# Predators in the Board Room? Relating Sexually Predatory, Discriminatory Behavior to Private Capital Performance

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#### Abstract

This paper is a study of the impact of sexually predatory and/or discriminatory behavior on the performance of venture capital and private equity funds. We contend that predatory and/or discriminatory behavior is a poor management practice resulting in organizational dysfunction and poor investment performance. We begin by introducing a Predatory Behavior Index at the scale of the fund, which we construct by establishing an order relation between different types of predatory behavior; gathering validated information from legal filings to score the index value; and computing the index value as a weighted sum from the scoring. We find statistically significant evidence that fund-level investment performance is negatively correlated with sexually predatory and/or discriminatory behavior.

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## I. Introduction

No scholarly research exists on the impact of sexually predatory and/or discriminatory behavior on the performance of venture capital and private equity funds. This is true despite the fact that a series of recent (and not-so-recent) incidents and events have drawn attention to the prevalence of predatory behavior in the venture capital and private equity (VCPE) industry.<sup>1</sup> One of these instances resulted in the shuttering of a high-flying VCPE firm after repeated complaints of harassment against one of its employees became public in 2017; another resulted in the departure of a senior partner from one of the industry's most highly respected firms after a \$50 million settlement he had reached with a former sex partner came to light.<sup>2</sup>

Despite the proven social and economic harm of such behaviors, the Investment Management Due Diligence Association (IMDDA, 2018) reports that 89 percent of investment allocators do not inquire about sexual harassment in the workplace; 82 percent of investors do not ask followup questions about sexual harassment if a manager declines to answer questions; 76 percent of allocators would still consider a fund manager or invest with a fund manager who has had issues with sexual harassment; and two-thirds of allocators limit background checks to only principals and senior staff.

<sup>&</sup>lt;sup>1</sup> Many women have reported complaints about repetitive, unchecked, and burgeoning sexual harassment in the VC industry. Allegations have touched such top firms as Lightspeed Venture Partners, Bain Capital Ventures, Binary Capital, 500 Startups, and Lowercase Capital. In the summer of 2017 alone, more than two dozen women in the tech startup industry disclosed that they had been sexually harassed by investors and mentors. These disclosures were triggered by revelations about Justin Caldbeck, a McKinsey & Co., Bain Ventures, and Lightspeed alum, who allegedly extorted sexual favors in return for funding over more than a decade (Benner, 2017; Farber, 2017; Zeitlin, 2017). These incidents have occurred in an industry combining extraordinary investor power and influence with limited transparency and accountability. As has been the pattern in comparable industries, instead of addressing such behavior by punishing perpetrators or establishing policies to reduce the risk, VCPE firms have tended to react to incidents by forcing gag orders on the women who speak up, threatening to withhold funding, and/or isolating victims from the investment community (Primack, 2017). Meanwhile, the perpetrators of these actions have, more often than not, continued to be promoted in the industry with few apparent consequences resulting from their actions.

<sup>&</sup>lt;sup>2</sup> A rich body of research does exist, however, on the topic of the performance of women in the investment workplace, including in roles as executives and board members. A growing number of studies also focus on the funding of women entrepreneurs.

In this paper, we explore the connection between predatory behavior and investment performance in the VCPE industry. There are many definitions related to predatory behavior.<sup>3</sup> We define predatory behavior as the abuse of a person, or attempted abuse of a person, who is within the perpetrator's sphere of influence. This behavior includes assault, domestic violence, enabling (of predatory behavior), inappropriate conduct, inappropriate sexual relationship, intimidation, sexual assault, sexual discrimination, sexual harassment, racial harassment, and racial discrimination.

A core contribution of the paper is the introduction of the Predatory Behavior Index (PB Index) a quantitative metric of predatory behavior. We created the PB Index by establishing an order relation between different types of predatory behavior; gathering validated information from legal filings to score the index value; and computing the index value as a weighted sum from the scoring.

We used the PB Index to assess the relationship between sexually predatory and/or discriminatory behavior and the performance of venture capital and private equity funds. Our results strongly suggest that fund-level investment performance is negatively correlated with sexually predatory and/or discriminatory behavior.

