practices of high centralizing, calculating, and diversifying.

The vignette also shows that this reinforcing pattern constructs the risk object via a sensemaking process about risk, which we label *abstracting* (i). High centralizing, calculating, and diversifying practices dissociate the risk object from any specific tangible instance of harm, constructing it as abstract and distant. High centralizing constructs the harm inherent in the risk object as far away (those making the decision about risk-transfer are not embedded in the location of any specific harm); high modelling constructs the risk as numerical and intangible (rather than bringing the harm alive as specific tangible catastrophic events); high diversifying privileges a consolidated picture of the insurance portfolio (again conceiving harm as disassociated from any specific tangible harm, as indicated by CapitalizerInc,'s CEO dismissal of one flood event as harmful). Through abstracting, the harm inherent in the risk object is thus made sense of as detached from any particular local harm, so enabling benefits of the portfolio to be prioritized over protection (see Table 3).

A reinforcing cycle of localizing: Risk-Protectors. The final vignette shows how Risk-Protectors consistently prioritize risk-transfer through being 'low' on the organisational

practices of centralizing, calculating, and diversifying. We show how this enables them to *localize* (ii) the harm in their risk object and thus make sense of it as manageable.

Vignette 3. Risk-Protector

Paragraph1. Insurers and reinsurers met in 30-minute slots at the Marina Sands conference venue. As we wait for the reinsurer to arrive Hassan, the CEO of a Pakistani insurer ProtectInc, outlines their reinsurance needs: *“we tend to buy a lot of reinsurance, not just to cover the big events, to keep a lot of the volatility out of our portfolio [A2]”*. It is about buying a lot of reinsurance to protect the viability of this company: *‘reduce the volatility while allowing them to take on more risk basically’ [Fig.1, A2]*.

Paragraph2. Hassan is there with his underwriter, Ali, who explains: *“I know the clients better, I know how they do their business” [B1/B2 - low]*. His CEO agrees: *“If my underwriter – Ali or one of the others - cannot give pressure to the reinsurer, then they ask myself to call the reinsurer to have a negotiate. Normally, I leave it to them.” [B1/B2 - low]*. He points out that underwriters always know the specific risk better and are closer to it [B1/B2 - low]. As the reinsurer arrives it is indeed obviously Ali they know best; Greg, the reinsurance underwriter, jokes about an email Ali had just sent him. [ii]

Paragraph3. As the meeting begins, Hassan states they are disappointed the reinsurer hasn't come and visited them in Pakistan. Ali vividly describes the specific risk of terrorism and that the reinsurer needs to understand how they manage this risk in their local context: *“this is a country and people who are making a war on terrorism.”* They as an insurer really understand this risk in a hands-on way and want their reinsurer to see that by visiting them [B2 - low]. Greg, says they will come next year, and Hassan gives a satisfied nod [ii]. Greg asks them how much of their risk is in Pakistan. Hassan responds they are not just growing for diversification sake: *“We only operate in Pakistan really. We have written business only in those areas where we can actually showcase our knowledge and professionalism.” [B2/B3 - low]*. The 30 minutes draws to a close with promises to plan a visit next year. [ii]

Paragraph4. During the follow-up interview with Ali, we ask about the fact that models hadn't been mentioned once during the meeting. He explains: *“There's a couple of earthquake models but they're pretty ordinary. No one really understands how the building stock behaves.” [B2 - low, A2]*. We turn to what he *does* focus on in his underwriting: *“Each type of risk is seen individually. I want to see what the type of construction is.” [B2 - low]*. As Ali states, he lives and works in the neighbourhood where the majority of the risk in his portfolio also resides. [ii]

This mini-vignette illustrates how Risk-Protectors consistently prioritize protection to minimize harm within the duality of harm-benefit. *Protection from harm* [A2] - most simply summarized as transferring more risk through buying more reinsurance - unfolds through a reinforcing cycle of being low on centralizing [B1], calculating [B2], and diversifying [B3] practices. For example, without centralizing calculations about the portfolio diversification benefits it is not possible to assemble large calculative databases or use portfolio diversification as a protection from harm. Rather, transferring risk to reinsurers is the primary way to decrease the harm to which they are exposed. First, believing that the judgement of localized

underwriters, who are closest to the risk, should drive decision making about risk-transfer (low centralizing) is reinforced by a lack of confidence in models (low calculating). We see this in the vignette, where privileging local underwriter knowledge simultaneously explains the de-prioritization of models and makes the underwriter the key decision maker (Paragraph1-2). Second, low diversifying is also entangled with this caution around models. The models necessary for evaluating portfolio diversification are not trusted by Risk-Protectors. As the vignette shows, in-depth knowledge of a specific local area is instead the foundation for risk-transfer, rather than technical calculations of diversification benefits (Paragraph4). Third, low emphasis on the diversifying benefits of the portfolio means less impetus to centralize.

The vignette shows that this reinforcing pattern constructs the risk object through a sensemaking process about risk which we label *localizing* (ii). Enactment of the reinforcing practices of low centralizing, calculating, and diversifying constructs the harm inherent in the risk object as proximate, tangible and multiple (Table 3). Effectively, the distance between the harm inherent in the risk object and the organization is reduced, thus prompting a focus on protection. First, low centralizing co-locates risk-transfer decisions and the harm inherent in the risk object. This is exemplified in the underwriter who most intimately knows the tangible harm, as he deals with those buying property insurance in Pakistan, overseeing risk-transfer. Two, low calculating involves making the harm inherent in the risk object tangible as part of underwriter judgement, rather than considering it in abstract ‘modelled’ terms (Paragraph5). In short, bringing the harm ‘alive’ within the specific local context in which the organization is similarly embedded. Finally, low diversifying means harm is understood as multiple specific harms embedded in the relevant local contexts rather than constructing it in aggregated consolidated terms. Through this localizing process, Risk-Protectors, thus, make sense of their portfolio as comprising multiple tangible localized harms from which they need protection through risk-transfer to reinsurers.

Constructing linkages between harm and benefit

Our findings highlight the interrelationship between sensemaking processes about harm-benefit (Fig.1; C) inherent in the risk objects construction (A) and the organizational practices of managing those risk objects (B). Some organizations respond by balancing harm and benefit

via a moderate approach to *centralizing*, *calculating*, and *diversifying*. This is a common-sense approach that neither overemphasizes risk-taking that can potentially harm the organization, nor neglecting it which could discount the opportunity of capitalizing on risk. However, our framework (Fig.1) shows that many organizations also prioritize one end of this continuum. We now explore this complicated trade-off further. Namely, we illustrate how the complexity involved in constructing risk objects leads to new linkages (Hilgartner, 1992) as prioritizing harm or benefit involves a trade-off but also, as is the nature and construction of duality (Farjoun, 2010), ultimately leads to and involves the other.

Multiple linkages. We explore the multiple linkages involved in constructing the harm-benefit duality. First, *abstracting* constructs three linkages in relation to the risk object. The first two linkages form the explicit trade-off between a *strong* linkage to benefit (via maximizing risk-retention) and a *weak* linkage to harm (via minimizing risk-transfer). However, our findings highlight a third *outcome* linkage that complicates this relationship between harm and benefit. Constructing the risk object, via abstracting, as primarily a source of benefit is also indirectly a means of focusing on harm. This outcome linkage is reflected in Vignette 2 (Paragraph1) where retaining risk is seen as a means of self-protection that strengthens the organizations' fiscal position, with the outcome that their own balance sheets can be a source of protection. While a trade-off in benefit over harm appears present initially, ultimately, through focusing on capitalizing on benefit they are also focusing on the other pole (protecting from harm) through that capitalization, indicating the inextricable duality.

