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TOO MUCH OF A GOOD THING?
RESOURCE EFFECTS IN NEW VENTURES

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INTRODUCTION

Resources lie at the very core of strategy and organization (Penrose, 1959). Although the resource-based view is most well known for defining the firm in terms of strategically valuable resources (Barney, 1991; Mahoney & Pandian, 1992; Peteraf, 1993; Wernerfelt, 1984), almost every theory of strategy and organization touches on the nature of resources. Indeed resources are fundamental to organization, whether tangible resources such as assets and equipment, intangible such as social capital or brand recognition, or organizational processes such as new product development or acquisition capability. Naturally, given the centrality of resources to organization and strategy, resources are generally perceived as having a positive effect on the firm. Indeed, in a world defined by economics as the allocation of scarce resources, having more resources is usually assumed to be positive.

As a result, rarely has the question been asked if having more resources is always beneficial for the firm. Could having too much of a good thing have a negative effect on the firm? Although this question has seldom been addressed directly, there are several streams of research that directionally suggest the possibility that having too much of a good thing, particularly resources, could actually be negative. For example, research on macro economic development has demonstrated that countries with high income from natural resources (known as the ‘Dutch disease’, Corden & Neary, 1982) may invest less in human, technological, and infrastructural capital which leads to decreased performance over the long run (a ‘resource curse’ effect in Auty, 2007). Similarly, research at the firm level suggests that highly productive resources can often constrain the ability of the firm to recognize and respond to novel developments affecting their industry (Christensen & Bower, 1996; Henderson & Clark, 1990; Leonard-Barton, 1992).
Although the question of whether resources have a downside is relevant for all firms, the issue is particularly poignant for new ventures which are typically defined by the struggle to obtain resources (Bhide, 2003). In this resource-constrained context, it would appear that having more resources, even if limited to the canonical inputs of labor and capital, would have beneficial effects on new ventures. For example, greater endowments of labor and capital might enable the firm to overcome the liabilities of newness and smallness (Aldrich & Auster, 1986; Stinchcombe, 1965) by helping young firms weather early development, respond to unforeseen shocks, invest in production capabilities, or grow more quickly than competitors (Bruderl, Preisendorfer, & Ziegler, 1992; D’Aveni, 1994; Eisenhardt, 1989b; Eisenhardt & Tabrizi, 1995).

Given the many benefits resources can provide and the struggle new ventures face to obtain them, on the surface it appears counter-intuitive that resources could actually hinder firm performance. Nonetheless, it is possible that resource abundance can have negative effects on new ventures, such as cushioning them from the realities of the environment or allowing to waste resources on tangential pursuits (Barnett & McKendrick, 2004; Cyert & March, 1963 [1992]). Such dangers were poignantly demonstrated by the downfall of many new ventures in the internet era when many ventures persisted in failing business models such as selling products far below costs, or wasted large amounts of capital on unproductive activities such as acquiring customers for more than their lifetime value (Cheyfitz, 2003; Mullins, 2010). Indeed, partly in reaction to such waste, an emergent perspective on early stage ventures advocates application of lean manufacturing principles to the startup process with an inherent logic that ‘less is more’ in the ability of new firms to move quickly and capture new opportunities (Ries, Eisenmann, & Furr, 2010).

Therefore, although we often implicitly assume that having more resources is good, an important question to answer is whether having more resources has a downside. Furthermore, if resources have a downside, why has the effect not been more broadly observed? One answer to this question is that the relationship between resources and performance may be more complex than has been typically conceptualized. While it is possible that resources have a simple positive or negative effect on average performance, it is also possible that resource abundance has little effect on average performance but has a significant effect on the variability in performance. However, because most theoretical and empirical work has an intrinsic grounding in a means-based, expected value conceptualization of probability theory, such an effect might be missed by traditional approaches focusing on average outcomes (Baum & McKelvey, 2006; Bradley, Wiklund, & Shepherd, 2010; Cavarretta, 2008; Denrell, 2003; Hansen, Perry, & Reese, 2005; Kalnins, 2007).