The paper is structured as follows. In section II we offer a review of research on the effectiveness of women as entrepreneurs and entrepreneurial team members; as VCPE investors and investors more generally; and as corporate board members. This section also describes previous research on factors that affect VCPE investment performance, and the relationship between diversity and investment performance. Section III consists of a description of the PB Index and its construction. Sections IV and V describe the data we used and the statistical experiment we employed to test the relationship between sexually predatory and/or discriminatory behavior and the performance of venture capital and private equity funds. Section VI describes the results of

<sup>&</sup>lt;sup>3</sup> In their article "Measuring Sexual Harassment: Theoretical and Psychometric Advances" authors Fitzgerald, Gelfand and Drasgow establish a three denotational model and theoretical framework for sexual harassment, which they define as: gender harassment, unwanted sexual attention, and sexual coercion. (Fitzgerald, Gelfand, & Drasgow, 1995)

the experiment, including a comparison of the relationship between the PB Index and multiple measures of investment performance; it then details the inferences and implications of the results. Section VII concludes with recommendations for policy and suggestions for future work.

## **II. Previous Work**

### Women as Entrepreneurs and Entrepreneurial Team Members

Women entrepreneurs contribute significantly to entrepreneurial ecosystems in the United States. According to the U.S. Small Business Administration (SBA, 2012), women establish more than half the new businesses founded in the U.S. each year. Moreover, on an annual basis, 58 percent of women founders create high-growth (>30 percent) businesses, compared to only 52 percent of men founders (American Express, 2017).

Recent research by Mino (2017) and Boston Consulting Group (2018) suggests that, in general, diversity and innovative capability are strongly related, and that women improve a firm's performance by bringing their perspectives to their team. Additional research by The Catalyst Group (2013) demonstrates companies with women on their boards or in management have a 66 percent higher return on investment. First Round Capital (2015) found that, over a decade of investing, its women-owned firms had performed better than those owned by men. In fact, First Round Capital found that firms with a woman founder performed 63 percent better than those with an all-male team.

Despite these results, external private resources such as venture capital and private equity have consistently provided less capital, fewer employment opportunities, and perhaps even discouraging working conditions for women. As Brush et al. (2014a) report, the number of women in VCPE firms dropped from 10 percent in 1999 to less than 6 percent in 2015.<sup>4</sup>

<sup>&</sup>lt;sup>4</sup> Traditional research has postulated that this lack of a critical mass of women may be a factor in the proportionate stagnation of funding; Xie (2011), for example, argues that a minimum 10 percent to 15 percent critical mass is required to effectively promote social ideas.

#### Comparing How Male and Female Entrepreneurs Are Described by Venture Capitalists

These gendered personas are illustrated with quotes from Swedish government VCs who were observed discussing a total of 125 applications for funding between 2009 and 2010.

The average MALE entrepreneur is described with attributes such as:	The average FEMALE entrepreneur is described with attributes such as:
"Young and promising"	"Young, but inexperienced"
"Arrogant, but very impressive competence"	"Lacks network contacts and in need of help to develop her business concept"
"Aggressive, but a really good entrepreneur"	"Enthusiastic, but weak"
"Experienced and knowledgeable"	"Experienced, but worried"
<ul> <li>"Very competent innovator and already has money to play with"</li> </ul>	Good-looking and careless with money
"Cautious, sensible, and level-headed"	"Too cautious and does not dare"
"Extremely capable and very driven"	"Lacks ability for venturing and growth"
<ul> <li>"Educated engineer at a prestigious university and has run businesses before"</li> </ul>	<ul> <li>"Visionary, but with no knowledge of the market"</li> </ul>
NOTE QUOTES WERE TRANSLATED FROM SWEDISH TO ENGLISH. SOURCE "GENDER STEREOTYPES AND VENTURE SUPPORT DECISION CAPITALISTS SOCIALLY CONSTRUCT ENTREPRENEURS' POTENTIAL," E ENTREPRENEURSHIP THEORY AND PRACTICE. FEBRUARY 2017	S: HOW GOVERNMENTAL VENTURE BY MALIN MALMSTRÖM ET AL., © HBR.ORG

Figure 1. Unconscious Bias in Venture Capital

More damaging to the innovation ecosystem may be the lack of funding for women entrepreneurs. Of the companies that received VC funding between 2011 and 2013, 15 percent had one or more women on the executive team; however, only 2.7 percent had a female CEO (Brush et al., 2014b). While women entrepreneurs establish more than half the new businesses in the U.S. and are majority owners in more than 36 percent of businesses, companies led by women continue to receive less than 3 percent of VC funding (Brush et al., 2014a). This is particularly significant for women in technology, since more than 77 percent of VC investments are made in technology-related businesses.

Recent research has established a pervasive (if unconscious) bias in how venture capitalists socially construct entrepreneurial potential by gender, which creates a severe disparity in how women professionals are perceived and treated.<sup>5</sup>

<sup>&</sup>lt;sup>5</sup> Malmström, Johansson, & Wincent (2017) and Malin Malmstrom (2017).