Second, within *localizing* we also see three linkages in relation to the risk object being constructed. The explicit trade-off between a strong linkage to harm (via maximising risk-transfer) and a weak linkage to benefit (via minimizing retention). However, our findings again highlight a third outcome linkage. Constructing the risk object, via localizing, as primarily a source of harm is also indirectly a means of focusing on benefit. While risk-transfer is essentially a way to protect from harm, Risk-Protectors construct risk-transfer itself as a benefit (rather than a 'harmful' cost) that protects their balance-sheet and ultimately secures their solvency. As shown in Vignette 3 (Paragraph1), this construct an outcome linkage as Risk-Protectors transfer more risk, not only to reduce the harm of big events, but also to allow them

to take on more risk and capitalize on the benefit of that. The linkages involved in the immediate trade-off between harm and benefit lead to a further outcome linkage where focusing on harm ultimately is a means of accessing benefit; the ability to underwrite more risk without negatively impacting their solvency.

Our findings, supported by our analytic framework, show that the complex entanglement between harm and benefit involves constant decisions and adjustments between the opposing aspects of the duality. In all our organizations, no matter if they prioritized harm or benefit, or balanced the two, the practices enabled constant juxtaposing of each side of the harm-benefit duality in constructing and managing their portfolio as a risk object.

Conclusion

Contributions

This paper answers the call for more research into the social construction of risk in organization theory generally (Scheytt et al., 2006, Hardy and Maguire, 2016, Gephart et al., 2009, Power, 2014) and within the normal operations of organizations more specifically (Bourrier, 2002, Power, 2016, Maguire and Hardy, 2013). Our central contribution is therefore insight into the varied ways risk objects are constructed as a duality within these everyday risk management practices of organizations. Our framework develops understanding of the critical sensemaking processes (Fig.1, i-ii) through which organizations construct and manage risk objects (Hilgartner, 1992) as a harm-benefit duality [A] within their risk management practices [B]. This addresses an important omission as organizational scholarship has generally explored the social construction of risk as a source of harm (Hardy and Maguire, 2016), particularly in the context of disasters and accidents (Weick, 2010, Gephart, 1997, Roberts et al., 2007). While the need to navigate risk as a harm and benefit duality is prevalent in organizational life, it has been rarely studied (Power, 2016, Reason, 1997, Palermo et al., 2017, Hardy and Maguire, 2016, Power, 2014). By contrast, we illuminate the centralizing, calculating, and diversifying practices that are associated with the social construction of risk as a duality. The resultant insights are important as all organizations, not only insurers and other financial organizations, produce and manage risk, necessitating the navigation of risk-taking and risk reduction. How they do so has implications for organizational sustainability as well as wider-societal dynamics

such as financial crises (Palermo et al., 2017, Power, 2004, Power, 2014). These everyday organizational risk management practices through which organizations juxtapose benefit and harm, without neglecting either pole, are thus hugely consequential (Bourrier, 2002).

Our focus on how such normal operational practices construct the harm and benefit duality comprises an important contribution. We build from Palermo et al.'s (2017) single case study showing an organization's efforts to shift its risk-taking culture, that was primarily oriented towards benefit, to greater attention to its associated harm. They recognize that harm and benefit "may have internal, co-formative relations between each other that deserve further exploration" (Palermo et al., 2017: 178). Drawing on Hilgarter's (1992) framework, we extend their work to explain the nuances of these unfolding relations within organizations: highlighting the multiple linkages through which risk objects are constructed and managed as sources of harm-benefit. We explain how duality is constructed within weak and strong linkages between harm and benefit that enable organizations to not only prioritize one pole, but also not neglect the other. We also show that the trade-offs in these linkages between harm and benefit also support further outcome linkages that enable organizations to access benefit and reduce harm in ways that are germane to their particular sensemaking processes and organisational practices. Having broadly situated our main contribution within the existing literature, we now explain some specific ways our framework extends existing accounts of sensemaking about risk and managing dualities more broadly.

Organizational sensemaking about risk. This research provides new insight by exploring the dynamic relationship between harm and benefit inherent in sensemaking about risk objects. We show that some organizations make sense of risk objects through *abstracting* while others do so through *localising*; and this plays out in the practices through which they prioritize respectively either benefit or harm in constructing the risk object. This framework of organizational sensemaking about risk as duality of harm-benefit contributes to the existing literature in two specific ways. First, such sensemaking explains how specific social constructions about risk as harm-benefit are simultaneously constituted by and constitutive of everyday risk management practices (see Weick, 1988, Feldman and Orlikowski, 2011). Abstracting and localizing as sensemaking processes construct the risk object in particular

ways, and those constructions prompt reinforcing cycles of high or low *centralizing, calculating and diversifying* risk management practices. These risk management practices are simultaneously the means through which those sensemaking processes unfold and what makes those specific constructions possible. Such abstracting and localising processes thus explain how the risk object construction is constituted by, and constitutive of the specific organizational risk management practices (Weick et al., 2005, Rouleau, 2005). Our framework thus extends existing studies that have largely emphasized the cognitive (e.g. Holt, 2004, Mitchell, 1995, Stein, 2000) or discursive (e.g. Tsoukas, 1999, Brown, 2000, Brown, 2004, Maguire and Hardy, 2013) foundations of sensemaking about risk by showing that risk objects are made sense of within a reinforcing cycle of risk management practices. In doing so, we elaborate on, and further specify Hilgartner's (1992) notion of an interplay between the construction and control (or management) of risk, showing how this plays out in the organizational practices (Power, 2014). Abstracting and localizing are the sensemaking dynamics shaping both how organisations construct the duality inherent in the risk object within their management practices, and in turn those abstracted or localised constructions of risk enable and reinforce those practices.

Second, our theorization of risk sensemaking as enacted within the normal risk management practices of organizations (Bourrier, 2002) extends existing episodic, crisis-oriented views of sensemaking about risk. The dominant focus in organisational risk research has led to a view that risk sensemaking is episodic or infrequent, specifically related to disaster or crisis events (Wicks, 2001, Kayes, 2004, Weick, 2010, Weick, 1993), and typically retrospective to understand the cause of harm or apportion blame after disasters have occurred (Topal, 2009, Gephart, 1993, Brown, 2000, Turner, 1976). Such studies have obscured the 'everyday' sensemaking about risk that organizations must do within their normal operations (e.g. Hutchins, 1995). Yet, as Maguire and Hardy (2013) note, risk must be normalized through organizing practices to enable continuity of activities. However, even their study that emphasizes these normalizing practices, focuses on episodic responses to defend the meaning of existing risk objects as risky or safe. We show that organizational constructions of risk are embedded in everyday risk management practices that shape and are shaped by the process of

sensemaking about the abstracted or localised nature of risk. Such sensemaking, which may be taken-for-granted by organizational participants, is nonetheless consequential. Our framework explains how even organizations in the same sector have widely varied understandings of benefit and harm that inform their business decisions about how to trade in risk. Future research might go further into this issue, extending our outcome linkage to analyse how everyday interpretations of risk and risk objects, embedded within risk management practices, shape variations in the business decisions.