The possibility that resources have a significant effect on variability has important implications for the outcomes achieved by the firm (Starbuck, 2009). Indeed, if resource abundance has an effect on variability then there may be an increase in unusual firm outcomes, including extreme performance outcomes. Such extreme outcomes—e.g. those distinguishing Google, Microsoft, Enron or WorldCom—have a significant impact on practice but are often understudied. Nonetheless, these ‘black swans’ and other extreme outcomes can significantly shape the choices and activities of many actors. Therefore, in addition to the effects of resource abundance on performance, a closely related question is what effects resource abundance might have on extreme outcomes.

In this paper, we examine two inter-related questions: could resources have a downside and, if so, how does the effect manifest itself? To answer these questions, we examine the effects of two canonical resource factors—human capital as reflected by number of founders and financial...
capital as reflected by equity —on the average and variability in performance of startup firms. We leverage the Kaufman Firm Survey (KFS), a comprehensive dataset of 4928 firms that began operations in 2004 and tracked annually through 2007. Surprisingly we show that these canonical resources, operationalized as founding equity and number of founders, produce little effect on average performance but have a significant effect on performance variability. In addition, we also find that the increase in variability is associated with an increase in the likelihood of other types of extreme organizational outcomes, such as failure and fundraising, suggesting that an increase in variability on one dimension may increase overall organizational risk for other types of extreme outcomes. These results suggest the possibility of a resource curse effect where, in some settings, having more of a good thing can be a mixed blessing. Finally, these results provide an illustration of how theory about extreme effects may differ from theory about mean effects, and suggest directions to revisit our approach to theory development and testing.

**Effects of Resources on Performance: A Complex Relationship**

Resources lie at the very heart of strategy (Wernerfelt, 1984) and entrepreneurship has often been defined as the appropriate use of resources to capture new opportunities (Rumelt, 1984). Indeed, resources form the foundations of competitive advantage, whether scarce (Barney, 1991; Mahoney & Pandian, 1992; Peteraf, 1993) or common (Bingham & Eisenhardt, 2010; Helfat & Peteraf, 2003; Kor & Leblebici, 2005; Miller, 2003). Furthermore, resources provide the basic building blocks of firm activities and the struggle to obtain these resources is a defining activity for all firms, particularly new ventures (Bhide, 2003).

Given that resources have so often been described in terms of the benefits they provide to firms, would it be possible that resource abundance has a downside and why would it have not been significantly examined to date? One reason might be that on average the positive benefits of resources outweigh any negative effects. Alternatively, as we will argue here, it may be that the downside of resource abundance has less to do with the effect on average outcomes and more to do with the creation of variability in outcomes. Therefore, the downsides of resources may have been overlooked because for the most part our theoretical and empirical bias has been to study average effects (e.g. Rauch, Wiklund, Lumpkin, & Frese, 2009; Stuart, Hoang, & Hybels, 1999; Zahra; Zahra & Dess, 2001) while acknowledging but not as seriously examining the effects of variability. One reason is that the dominant approach to theory development often implicitly utilizes an ‘expected value’ logic, drawn from probability theory, where the effects of constructs are conceptualized in terms of their expected outcomes (Mohr, 1982). As a result, for many theoretical perspectives, a construct is often implicitly assumed to have *either* a beneficial or a detrimental effect on expected outcomes, or in other words, average outcomes. Furthermore, implicitly, and probably unconsciously, we often assume that our *theory applies equally to any outcome level* although as we argue in the case of resources, such may not be the case.

Another reason for the focus on average outcomes is that typical methodological approaches to theory testing are directed primarily at establishing a directional effect on the *average* of the outcome variable. For instance, when using a regression to estimate the effects of constructs on a continuous variable, the methodology actually estimates whether the construct leads to an increase or decrease of the outcome variable, *on average* (Greene, 2003:15). Even approaches of a more qualitative nature, such as the matched-pair case method (Eisenhardt, 1989a), focus on determining what has beneficial vs. detrimental effects on the expected outcome. While it is true...
that econometrics offers alternative methodologies, the predominance of regression and similar means-based approaches in our analyses leads to a tendency to focus on mean effects.