Using Swedish government data, Malmström, Johansson, and Wincent (2017) found significant gender bias in how women entrepreneurs are viewed when venture funding decisions are made. They also demonstrated that this perception bias resulted in women receiving significantly less venture capital. Their findings are all the more striking because, owing to various directives, the government funders were required to consider gender as part of the investment criteria. In other words, the Swedish government wanted to invest in women entrepreneurs (and, indeed, Sweden has a very accommodating environment for women business builders), yet women's venture applications were rejected at a higher rate (53 percent) than those of men (38 percent). Moreover, in studying the language used to discuss venture applications, Malmström et al. found that "stereotypical gender perceptions significantly influenced the decision making and funding decisions the governmental venture capitalists made."

#### Women as Investors

In a study of the performance of women venture capitalists, Gompers, Mukharlyamov, Weisburst, and Xuan (2014) find that women acting as VC investors (comprising 6 percent of the total sample) underperform their male peers by 15 percent.<sup>6</sup> The paper did not conclusively establish the cause of this effect, with options including (a) women have poorer assessment ability; (b) the system limits women's ability to operate optimally due to harassment, discrimination, and bias; (c) the selection criteria for women don't include their capabilities, focusing instead on ancillary factors such as "hotness,"<sup>7</sup> which results in choosing women with poor performance results; (d) women are forced to invest in areas with weaker returns, such as retail, lingerie, or child care. The paper additionally finds that "women venture capitalists do not benefit, on average, from having good colleagues in the firm in which they work. Male venture capitalists, in contrast, benefit significantly from having good colleagues within their firms" (P.A. Gompers, V. Mukharlyamov, E. Weisburst, and Y. Xuan 2014, p. 25).

https://www.forbes.com/sites/meghancasserly/2012/07/17/yahoo-marissa-mayer-hottest-ceo-ever-great-forbusiness/#588b49b76749 . and https://www.cnn.com/2013/08/21/opinion/schwartz-marissa-mayer-vogue/index.html.

<sup>&</sup>lt;sup>6</sup> Gompers et al. (2014) also found that 74 percent of the firms in their survey had never had a woman VC investor, and of the firms that did have a woman investor, the vast majority had only one.

<sup>&</sup>lt;sup>7</sup> Marissa Mayer's much touted "hotness" is the subject of many articles; see

Additional research has been conducted on the topic of women as mutual fund managers and traders. In their paper titled "Boys Will be Boys: Gender Confidence and Common Stock Investments," Barberand Odean (2000) found that men trade more frequently than women and, as a result, diminish their investment returns by 2.65 percentage points a year; women have a 1.72 percentage-point reduction. Barber and Odean attributed the difference to male traders' over-confidence.

While Dwyer, Gilkeson, and List (2002) also found that women mutual fund managers are more risk averse than men, this difference disappears when controlling for knowledge of financial markets and investments. This suggests that women's greater risk aversion can be substantially explained by knowledge disparities.

Bliss and Potter (2002) argued against the notion that women investors are more conservative and take fewer risks than men. They found that the women mutual fund managers in their experiment had portfolios with a slightly higher risk than men, which of course depends on the risk measure used. Their raw data showed that women managers slightly outperformed the men; however, when adjusted for level of risk and other factors, the difference became statistically insignificant.

Atkinson, Boyce Baird, and Frye (2003) found no material difference between the performance of male and female fixed-income mutual fund managers. They suggested that differences in performance attributed to gender might in fact be caused by other factors, such as investment constraints and market knowledge. However, their research does indicate that gender might influence investors' decisions, with male fixed-income mutual fund managers experiencing higher inflows than their female counterparts. Niessen-Ruenzi (2015) also found that women U.S. mutual fund managers see lower inflows than men. Her study shows women to be less risk averse; to have a more consistent, less extreme investment style; and, on average, to trade less frequently than men.

### Women on Corporate Boards

Catalyst (2018)—a research company that tracks the role of women in S&P 500 companies found that, in 2017, 44.7 percent of all employees at S&P 500 companies were women, but women held only 21.2 percent of board seats. Only 5.2 percent of CEOs were women. A 2017

analysis by the advocacy group "2020" (2020, 2017) found that, of the 75 largest companies to go public between 2014 and 2016, three out of four did so with one or no women board members, and almost half (49 percent) IPOed with no female board representation at all.

A literature review by Klein (2017) revealed no systematic evidence that companies with one or more women board members performed better or worse than those with none, or that having a woman in the C-suite makes a significant difference to firms' outcomes. Post and Byron's (2015) review of 140 studies found that the relationship between female board members and net performance is close to zero; however, they also found that the relationship is positive in countries with greater gender parity and negative in countries with less gender parity. In a study of 20 peer-reviewed articles on the same topic, Pletzer, Nikolova, Kedzior, and Voelpel (2015) also found that "the correlation between percentage of females on corporate boards and firm performance was small and non-significant."