Dualities. Exploring the multiple linkages through which risk is constructed as a harm-benefit duality also contributes to the literature on organizational dualities. First, our explicitly dualistic approach reconceives and extends the harm-benefit relationship within the literature on risk. The literature that conceptualizes risk as a source of harm and benefit has considered that more of one means less of the other (McLain and Jarrell, 2007, Reason, 1997). For instance, risk-aversion practices are traded off with profit-generating risk-taking; more of one is the antidote to too much of the other. Such approaches suggest an ideal balance that moderates between the two (e.g. Palermo et al., 2017). By contrast, we move from this either-or depiction to a more complex ‘both-and’ relationship (Smith and Lewis, 2011), in which harm and benefit are not separate elements related only through a trade-off. Instead, such elements are always mutually constituted within the specific, multiple linkages being constructed (Hilgartner, 1992), in which prioritizing protection from harm is ultimately one means of attaining benefit and vice versa. Specifically, utilizing Hilgartner’s (1992) risk object framework focuses us on organizational constructions of multiple causal linkages to harm-benefit. While some organizations construct a strong linkage between the risk object and one part of the duality and a weaker linkage to the other, our findings show that the dynamic is more complex than this initial trade-off suggests. These linkages spawn an additional ‘outcome’ linkage in which prioritizing one element of the duality is ultimately also a means for attaining the other de-prioritized element. We thus move from considering risk and harm as two separate forces pulling the organization in different directions to viewing them as an interdependent whole or duality (Putnam et al, 2016); albeit one that unfolds in different ways in different organizations. How an organization navigates that interdependency is dependent

on how they construct those linkages as part of their sensemaking process around the risk object.

Second, our insights have implications for the wider literature on how dualities are managed within organizations; a relatively nascent area of management research (Graetz and Smith, 2008). This literature has shown that transcending, integrating, and balancing elements of a contradiction – like stability and change or exploitation and exploration – are critical organizational responses to dualities (Bednarek et al., 2017; Farjoun, 2010, Chen, 2002, Costanzo and Di Domenico, 2015, Putnam et al., 2016, Lewis, 2000). We indeed found that organizations can navigate the risk duality via balancing, reflecting this prevailing wisdom that balance between the oppositional ends of a duality enables organizational sustainability and peak performance (Smith, 2014, Smith and Lewis, 2011). However, our findings also show that dynamics that appear to privilege an *imbalance* can be an enabling way for organizations to navigate dualities, rather than being destructive as the existing literature suggests (Lewis, 2000, Putnam et al., 2016). We therefore argue that successfully navigating dualities does not have to entail balance (Lewis, 2000, Putnam et al., 2016) or indeed efforts to transcend the existence of contradiction altogether (Farjoun, 2010). Rather, as our linkages show, explicit prioritization of one element of a duality can be considered a *means* of attaining the other. This novel approach to navigating dualities, in which the initial linkages that generate trade-offs between poles also spawn further linkages that potentially strengthen their interdependence, might be the basis for further research into organizational dualities.

Future research and Boundary conditions

This study examines important organizations that “operate or mark the frontier barrier” of societal response to risk (Beck, 1996: 31). Yet, despite their centrality to society, management scholars have rarely focused on insurance organizations, which have “typically been the ‘other’ of our known financial world” (Vargha, 2015: 2). Extending understanding of insurance organizations and risk-transfer is important (Jarzabkowski and Chalkias, 2018). We hope this is a spur to further theorizations of insurance and risk-taking in management research, including in banking where credit risk is transferred for financial benefit, often in complex ways that obscure the potential harm (Nijskens and Wagner, 2011, MacKenzie, 2011). Our

insights are also relevant to understanding risk within non-financial settings. The harm-benefit duality goes to the heart of understanding risk-taking in almost any organization that is required to calculate its risk (*calculating*), organize its decision-making (*centralizing*), and strategize about the diversification level in its activities and business portfolio (*diversifying*). Namely, the practices we identified are elements of organizing (e.g. Hendry, 1990) and strategizing (e.g. Lai et al., 2010) that are salient to many organizations, providing grounds for further research into the everyday practices of constructing and managing risk in other contexts.

Future longitudinal research could explore how constructions of the risk duality and associated sensemaking processes change over time. Given the persistence of both sides of the duality, organizations are likely to shift along the continuum over time (Boholm and Corvellec, 2011). Research could examine how abstracting and localizing shift over time, and in response to what stimuli, such as to internal change agents, or to the crises and disasters. Future research might also focus on political struggles over the control of risk objects within the risk management practices we have identified (Hilgartner, 1992). Whether decision-making about risk is centralized or decentralized is a question of who holds the power. Such struggles over the control of risk have been examined regarding environmental issues (Tsoukas, 1999) and public hearings (Topal, 2009), yet not to risk management *within* organizations. Finally, in contrast to existing literature that dismisses imbalance (Farjoun, 2010, Chen, 2002, Smith and Lewis, 2011, Putnam et al., 2016), we found that dualities can be managed by prioritizing one part of the duality. Hence, research should explore the variety of responses to dualities that define organizational life.

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References

- Adams, M. and W. Jiang (2017). 'Do Chief Executives' Traits Affect the Financial Performance of Risk-trading Firms? Evidence from the UK Insurance Industry', *British Journal of Management*, **28**, pp. 481-501.
- Allen, F. and A. M. Santomero (1997). 'The theory of financial intermediation', *Journal of Banking & Finance*, **21**, pp. 1461-1485.
- Andriopoulos, C. and M. W. Lewis (2009). 'Exploitation-exploration tensions and organizational ambidexterity: Managing paradoxes of innovation', *Organization Science*, **20**, pp. 696-717.
- Bailey, D. E., P. M. Leonardi and S. R. Barley (2012). 'The lure of the virtual', *Organization Science*, **23**, pp. 1485-1504.
- Beck, U. (1992). *Risk society: Towards a new modernity*, Sage.
- Beck, U. (1996). Risk Society and Provident State. In: S. Lash, B. Szerszynski and B. Wynne (eds.), *Risk, Environment and Modernity*. pp. 27-43. Thousand Oaks: SAGE Publications.
- Bednarek, R., S. Paroutis and J. Sillince (2017). 'Transcendence through rhetorical practices: responding to paradox in the science sector'. *Organization Studies*, **38**, pp. 77-101.
- Boholm, Å. and H. Corvellec (2011). 'A relational theory of risk', *Journal of Risk Research*, **14**, pp. 175-190.
- Bourrier, M. (2002). 'Bridging research and practice: The challenge of 'Normal Operations' studies', *Journal of contingencies and crisis management*, **10**, pp. 173-180.
- Brivot, M., D. Himick and D. Martinez (2017). 'Constructing, contesting, and overloading: A study of risk management framing', *European Accounting Review*, **26**, pp. 703-728.
- Bromiley, P. (1991). 'Testing a causal model of corporate risk taking and performance', *Academy of Management journal*, **34**, pp. 37-59.
- Brown, A. D. (2000). 'Making sense of inquiry sensemaking', *Journal of Management Studies*, **37**, pp. 45-75.
- Brown, A. D. (2004). 'Authoritative sensemaking in a public inquiry report', *Organization Studies*, **25**, pp. 95-112.
- Chen, M.-J. (2002). 'Transcending paradox: The chinese "middle way" perspective', *Asia Pacific Journal of Management*, **19**, pp. 179-199.
- Ciborra, C. (2006). 'Imbrication of representations: Risk and digital technologies', *Journal of Management Studies*, **43**, pp. 1339-1356.
- Costanzo, L. and M. Di Domenico (2015). 'A Multi-level dialectical-paradox lens for top management team strategic decision-making in a corporate venture', *British Journal of Management*, **26**, pp. 484-506.