The limitations of such means approach is particularly salient concerning extreme outcomes, which present particular difficulties to scholars and have been therefore been under-theorized so far (Baum & McKelvey, 2006; Daft & Lewin, 1990; Starbuck, 1993). A straightforward approach to predict extremes is to theorize effects on performance variability, as was first and most prominently hinted in the exploration-exploitation study (March, 1991). This approach relies on the concept of mean-variance tradeoff—when effects on performance variability imply that average performance and extreme performance may not move in the same direction. For instance March shows how survival can diminish at the same time that the mean performance improves (1991, p. chapter 3). Indeed, considering the effects on outcome variability introduces nuances to mean-based theories by explaining possible contradictory effects on average outcomes, extremely high outcomes, and extremely low outcomes (Cavarretta, 2008; Denrell, 2003; Kalnins, 2007; Reichstein, Dahl, Ebersberger, & Jensen, 2010).

**Effects of Resources on Performance Variability in New Ventures**

Strategy takes a particular interest in the emergence of new business organizations that become the mature businesses of the next generation (Schumpeter, 1934). New ventures are particularly interesting for the question at hand because they are a context in which both average and extreme performance outcomes are especially salient. In contrast to mature businesses, new ventures often face an increased likelihood of severe negative outcomes, particularly death, as they struggle for legitimacy and survival (Meyer & Rowan, 1977; Stinchcombe, 1965). On the other hand, startup firms also often have an increased chance of extremely positive outcomes such as fund raising or dramatic IPO (Beckman & Burton, 2008). Therefore, since both the average and extreme performance are highly relevant in new ventures, the logic exposed above suggests that examining the effect of constructs only in terms of average outcome may misrepresent the effect on extreme outcomes, calling for a study of variability effects.

To revisit the resource issue through that lens, we investigate the effects of two canonical resources—labor and capital—on new venture performance (Penrose, 1959; Wernerfelt, 1984). Financial capital is a fundamental resource for startup firms. Capital at founding can help firms overcome the liabilities of newness and smallness (Bruderl, Preisendorfer, & Ziegler, 1992; Levinthal, 1991) and even bootstrapping activities either require or are facilitated by money. Some of these activities involve expenditures, such as rent, salaries, or utilities as well as investments such as equipment or buildings, most of which will be financed by the financial capital available to the firm (Timmons & Spinelli, 2008). For early stage firms with limited revenues, one of the most important sources of financial capital is the equity available at founding at the formation of the firm (Dorf & Byers, 2008). Provided by early stockholders, equity is repaid last but will accrue the residual benefits of the venture. Equity differs from debt in terms of both priority and returns: debt is repaid first and has a fixed rate of return, whereas equity can have a wild range of returns. However, debt is also distinct from equity in the ease and method by which it is obtained. For a new venture with a short history and limited revenues, debt can be particularly difficult to obtain, but more importantly, debt is often constrained by the requirement of collaterals and therefore provide a much more limited freedom to entrepreneurs (Astebro & Bernhardt, 2003). As a result, regarding the financial capital construct, we will focus on equity since it is more commonly associated with the agency of the entrepreneur, whereas the other component, debt, is typically available under a contingent basis.
For entrepreneurs, more financial capital, in particular under the form of equity, has many benefits. For one, founding equity provides entrepreneurs with the basic resources with which to startup and grow the business (Choonwoo, Kyungmook, & Pennings, 2001). For instance, Bruderl and Preisendorfer (1998) found that capital at founding had a significant positive effect on growth, measured either as growth in sales or firm size. Similarly, Song et al. (2008) conducted a meta-analysis of factors influencing the success of new technology ventures and found that financial capital appeared to be a positive predictor of success. The second benefit of greater equity at founding may be greater flexibility and cushion to survive the volatile early period of the firm’s life cycle as well as absorb unexpected shocks and surprises. To illustrate, in a study of newspapers in Ireland and Argentina, Levinthal (1991) argued that early capital is a critical factor in the ability to survive and grow. Similarly, Bruderl, Preisendorfer and Ziegler (1992) found that capital at founding improved the survival of 1,849 new firms in Germany, arguing that such capital helped startup firms survive early shocks and growing pains. Finally, equity provides greater freedom to startup firms to engage in exploration, pursuing alternative projects which could lead to the discovery of products or services that have a high performance benefit (Cohen & Klepper, 1992). Exploration is a crucial aspect of discovering new approaches and high potential innovation (Cohen & Levinthal, 1990; Grant, 1991; Schumpeter, 1934). Empirical work has shown that firms that invest in exploratory activities are more likely to discover innovations (Ahuja & Katila, 2001; Katila & Ahuja, 2002), and for new ventures, founding capital is a crucial component of the ability to explore and discover such innovations. In summary, founding capital provided through early equity can provide many advantages.

However, despite these many benefits, there also exists the possibility that early founding equity can have downsides. For one, the organizational slack from excess founding capital may act as a security cushion against the need to change course or focus on activities that create more value (Bourgeois Iii, 1981; Cyert & March, 1963 [1992]; Furr, 2009; Patzelt, Shepherd, Deeds, & Bradley, 2008). This problem has been well illustrated in settings of radical innovation where established firms, cushioned by revenue from their existing activities, do not see the need to respond to innovations until it is often too late (Christensen & Bower, 1996; Henderson & Clark, 1990). Such was the case when Polaroid was able to develop market-leading digital photography capabilities early in the evolution of digital cameras but chose to focus instead on their traditional film business until failure was imminent. Although the dangers of organizational slack have not been extensively examined in a new venture setting, anecdotal examples such as Pets.com, which sold products for an average of one third the company’s cost and spent almost twenty times revenue on marketing, illustrate these dangers at the extreme (Cheyfitz, 2003).

A second related danger is that a startup firm with excess financial capital may be distracted and engage in tangential projects that distract the firm from the core task of creating value. To illustrate, in their simulation of search after discontinuous change, Lant and Mezias (1990) suggested that firms can fall into a trap of wasting resources on costly, tangential search and mistakes. Alternatively, emerging theory and research suggest that startups that make more effective use of resources may be more successful in bringing products to market (Ries, Eisenmann, & Furr, 2010) and more attractive to future capital providers (Rider, 2009).

Given the potential positive and negative effects of equity, it is not clear whether an abundance of such resource has a net negative or positive effect on average, and one could even suspect that these contradictory tendencies neutralize each other on average. An interesting alternative approach is to theorize that greater equity increases the divergence of performance—i.e. the vari-
ability—across firms. On the one hand, greater capital to invest in growth, to experiment, and freedom to pursue new agendas may lead some firms to a significant increase in performance. On the other hand, greater capital may lead others firms to wasted expense, fruitless forays, and buffering from competitive realities, leading to significantly negative performance. In sum, even if equity has an insignificant effect on mean performance, it may significantly increase the variability significantly. Compared to firms with less equity, the firms that intelligently utilize large amounts of such financial resources are expected to outperform while simultaneously the firms that waste these apparently ‘free’ resources are expected to under perform to under-perform.

Hypothesis 1: Greater financial capital in the form of founding equity will be associated with greater variability in performance.

A second canonical resource for new firms is human capital (Becker, 1964). Even more than financial capital, human capital may be a central factor in the success of a new venture since it provides firms with knowledge, expertise, relationship, experience and so forth (Amit & Schoemaker, 1993). Of the several types of human capital, founders—the group of people that initiate, have a stake in, and actively operate the firm—play a particularly important role, contributing labor, knowledge and other resources that significantly affects the future of a new venture (Eisenhardt & Schoonhoven, 1990; Stinchcombe, 1965). For these reasons, founders are distinguished from other groups, such as simple shareholders, who usually contribute primarily financial capital, or employees, whose contribution is usually limited in scope and driven largely by salary. Founders may differ in their various qualities, such as education, experience, or demographics; to illustrating variability effects, we will focus first on the simplest and most parsimonious measure of human capital, the number of founders. Indeed, how many partners to incorporate into the founding of a new firm is one of the most salient issues in starting a new firm (Cooper & Bruno, 1977; Song, Podoymitsyna, van der Bij, & Halman, 2008).