- Delis, M. D., I. Hasan and E. G. Tsionas (2015). 'Banks' Risk Endogenous to Strategic Management Choices', *British Journal of Management*, **26**, pp. 637-656.
- Douglas, M. (1986). *Risk acceptability according to the social sciences*, Russell Sage Foundation.
- Eisenhardt, K. (1989). 'Building theories from case study research', *The Academy of Management Review*, **14**, pp. 532-550.
- Elliott, R. (2019). '“Scarier than another storm”: Values at risk in the mapping and insuring of US floodplains', *The British Journal of Sociology*.
- Farjoun, M. (2010). 'Beyond dualism: Stability and change as a duality', *Academy of Management Review*, **35** pp. 202-226.
- Feldman, M. S. and W. J. Orlikowski (2011). 'Theorizing practice and practicing theory', *Organization Science*, **22**, pp. 1240-1253.
- Gephart, R. (1997). 'Hazardous measures: an interpretive textual analysis of quantitative sensemaking during crises', *Journal of Organizational Behavior*, **18**, pp. 583-622.
- Gephart, R., J. Van Maanen and T. Oberlechner (2009). 'Organizations and risk in late modernity', *Organization Studies*, **30**, pp. 141-155.
- Gephart, R. P. (1993). 'The textual approach: Risk and blame in disaster sensemaking', *Academy of Management Journal*, **36**, pp. 1465-1514.
- Geppert, M., C. Dörrenbächer, J. Gammelgaard and I. Taplin (2013). 'Managerial Risk-taking in International Acquisitions in the Brewery Industry: Institutional and Ownership Influences Compared', *British Journal of Management*, **24**, pp. 316-332.
- Giddens, A. (1999). 'Risk and responsibility', *The modern law review*, **62**, pp. 1-10.
- Gioia, D. A., K. G. Corley and A. L. Hamilton (2013). 'Seeking qualitative rigor in inductive research: Notes on the Gioia methodology', *Organizational Research Methods*, **16**, pp. 15-31.
- Graetz, F. and A. C. Smith (2008). 'The role of dualities in arbitrating continuity and change in forms of organizing', *International Journal of Management Reviews*, **10**, pp. 265-280.
- Hardy, C. and S. Maguire (2016). 'Organizing Risk: Discourse, Power, and “Riskification”', *Academy of Management Review*, **41**, pp. 80-108.
- Hendry, C. (1990). 'The corporate management of human resources under conditions of decentralization', *British Journal of Management*, **1**, pp. 91-103.
- Hilgartner, S. (1992). The social construction of risk objects: Or, how to pry open networks of risk. In: J. F. Short Jr. and L. Clarke (eds.), *Organizations, Uncertainties, and Risk*. pp. 39–51. Boulder, CO: Westview.
- Holt, R. (2004). 'Risk management: The talking cure', *Organization*, **11**, pp. 251-270.
- Hutchins, E. (1995). 'How a cockpit remembers its speeds', *Cognitive Science*, **19**, pp. 265-288.
- Jackson, W. A. (1999). 'Dualism, duality and the complexity of economic institutions', *International Journal of Social Economics*, **26**, pp. 545-558.
- Jarzabkowski, P. and J. Balogun (2009). 'The practice and process of delivering integration through strategic planning', *Journal of Management Studies*, **46**, pp. 1255-1288.
- Jarzabkowski, P., R. Bednarek, and J. K. Lê (2014). 'Producing persuasive findings: Demystifying ethnographic textwork in strategy and organization research'. *Strategic Organization*, **12**, pp. 274-287.
- Jarzabkowski, P., R. Bednarek and A. P. Spee (2015). *Making a Market for Acts of God: The practice of risk trading in the global reinsurance industry*. Oxford, UK: Oxford University Press.
- Jarzabkowski, P. and K. Chalkias (2018). Making markets for uninsured risk: Protection Gap Entities (PGEs) as risk-processing organizations in society. In R. Gephart, C. Miller and K. S. Helgesson (eds.). *The Routledge Companion to Risk, Crisis and Emergency Management*. pp. 477-480. New York: Routledge.

- Kayes, D. C. (2004). 'The 1996 Mount Everest climbing disaster: The breakdown of learning in teams', *Human Relations*, **57**, pp. 1263-1284.
- Lai, H. C., Y. C. Chiu, Y. C. Liaw and T. Y. Lee (2010). 'Technological diversification and organizational divisionalization: The moderating role of complementary assets', *British Journal of Management*, **21**, pp. 983-995.
- Lê, J., and R. Bednarek (2017). Paradox in everyday practice: Applying practice-theoretical principles to paradox. In M. Lewis, W. K. Smith, P. Jarzabkowski and A. Langley (eds.), *Oxford Handbook on Organizational Paradox*. pp. 490-509. Oxford, UK Oxford University Press.
- Leveson, N., N. Dulac, K. Marais and J. Carroll (2009). 'Moving beyond normal accidents and high reliability organizations: a systems approach to safety in complex systems', *Organization Studies*, **30**, pp. 227-249.
- Lewis, M. W. (2000). 'Exploring paradox: Toward a more comprehensive guide', *Academy of Management Review*, **25**, pp. 760-776.
- Lincoln, Y. S. and E. G. Guba (1985). *Naturalistic Inquiry*, Sage Publications, Newbury Park, CA.
- Lounsbury, M. and P. M. Hirsch (2010). Markets on trial: Toward a policy-oriented economic sociology. In: M. Lounsbury and P. M. Hirsch (eds.), *Markets on Trial: The Economic Sociology of the U.S. Financial Crisis (Research in the Sociology of Organizations)*. pp. 5-26. Emerald Group Publishing Limited.
- Lozeau, D., A. Langley and J.-L. Denis (2002). 'The corruption of managerial techniques by organizations', *Human Relations*, **55**, pp. 537-564.
- Lupton, D. (1999). *Risk*, Routledge, London.
- MacKenzie, D. (2011). 'The credit crisis as a problem in the sociology of knowledge', *American Journal of Sociology*, **116**, pp. 1778-1841.
- Maguire, S. and C. Hardy (2013). 'Organizing processes and the construction of risk: A discursive approach', *Academy of Management Journal*, **56**, pp. 231-255.
- Malenfant, R. (2009). 'Risk, control and gender: Reconciling production and reproduction in the risk society', *Organization Studies*, **30**, pp. 205-226.
- McLain, D. L. and K. A. Jarrell (2007). 'The perceived compatibility of safety and production expectations in hazardous occupations', *Journal of Safety Research*, **38**, pp. 299-309.
- McNamara, G. and P. Bromiley (1997). 'Decision making in an organizational setting: Cognitive and organizational influences on risk assessment in commercial lending', *Academy of Management Journal*, **40**, pp. 1063-1088.
- Maitlis, S. (2005). 'The social processes of organizational sensemaking', *Academy of Management Journal*, **48**, pp. 21-49.
- Mikes, A. (2009). 'Risk management and calculative cultures', *Management Accounting Research*, **20**, pp. 18-40.
- Mikes, A. (2011). 'From counting risk to making risk count: Boundary-work in risk management', *Accounting, Organizations and Society*, **36**, pp. 226-245.
- Mikes, A. (2016). The triumph of the humble chief risk officer. In: M. Power (ed.) *Riskwork: Essays on the organizational life of risk management*. pp. 253-273. Oxford: Oxford University Press.
- Miles, M. B. and A. M. Huberman (1994). *Qualitative data analysis: An expanded sourcebook*, Thousand Oaks, California.
- Miller, K. D. (2009). 'Organizational risk after modernism', *Organization Studies*, **30**, pp. 157-180.
- Millo, Y. and D. MacKenzie (2009). 'The usefulness of inaccurate models: Towards an understanding of the emergence of financial risk management', *Accounting, Organizations and Society*, **34**, pp. 638-653.