There are many potential advantages to having more founders involved with a new venture. The most common is that a larger number of founders can perform more of the work necessary for growth and may have advantages in assembling resources. For example, in their study of the emergence of non-Kosher wineries in Israel, Simons and Roberts (2008) suggested that a larger number of founders contributed to the ability to assemble more resources, thereby increasing survival. Similarly, in their study of the emerging computer industry, Eisenhardt and Schoonhoven (1990) linked a larger number of founders to increased growth. Second, having more founders brings a greater diversity of perspectives, which has been linked to the ability to solve fundamental firm problems and improve success (Boeker & Wiltbank, 2005; Wiersema & Bantel, 1992). To illustrate, Furr (2010) examined the ability of new ventures to commercialize solar photovoltaic innovations and found that the diversity of knowledge templates employed by founders improved the ability of the firm to adapt and succeed in the new market. Third, a greater number of founders may help a startup firm by increasing social capital and legitimacy (Burt, 1992; Stinchcombe, 1965). Empirical studies suggest that social capital can help new ventures in activities such as acquiring information about customers (Yli-Renko, Autio, & Sapienza, 2001), raising money from investors (Shane & Cable, 2002), and increasing perceived legitimacy (Khaire, 2010). Lastly, having a greater number of founders may help a startup firm to overcome hardships or deficiencies in other areas of the firm (Bruderl, Preisendorfer, & Ziegler, 1992). For example, a study by Chandler and Hanks (1998) of 102 startup manufacturing ventures suggested than in some cases, greater human capital can substitute for a lack of financial capital. Given these many benefits, it seems natural to conclude that human capital has a positive effect on startup firm performance.
However, despite the many positive benefits of more founders on a startup firm, it is also possible that more founders are not always beneficial. Indeed some studies of the effects of the number of founders on new firm performance have failed to find an effect for the number of founders on firm performance along multiple dimensions (Hogan & Hutson, 2005; Lange, Mollov, Pearlmutter, Singh, & Bygrave, 2007). There are several reasons why more founders could create challenges that may harm performance. For one, a greater number of founders means that there are more individuals who perceive they have authority, due to their status as founder, and therefore there are more conflicts or more difficult to resolve conflicts may arise (Brehmer, 1976; Cosier & Rose). For example, Ensley et al. (2002) examined the effects of affective conflict in new venture teams and found that such conflict had a large, negative effect on sales growth. Yet another reason why more founders may be harmful relates to potential ownership costs: when conflicts arise, it may be difficult to make changes to the new venture team composition, since removal of founders implies more administrative or personal difficulties than for simple employees. Existing empirical research suggests that removing founders, although common, can be a costly and complicated process (Boeker & Karichalil, 2002; Wasserman, 2003). In addition, a third reason that more founders may be negative is that that a larger number of founders increases the opportunity for shirking (Shapiro & Stiglitz, 1984). Specifically, more founders means that each founder will receive a smaller share of the total reward and so when there are more founders, individuals may be tempted to engage in free-riding or hedging their bets by pursuing other opportunities on the side. Finally, although there may be benefits to more founders, such as diversity of perspectives, these benefits may have costs that negatively affect the firm. For example, Beckman (2006) studied the effects of founding teams and found that although larger teams are more likely to make changes to the firm, these changes had a negative, although statistically non-significant, effect on firm growth.

As was the case with equity, it is not clear whether an abundance of founders has a net negative or net positive effect on average, and we could suspect that these countervailing effects might neutralize each other on average. However, an interesting theoretical alternative is to consider that the countervailing effects of more founder may significantly increase the divergence in performance—i.e. variability—across firms. Compared to firms with small founding team, the firms that successfully take advantage of a larger dedicated human capital pool should significantly outperform while simultaneously the firms that are caught up in conflict and unproductive activities created by a large group of founders are expected to significantly under-perform.

*Hypothesis 2: Greater human capital in the form of more founders will be associated with greater variability in performance."