- Mitchell, V. W. (1995). 'Organizational risk perception and reduction: a literature review', *British Journal of Management*, **6**, pp. 115-133.
- Nijskens, R. and W. Wagner (2011). 'Credit risk transfer activities and systemic risk: How banks became less risky individually but posed greater risks to the financial system at the same time', *Journal of Banking & Finance*, **35**, pp. 1391-1398.
- O'Malley, P. (2000). 'Uncertain subjects: Risks, liberalism and contract', *Economy and Society*, **29**, pp. 460-484.
- Palermo, T., M. Power and S. Ashby (2017). 'Navigating institutional complexity: The production of risk culture in the financial sector', *Journal of Management Studies*, **54**, pp. 154-181.
- Paroutis, S. and L. Heracleous (2013). 'Discourse revisited: Dimensions and employment of first-order strategy discourse during institutional adoption', *Strategic management journal*, **34**, pp. 935-956.
- Perrow, C. (1984). *Normal accidents: Living with high risk technologies*, Basic Books, New York.
- Power, M. (2004). 'Counting, control and calculation: Reflections on measuring and management', *Human relations*, **57**, pp. 765-783.
- Power, M. (2009). 'The risk management of nothing', *Accounting, Organizations and Society*, **34**, pp. 849-855.
- Power, M. (2014). Risk, social theories and organizations. In: P. Adler, P. d. Gay, G. Morgan and M. Reed (eds.), *The Oxford Handbook of Sociology, Social Theory, and Organization Studies: Contemporary Currents*. pp. 370-392. Oxford: Oxford University Press.
- Power, M. (2016). Introduction: The organizational life of risk management. In: M. Power (ed.) *Riskwork. Essays on the Organizational Life of Risk Management*. pp. 1-25. Oxford: Oxford University Press.
- Putnam, L. L., G. T. Fairhurst and S. Banghart (2016). 'Contradictions, Dialectics, and Paradoxes in Organizations: A Constitutive Approach†', *The Academy of Management Annals*, **10**, pp. 65-171.
- Reason, J. (1997). *Managing the risk of organizational accidents*. London: Routledge.
- Reason, J. (2000). 'Safety paradoxes and safety culture', *Injury Control and Safety Promotion*, **7**, pp. 3-14.
- Roberts, K., P. Madsen and V. Desai (2007). Organizational sensemaking during crisis. In: C. Pearson, C. Roux-Dufort and J. Clair (eds.), *International Handbook of Organizational Crisis Management*. pp. 107-122. Thousand Oaks: SAGE Publications.
- Rouleau, L. (2005). 'Micro-practices of strategic sensemaking and sensegiving: How middle managers interpret and sell change every day', *Journal of Management Studies*, **42**, pp. 1413-1441.
- Samsonova-Taddei, A. and C. Humphrey (2015). 'Risk and the construction of a European audit policy agenda: The case of auditor liability', *Accounting, Organizations and Society*, **41**, pp. 55-72.
- Scheytt, T., K. Soin, K. Sahlin-Andersson and M. Power (2006). 'Introduction: Organizations, risk and regulation', *Journal of Management Studies*, **43**, pp. 1331-1337.
- Seale, C. (1999). 'Quality in Qualitative Research', *Qualitative Inquiry*, **5**, pp. 465-478.
- Smith, W. K. (2014). 'Dynamic decision making: A model of senior leaders managing strategic paradoxes', *Academy of Management Journal*, **57**, pp. 1592-1623.
- Smith, W. K. and M. W. Lewis (2011). 'Toward a theory of paradox: A dynamic equilibrium model of organizing', *Academy of Management Review* **36**, pp. 381-403.
- Stein, M. (2000). 'The Risk Taker As Shadow: A Psychoanalytic View Of The Collapse Of Barings Bank*', *Journal of Management Studies*, **37**, pp. 1215-1230.

- Stenfors, S., L. Tannerb, M. Syrjanen, T. Seppala and I. Haapalinna (2007). 'Executive views concerning decision support tools', *European Journal of Operational Research*, **181**, pp. 929-938.
- Tierney, K. J. (1999). 'Towards a critical sociology of risk', *Sociological Forum*, **14**, pp. 215-242.
- Topal, C. (2009). 'The construction of general public interest: Risk, legitimacy, and power in a public hearing', *Organization Studies*, **30**, pp. 277-300.
- Tsoukas, H. (1999). 'David and Goliath in the Risk Society: Making Sense of the Conflict between Shell and Greenpeace in the North Sea', *Organization*, **6**, pp. 499-528.
- Turner, B. (1976). 'The organizational and interorganizational development of disasters', *Administrative Science Quarterly*, **21**, pp. 378-397.
- Tversky, A. and D. Kahneman (1974). 'Judgment under uncertainty: Heuristics and biases', *science*, **185**, pp. 1124-1131.
- Vargha, Z. (2015). 'Note from the editor', *Economic Sociology - The European Electronic Newsletter*, **17**, pp. 2-5.
- Weick, K. E. (1988). 'Enacted sensemaking in crisis situation ', *Journal of Management Studies*, **25**, pp. 305-317.
- Weick, K. E. (1989). 'Theory construction as disciplined imagination', *The Academy of Management Review*, **14**, pp. 516-531.
- Weick, K. E. (1993). 'The collapse of sensemaking in organizations: The Mann Gulch disaster', *Administrative Science Quarterly*, **38**, pp. 628-652.
- Weick, K. E. (2010). 'Reflections on enacted sensemaking in the Bhopal disaster', *Journal of Management Studies*, **47**, pp. 537-550.
- Weick, K. E. and K. H. Roberts (1993). 'Collective mind in organizations: Heedful interrelating on flight decks', *Administrative Science Quarterly*, pp. 357-381.
- Weick, K. E., K. M. Sutcliffe and D. Obstfeld (2005). 'Organizing and the process of sensemaking', *Organization Science*, **16**, pp. 409-421.
- Weick, K. E., K. M. Sutcliffe and D. Obstfeld (2008). 'Organizing for high reliability: Processes of collective mindfulness', *Crisis management*, **3**, pp. 81-123.
- Wicks, D. (2001). 'Institutionalized mindsets of invulnerability: Differentiated institutional fields and the antecedents of organizational crisis', *Organization Studies*, **22**, pp. 659-692.
- Winch, G. M. and E. Maytorena (2009). 'Making good sense: Assessing the quality of risky decision-making', *Organization Studies*, **30**, pp. 181-203.
- Wolcott, H. F. (1994). *Transforming qualitative data: Description, analysis and interpretation*, Sage Publications, Thousand Oaks, London, New Delhi.
- Yin, R. K. (2009). *Case Study Research: Design and Methods*, Sage Publications, Thousand Oaks, California.