**Effects of Resources on Extreme Performance Outcomes in New Ventures**

In the first set of hypotheses, we argued that canonical resources of new ventures may have contradictory effects on performance, probably to the point of neutralizing each other on average, but that those resources could have a significant—and more interesting—effect on variability in performance outcomes. The question then remains what those effects signify for firm performance, particularly extreme performance outcomes, whether positive or negative. In terms of extreme negatives, failure is a particularly relevant performance outcome. Due to the liabilities of newness, limited market power, and their short history, death is a particularly salient extreme outcome for startup firms since it represents the end of firm operations and often a significant loss to equity and debt holders (March, Simon, & Guetzkow, 1958 [1993]; Stinchcombe, 1965). Furthermore, this is also extreme empirically since it distinguishes the large majority of firms from
the minority that die: in the sample we will consider below, roughly 18% of firms are identifiable as failures after three years.

In terms of extreme positives, we could have considered the most classical measure: Initial Public Offering (IPO). However, in the sample (new ventures of 2004 cohort), the chances of reaching IPO are negligible due to external market conditions and therefore not a relevant measure. Instead, we consider a classical positive performance outcome in entrepreneurial activity: fund raising from competitive private capital markets, a particularly rare event since only a fraction of new ventures successfully obtain funding from private markets whereas the rest must rely on funding from other sources such as friends and family. Such independent private investors seeking returns from their investments represent premium investors and include venture capitalists, corporate investors and business angels, and are expected not to be acting by obligation or quid pro quo with the founders. Because such investment constitute a positive signal, and because of its empirical rarity (for instance, in the sample considered below, roughly 6% of firms are able to raise money from premium investors in the first three years after their establishment), fund-raising from premium investors represents a positive extreme performance outcome. Assuming equity increases outcome variability, it should have a detrimental effect for the extremely low outcome of failure while having a beneficial effect for the extremely high outcome of raising premium funds:

Hypothesis 3a: New ventures with greater equity will be more likely to reach extremely low performance such as failing.

Hypothesis 3b: New ventures with greater equity will be more likely to reach extremely high performance such as raising premium funds.

For the same reasons, the variability effect of number of founders also suggests an increase in the likelihood of both high and low extreme performance outcomes.

Hypothesis 4a: New ventures with larger founders’ groups will be more likely to reach extremely low performance such as failing.

Hypothesis 4b: New ventures with larger founders’ groups will be more likely to reach extremely high performance such as raising funds

Finally, it is noteworthy that these hypotheses go normatively in opposite directions, e.g. larger equity is beneficial relative to extremely high outcomes but is also detrimental relative to extremely low outcomes.

**Method**

Data from the Kauffman Firm Survey (KFS) was used to test the hypotheses and explore the empirical consequences of variability effects. The KFS is a survey of new businesses in the United States, initially based on a Dunn & Bradstreet (D&B) database of firms founded in 2004. This survey of 4,928 firms is the first large national sample of firm startups that is tracked over time. Extensive details about the actual indicators used and other methodological issues concerning the KFS are publicly available (Desroches, Mulcahy, Robb, & Shane, 2007), even though access to the full actual data is restricted to vetted researchers.
Full details about the variables, the methods and the results are available from the authors. The full analyses allow to verify the hypotheses, and are summarized in the Figure 2.

**DISCUSSION AND CONCLUSION**

In this analysis we argued that strategy and organization theory have focused implicitly on the positive effects of resources. Rarely have the potential negative effects of resources been considered. Although two of the canonical resources of new ventures (equity and number of founders) can have positive effects on startup firms, we argued that these same resources could also have a negative effect, particularly when there is an excess of such resources. Due to these countervailing effects, we suggested that the primary effect of resources is on variability in outcomes. Furthermore, this variability can also be interpreted as an increase in organizational risk and we thereby inferred a resulting increase in the chances of extreme outcomes. Our results validated these hypotheses and suggest that indeed resources may not always be positive but can also be a curse, increasing the chances of a very negative outcome as well as a very positive one.

This pattern might have been difficult to interpret without the variability approach advocated here. Nonetheless, it matches emerging perspectives in the practitioner literature suggesting that in many ways having more resources can do more harm than good for new firms (Ries, Eisenmann, & Furr, 2010; Wadhwa, 2010). It may also open new directions for theorizing on resources (as advocated by Kraaijenbrink, Spender, & Groen, 2010). For example, in addition to the current study, recent research has linked another resource, a strong CEO, with greater performance variability (Adams, Almeida, & Ferreira, 2005), further highlighting the possibility that resources can bring greater risk to the firm. Overall, attention to the downsides of resources, or a resource curse argument, could improve theory as well as formalize practitioner intuitions regarding the contradictory effects of resource abundance.

Beyond a specific resource curse, the finding that the resources examined have little effect on the mean but a significant effect on variability and extreme outcomes suggests a need to reexamine our primary methods of theorizing to more properly take into account variability and extreme outcomes (as advocated already by Cavarretta, 2008; Denrell, 2003; Kalnins, 2007). We argued that because theory and empirics have tended to focus more on means, the effects of variability have often been overlooked. One consequence of such neglect is that a theory based on expected outcomes (e.g. average) may wrongly be assumed to apply to extreme outcomes, and vice versa. To illustrate, our analysis highlighted two ways in which theory addressing variability may differ from means-based theory. First, we demonstrated how certain constructs (financial and human capital) might have countervailing effects and therefore be non-significant on the mean, but could still have a significant effect on variability and therefore significant and apparently contradictory effects on various classes of extreme outcomes. Second, we observed how a construct could have a different effect at the extreme than at the mean, due to variability.

Such nuances might not have been observable with purely means-based approaches. Regarding the possibility to study such phenomena through moderations, those can only be conducted if the moderating factors are controllable, a difficulty that the current approach circumvents. If a moderation study were possible in the end, the two approaches are complementary: variability approach is more parsimonious theoretically and empirically, and easier to exploit by practitioners; whereas moderations approach allows decomposing further the mechanism when possible.
Although means-based approaches will always be the mainstay of analysis, these findings highlight how theorizing the effects of constructs on variability can significantly enrich organizational theories. For example, often the field is characterized by significant debates about whether a construct or activity, such as acquisitions, has a positive or negative effect on outcomes such as performance. Our research, which also wrestled with countervailing effects, suggests that these questions can be framed into a positive theory about variability that would have interesting predictable consequences on extreme organizational outcomes.

Finally, if one considers that increases in variability can also be termed as increases of risk (Varian, 1990), this study contributes to strategy and organization theory by highlighting the concept of organizational risk and new factors that may contribute to it. Specifically this study demonstrates how key resource factors (endowment in equity and number of firm founders) can be considered organizational risk factors. So far, organizational studies have approached organizational risk either as risk preference at individual level (Kahneman, Slovic, & Tversky, 1982) or as a behavioral response at organizational level (March & Shapira, 1992). The alternative approach exemplified here could lead to identification of a broad spectrum of organizational risk factors by exploring influences on outcome variability.

In this paper, we raised several important questions. First, are resources always positive or do they have a downside? Second, if resources have a downside, why has the negative effect been overlooked? Our answer, while preliminary, has important implications for how resources are managed in new ventures as well as in larger firms by suggesting that resources are a mixed blessing, leading to more extreme positive and negative outcomes at the same time. This finding is important for theory and practice but also implies a larger potential need in the field, namely to reexamine theory in relation to variability and the incidence of extreme outcomes. While every empirical analysis has its flaws, this research provides important impetus to the need to reexamine both our theory and our practice. Indeed this paper illustrates that too much of a good thing, whether resources or a predominant theoretical approach, can indeed be a mixed blessing.

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NOTES
i. Following a common practice, the words average and mean are used interchangeably here.
ii. These hypotheses are not related to literature on Bowman’s paradox (1980) that focuses on the relationship between performance—mean of $Y$—and risk—longitudinal variability $\Delta Y$ (e.g. Andersen, Denrell, & Bettis, 2007; Bromiley, Miller, & Rau, 2001). By contrast, the current study considers the effects of resource factors ($X$) on cross-sectional performance variability ($DY$) to predict whether the factor increases occurrences of extremely high ($H$) and low ($L$) outcomes. Where Bowman’s literature studies $Y = f_0(\Delta Y)$, the focus here is to establish $\Delta Y = f_1(X)$ and infer $H = f_2(X)$ and $L = f_3(X)$. 

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EXHIBITS

Figure 1. Graphical summary of findings