Figure 1. Constructing and managing risk objects through organizational practices

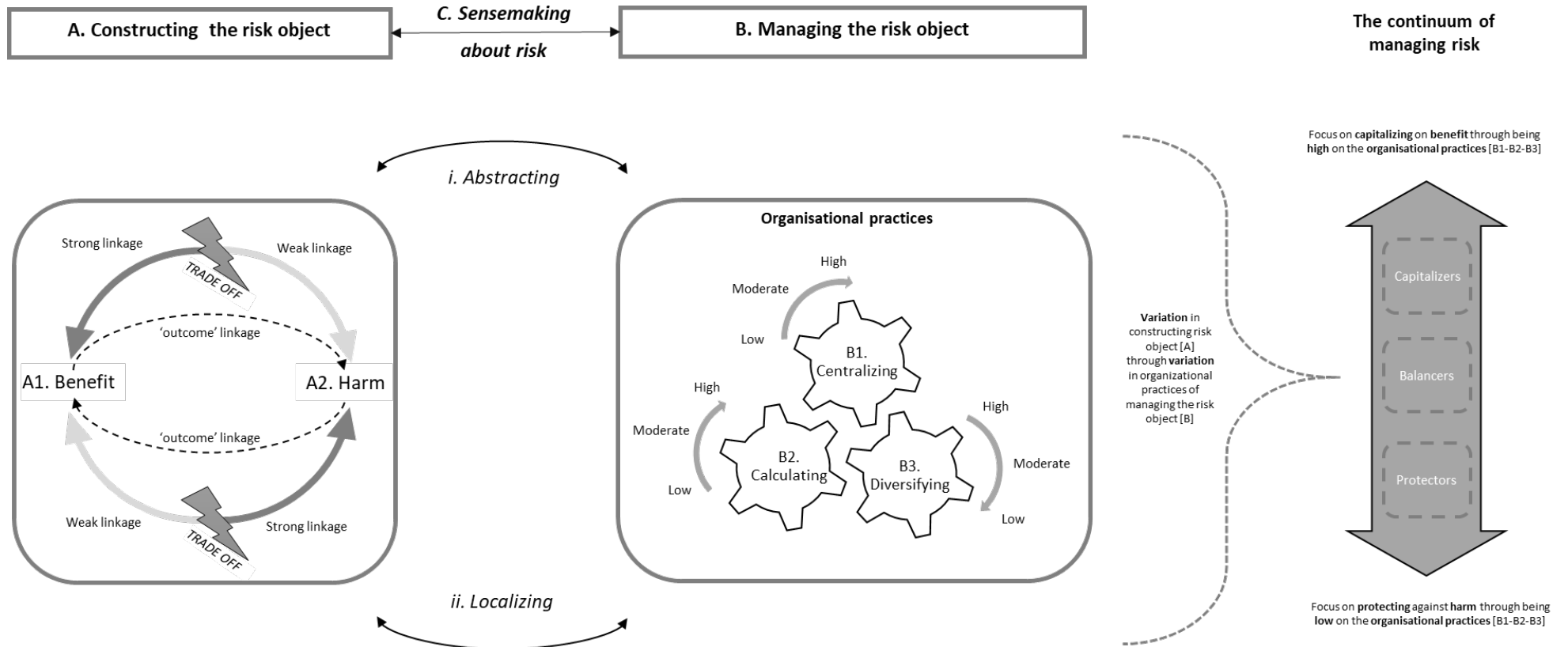


Table 1. Case overviews: key steps in analysis⁵

	Insurer	Size Geo ⁶	Constructing and managing risk objects		Organizational Practices		
			Protecting from Harm	Capitalizing on Benefit	Centralizing	Calculating	Diversifying
Risk Capitalizers	1	3 / G		●	H	H	H
	2	1 / G		●	H	H	H
	3	1 / G		●	H	H	H
	4	1 / G		●	H	H	H
	5	4 / G		●	H	H	H
	6	2 / R		●	H	H	H
	7	1 / R	○	●	M	H	H
	8	2 / G	○	●	H	M	H
	9	4 / G	○	●	H	M	H
Risk Balancers	10	1 / G	●	●	M	M	M
	11	4 / R	●	●	L	H	M
	12	5 / G	●	●	M	H	L
	13	3 / R	●	●	M	M	M
	14	3 / L	●	●	M	M	M
	15	4 / R	●	●	M	M	M
	16	3 / R	●	●	M	M	M
	17	4 / R	●	●	M	H	L
	18	3 / L	●	●	L	M	H
19	5 / R	●	●	M	M	M	
Risk Protectors	20	3 / R	●	○	M	L	L
	21	3 / G	●	○	M	L	L
	22	5 / R	●	○	L	M	L
	23	4 / G	●	○	M	L	L
	24	5 / L	●	○	M	L	L
	25	3 / G	●		L	L	L
	26	3 / G	●		L	L	L
	27	5 / L	●		L	L	L
	28	5 / L	●		L	L	L
	29	5 / L	●		L	L	L
	30	5 / L	●		L	L	L
	31	5 / L	●		L	L	L
	32	5 / R	●		L	L	L
	33	5 / R	●		L	L	L
	34	5 / L	●		L	L	L
	35	3 / R	●		L	L	L

Size = revenue; firms put into 5 quadrants (1 = largest; 5 = smallest);

Geographic span = global (G); regional (R) and local (L).

● Strong ○ Weak H = high; M = moderate; L = low

⁵ We clustered the organizations on three dominant patters based on the three organizational practices, as we explain in the methods section. (1) Risk-Capitalizers sought to capitalize on benefit via risk-retention through being high at least in two of centralizing, calculating, and diversifying (the dominant pattern being ‘high’ on all three). (2) Risk Balancers sought to balance harm and benefit via a degree of overall moderation in the three organizational practices. (3) Risk-Protectors sought protect from harm via risk-transfer through being low at least in two the three practices (the dominant pattern being ‘low’ on all three).

⁶ To probe the variation, we examined organizations by their size and geographic scope, drawing from secondary data. However, these structural components only partially explained the observed variation (Table 1; column 3) as size and scope did not map against our clusters. This prompted us to focus on surfacing what practices appeared explanatory.

Table 2. Managing risk as a duality: Capitalizing on Benefit (Figure 1, A1) and Protecting from Harm (A2)

	Representative data
<p>Risk-Balancers <i>Balancing both ends of the duality</i></p>	<ul style="list-style-type: none"> - <i>When we're evaluating our ROE, you know, the benefit comes into play quite a bit. But on the other side, it's really just a question of keeping losses within sort of an expected range. (Org.12, Interview)</i> - <i>But there are many things. One obviously is the risk itself; the insurance company need to manage the risk and that's why they buy the reinsurance... but it's also capital. I mean if you look at it, and obviously in the position of our firm the question is what is the advantage of taking the capital from someone at a cheap price and use ours to produce some other values. (Org.18, Interview)</i> - <i>I mean we look throughout the curve [different potential loss ratios], it's all about making a profit, of course it is [...] I can buy reinsurance to protect us to the one in 10... But if we do that will mean profit will drop through... We'll spend too much money. So, reinsurance really will really help the volatility but further up the curve... (Org.15, Interview)</i> - <i>"[reinsurance] is absolutely both a capital management tool [capitalizing on benefit] and a volatility tool [protecting from harm]. So, you start to get to a trade-off" (Org.16, Interview).</i>
<p>Risk-Capitalizers <i>Capitalizing on benefit</i></p>	<ul style="list-style-type: none"> - <i>Take Japan, we don't have a nonlife unit in Japan as firm 2, right? But we can add some margins to our risk profile, so we can basically write Japanese business at zero capital cost. (Org.2, Interview)</i> - <i>So, we need have a return on equity and then we can say is this in a way cheaper to cede out or to keep the risk, and then in theory it could be cheaper in way to just say keep it because we have enough capital (Org.3, Interview)</i> - <i>We look at reinsurance as one of our largest expenses. And therefore, ask what I can do to make it more efficient [in order to buy less] (Org.2, Interview)</i> - <i>If you go back 10 years ago in Lloyds, when the market soften the first thing the underwriter does is buy down grubby reinsurance and burn his reinsurer's and manager's PNL that way. You know, our philosophy has changed really... If it's within the 9%, we're budgeted for that and we don't really care. If we're getting reinsurance recoveries within the 9%, that means we're inefficiency buying reinsurance. (Org1, Interview)</i> - <i>Since we started this reinsurance process in 2006, we've retained roughly 2 billion of profit which went in to the market on an aggregated basis over those five and a half years and around about €1 billion of revenue per year. And on a typical run rate about 200 million of profitability is being retained each year in the group that was until 2006 being ceded. (Org1, Interview)</i>
<p>Risk-Protectors <i>Protecting from harm</i></p>	<ul style="list-style-type: none"> - <i>The main objective for us is preservation of the capital that we have, so minimizing risk. (Org.22, Interview)</i> - <i>We don't mind paying more to get reinsurance backup, I mean a reinsurance cost is increased, we don't mind. (Org.30, Interview)</i> - <i>Natural disasters such as earthquakes can give rise to large insurance claims and the organization protects itself against such risk through reinsurance. Natural disasters of large-scale could happen as a result of unexpected weather linked to global warming and other factors. Business results can deteriorate if large insurance claims must be paid for such disasters. (Org.25, secondary data)</i> - <i>And I think on all our lines it's certainly proportional; this allows us to transfer a bit more risk out. Because when you think about it with proportional, you transfer both the classing risk, the frequency risk and the severity risk. (Org.30, Interview)</i>

Table 3. Abstracting (Figure 1, i) and localizing (ii)

Abstracting: Harm distant and intangible (Risk-Capitalizers)	Localizing: Harm proximate and tangible (Risk-Protectors)
<p><u>Distance from harm:</u></p> <ul style="list-style-type: none"> - <i>So we know what's happening in different parts of the world, we know how much business they have been writing or new business they're writing, what the peak up rate would be of expiring policies, what the combined ratio, the loss ratio would be on specific lines of business. So we get a lot of data directly but from top down we have a lot of insight as well what core strategic initiatives are taking place around the globe (Org.3, Interview)</i> 	<p><u>Proximity to harm:</u></p> <ul style="list-style-type: none"> - <i>We do write Afghanistan because we understand it very well. It's our neighbour and we've been writing business since...I don't know how many years there (Org32, Interview)</i> - <i>These are what we call speciality crops or for some part permanent crops. Wine is usually always in the same place, so no crop rotation with vegetables (...) In Germany itself we have about twelve million hectares arable land. (Org.27, Interview)</i>
<p><u>Intangibility of harm:</u></p> <ul style="list-style-type: none"> - <i>We run all these models [creating an abstract picture of the entire portfolio]... and then we buy reinsurance that picks up the worse of those events [but not more]. (Org.11, Interview)</i> - <i>All our risks are graded between 1 and 10; 1 being the best, 10 being bankruptcy. So, we have an average grade of the portfolio, that today it is 4.2, and we can see the evolution of this grade on a quarterly basis or a monthly basis. (Org.5, Interview)</i> 	<p><u>Tangibility of harm:</u></p> <ul style="list-style-type: none"> - <i>Ben highlights that with Directors and Officers Liability insurance the main concern in [Country A, the country where the organization is domiciled in] is to print holding companies, Bad things happened, and they lost a key holding account, and so they now look at them very, very carefully. (Org.31, Observation)</i> - <i>With motor risks the most expensive motor loss would be maybe say \$1.5 million, if you buy a Rolls Royce maybe. Most of the cars are in the range of \$100K, maybe \$2-300K if you're buying a Continental (Org.28, Interview)</i>
<p><u>Abstract view of portfolio:</u></p> <ul style="list-style-type: none"> - <i>So, the maths will tell you if you assume independence from natural events or any events, that the more groups of portfolios you put together the lower your cost of capital charge. (Org.6, Interview)</i> - <i>When you look at the group picture, you could just see underwriters buying huge amounts of unnecessary cover (Org.1, Interview)</i> 	<p><u>Multiple local understanding of specific harms:</u></p> <ul style="list-style-type: none"> - <i>We do all types of risk. We buy separate covers for each of them. We bundle up only the protections for the fire, the miscellaneous and the engineering by buying a property cover. And the marine cargo and the hull is combined marine general. Otherwise we buy separate programmes for everything. The treaties are all separate for all the different types of risk. (Org.30, Interview)</i>

Appendix 1: Coding Variation in Organizational practices

This appendix gives more insight into the coding associated with the individual practices and the link between the three approaches to managing risk (Risk-Balancers, Risk-Capitalizers and Risk-Protectors) and the individual practices.

B1 (Figure 1). Centralizing

Below we include a representative data table of our coding of the three activities associated with centralizing and the variation between risk-balancers, risk-capitalizers and risk-protectors in that regard. Risk-Balancers were flexible in their approach; often being moderate in terms of centralizing. For example, authorising centrally for some types of risk but then giving underwriters authority and promoting flexibility for other risks. Risk-Capitalizers were consistently ‘high’ on centralizing. For instance, leaving ultimate decisions about risk-transfer to the CEO, monitoring risk-transfer centrally and consolidating accounts in one central balance sheet. By contrast, Risk-Protectors decentralized decision making, giving autonomy over the reinsurance spend and monitoring to individual underwriters or operating hubs and structuring their portfolio as separate local balance sheets, something which was associated with buying more reinsurance: “All lines of business, we buy separate covers for each of them. We don’t bundle up.” (Org.33, Interview). Below we include a representative data table of our coding in this regard.

Table 4. Representative data table: Variation in Centralizing

Practices	Activities	Risk-Capitalizers: consistently ‘high’ on the organizational practices	Risk-Balancers: consistently ‘moderate’ on the organizational practices	Risk-Protectors: consistently ‘low’ on the organizational practices
B1. Centralizing	B1.1 Authorizing risk-transfer	<p>High centralizing</p> <p><u>B1.1 Authorizing risk-transfer (centrally):</u> <i>Nobody should buy their reinsurance individually. We should do this as centralised as possible. If [local hubs] decide ‘that’s my cession,’ that does not mean this business is leaving the group, it’s not for them to decide. (Org.6, Interview)</i></p>	<p>Moderate centralizing</p> <p><u>B1.1-2-3 Authorizing risk-transfer peripherally; monitoring risk-transfer centrally; and consolidating in one programme but with retaining balance sheet autonomy:</u> <i>We have a quite decentralised structure [...] different companies, different names with different logos over [Region X] ... This has certain limits. [...] each company authorizes its own reinsurance programme and place it on the external</i></p>	<p>Low centralizing</p> <p><u>B1.1 Authorizing risk-transfer on the periphery (underwriter autonomy privileged):</u> <i>[The reason for reporting to the underwriting head, not the CFO] is that you need more underwriting knowledge rather than the financial knowledge. (Org.34, Interview)</i></p> <p><u>B1.2 Monitoring risk-transfer peripherally (flexibility at the</u></p>

	<p>B1.2 Monitoring risk-transfer</p> <p>B1.3 Consolidating insurance accounts</p>	<p><u>B1.2 Monitor risk-transfer (centrally):</u> So, they send out the data requests in this predetermined format, and once we have the data and have done some plausibility checks and testing, then it goes in to the data warehouse. (Org.3, Interview)</p> <p><u>B1.3 Consolidating accounts (in one central balance sheet):</u> We centralise capital with one big European account [...] we have a consolidated balance sheet and we should manage our risks with that as the driving force behind risk-transfer (Org.3, Interview)</p>	<p>market as they think it's suitable for their balance sheet. But, we have developed certain rules, guidelines and so. There is also another limitation, the so-called group programme, [...] So it is a mixture. It is a still de-centralised, it is still their responsibility for net result and reinsurance but with certain limitations. [...] trust must be there otherwise a totally centralised organisation must take place. (Org.13, Interview)</p>	<p><u>underwriters' level):</u> We don't use any central process to audit it [risk-transfer decision]. I let my underwriter to decide. (Org.30, Interview)</p> <p><u>B1.3 Low consolidating (thinking the portfolio as separate bundles with separate local balance sheets):</u> Jack argues that they decided not to integrate. "they [sub-units] work as a second company." (Org.31, Observation)</p>
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B2. Calculating

Below we include a representative data table of our coding of the two activities associated with calculating and the variation between risk-balancers, risk-capitalizers and risk-protectors in that regard. Risk-Balancers often exhibited a moderate approach to models. For instance, using models but also being sceptical and therefore restrained in their use in certain areas. Risk-Capitalizers were consistently high on calculating, exhibiting a strong reliance on models and data, which provided confidence to retain more risk: "We could demonstrate these are all the modelled outputs; here's what the exposure looks like. This is why you don't need to worry about it [protection]" (Org.1, Interview). Risk-Protectors were low on calculating, relying on managerial judgement to underpin the risk-transfer process rather than models as shown by our representative data table below.

Table 4 (continued). Representative data table: Variation in Centralizing

Practices	Activities	Risk-Capitalizers: consistently 'high' on the organizational practices	Risk-Balancers: consistently 'moderate' on the organizational practices	Risk-Protectors: consistently 'low' on the organizational practices
B2. Calculating	B2.1 Using models to underpin risk transfer	<p>High calculating</p> <p><u>B2.1 Using models to make decisions:</u> We have an analytics team doing nothing else than really running our Group [internally developed] model to</p>	<p>Moderate calculating</p> <p><u>B2.1 Using models cautiously:</u> I keep seeing unmodelled events...If you're buying in New Zealand, it was a surprise event... [But] we collate data on the risk profile, we</p>	<p>Low calculating</p> <p><u>B2.1 Using judgement (rather than models):</u> We do onsite inspections to determine what fire risk is, what wind risk is, what quake risk is [etc.] So we</p>

	B2.2. Assessing information/data quality	<p>determine by peril region, what the exposure will be [...] You need to have a certain level of capabilities in putting the global set of data in to a modelling engine. (Org.3, Interview)</p> <p><u>B2.2 Assessing information quality for models as high:</u> We have a huge database with information on each and every risk [...] 40 million companies... Everything is possible because we have the database, we have all this information that we will discuss tomorrow in the risk underwriting committee. (Org. 5, Interview)</p>	<p>work with brokers who will develop various options. Our own actuaries and underwriters will then validate their assumptions and make sure that that modelling is consistent with how we see the risks (Org.8, Interview)</p> <p><u>B2.2 Assessing information quality for models as moderate:</u> We have this great database... [But] sometimes you don't have the information. We are making all of our decisions on the 2009 [previous year] accounts where all the economics were just like that... (Org.9, Interview)</p>	<p>do not depend on the model to say here's what our exposure is, we know from our engineering report and the onsite visit. (Org.21, Interview)</p> <p><u>B2.2 Assessing information quality for models as low:</u> Email to client: we are disappointed that the data quality presented has deteriorated year on year [...] In reality we should come off this cover, but we are willing to give some credit and hope that data quality improves (Org.25, Observation)</p>
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B3. Diversifying

Below we include a representative data table of our coding of the two activities associated with diversifying and the variation between risk-balancers, risk-capitalizers and risk-protectors in that regard. Risk-Balancers were flexible in their approach to these dimensions; often showing moderate diversification. Risk-Capitalizers were consistently high on diversifying; evaluating their portfolio on its combination of non-correlated risks and increasing diversification by adding more non-correlated risk. By contrast, Risk-Protectors did not value diversification of the portfolio highly, given that risk is unpredictable and can be, if not correlated, at least coincidental; such as the occurrence of earthquakes in Japan and floods in Thailand in the same year. They therefore considered that deep knowledge of the context of each risk was better than seeking further diversification.

Table 4 (continued). Representative data table: Variation in Centralizing

Practices	Activities	Risk-Capitalizers: consistently 'high' on the organizational practices	Risk-Balancers: consistently 'moderate' on the organizational practices	Risk-Protectors: consistently 'low' on the organizational practices
B3. Diversifying	B3.1 <i>Incorporating diversification benefit in portfolio evaluations</i>	<p>High diversifying</p> <p><u>B3.1 Incorporating diversification benefits in portfolio evaluations:</u> Our cost of capital is less because we've got more diversification credit. It's unlikely that</p>	<p>Moderate diversifying</p> <p><u>B3.1 Incorporating diversification benefits to a moderate degree in portfolio evaluation:</u> If you're spending a lot of diversifying income on protecting that little</p>	<p>Low diversifying</p> <p><u>B3.1-2 Not incorporating diversification in portfolio evaluations or focusing on trying to increase diversification:</u> We are the specialist oil and gas insurance</p>

	<p>B3.2 Growing diversification</p>	<p><i>the motor portfolio would go wrong together with a Japanese quake. (Org.4, Interview)</i></p> <p><u>B3.2 Growing diversification (new business):</u> <i>Jeff added that they write additional global business to add diversification value to the company. Furthermore, they are also moving into manufacturing. (Org.3, Observation)</i></p> <p><i>We're happy in this kind of risk because we understand it's completely not correlated to any kind of other risk we have (Org.9, Interview)</i></p>	<p><i>piece of income, you're actually taking the diversifying income out of the group [...] but we've looked to buy an aggregate cover sideways for some territories. (Org.11, Interview)</i></p> <p><u>B3.2 Growing diversification cautiously:</u> <i>There are instances where we probably overspend and instances where the programme has no capital benefit for the group. Also, if you're spending a lot of what we call diversifying income on protecting that little piece of income, you're taking the diversifying income out of the group and the diversifying exposure. (Org.11, Interview)</i></p>	<p><i>company in [Geography1]. We only underwrite big and mega risk. We don't do small to medium, we don't do weak players, we are concentrated (Org.30, Interview)</i></p> <p><i>In Singapore, as far as Cat risk is concerned our concern is restricted to a bit of localised flooding, that's about all I think about. (Org.29, Interview)</i></p> <p><i>Diversification doesn't at all contribute much in the plan to reduce risk. (Org.25, Interview)</i></p>
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