#### Impact of Sexual Harassment and Other Predatory Behavior

No research to date has examined the effect of sexual harassment or other predatory behavior on VCPE investment performance. Some work has looked at how to quantify the economic impact that being harassed has on women. McLaughlin, Uggen, and Blackstone (2017), for example, used in-depth interviews and longitudinal survey data to examine the impact being harassed early in their career had on women. They found that women who experienced harassment early in their career are likely to suffer from financial stress.

Faley, Glaeser, Katz, Kustis, and Dubois (1999) estimated that incidents of harassment cost the U.S. Army \$250 million in 1998 alone. The U.S. Equal Employee Opportunity Commission announced that it received and resolved close to 14,000 charges of sexual harassment in 2005, with more than \$37 million paid in monetary settlements (EEOC, 2018), not including the cost of litigation. A decade later, in 2015, the Commission estimated that sexual harassment cases cost \$46 million.

The impact of sexual harassment more generally has been widely studied. In their meta-analysis of 41 studies, Willness, Steel, and Lee (2007) identified the costs of sexual harassment as "decreased job satisfaction, lower organizational commitment, withdrawing from work, ill physical and mental health, and even symptoms of post-traumatic stress disorder." They also

found that certain organizational climates enable sexual harassment. Hulin, Fitzgerald, and Drasgow (1996) described such climates as including a perceived danger to victims if they complain, the feeling that complaints will not be taken seriously and that no sanctions will be taken against offenders—all of which, according to reports from harassment victims, are present in the private capital industry.

Pryor, LaVite, & Stoller (1993) found that men are more likely to engage in sexual harassment in a permissive environment in which they witness other men getting away with such behaviors. Some researchers have found that harassment is more common among women who are highly educated (De Coster, Estes, and Mueller, 1999) and hold positions of power (Chamberlain, Crowley, Tope, & Hodson, 2008; McLaughlin, Uggen, & Blackstone, 2012). Other studies have found harassment more prevalent among women who work in male-dominated industries, such as manufacturing (Fitzgerald, Drasgow, Hulin, Gelfand, and Magley, 1997; Gruber, 1998; McLaughlin et al., 2012).

Taken as a whole, the literature on workplace sexual harassment suggests that the private capital industry, with its closed culture, high-stakes jobs, asymmetrical power dynamics, and lack of diversity, is prime territory for the types of predatory behavior on which this paper reports. Indeed, "Elephant in the Valley" (Vassallo, et al., 2017), a Stanford University survey conducted in 2015, asked more than 200 women, most of whom live in Silicon Valley, about their experiences in the VCPE industry. The survey revealed that 60 percent of women in the tech industry reported receiving unwanted sexual advances; of those who reported such advances, one in three said they felt unsafe in their workplace, and 65 percent said the unwanted sexual advances came from a superior.<sup>8</sup>

<sup>&</sup>lt;sup>8</sup> The VCPE industry is far from being the only community with a sexual harassment problem. For example, much attention has been paid in recent years to sexually predatory behavior on university campuses. In 2015, Columbia University established the Sexual Health Initiative to Foster Transformation, or SHIFT, a major research initiative intended to "advance prevention of sexual violence" (Columbia University , 2015). After interviewing more than 1,670 Columbia and Barnard University students, SHIFT published its first findings and recommendations in an article entitled, "Sexual Assault Incidents among College Undergraduates: Prevalence and Factors Associated with Risk" (Mellins, et al., 2017). Their data support the suggestion that college students, especially women, are subject to a high-level of sexual assault. However, the article also made it clear that the problem is murky, since identification of culpability is harder in the heavy-drinking and more promiscuous college population. The SHIFT project also makes it clear that predatory behavior does not occur with women alone. Indeed, 12.5 percent of male survey respondents reported being sexually assaulted. It is worth considering what kind of impact a culture that

Mellins et al. (2017) emphasized that there is no "one size fits all" solution to the problem of harassment, as it involves diverse experiences, nuances as to what actually constitutes sexual assault, and who is at risk. They argued for a systemic public health approach that "recognizes the multiple interrelated factors that produce adverse outcomes, and perhaps particularly emphasizes gender and economic disparities and resulting power dynamics, widespread use of alcohol, attitudes about sexuality, and conversations about sex—to make inroads on an issue that stubbornly persists."

"Elephant in the Valley," press reports, litigation, and other anecdotal evidence make it clear that much of the predatory behavior experienced by people in the VCPE industry is also nuanced, sensitive, and subject to specific power dynamics.<sup>9</sup> If the solution to the VCPE industry's sexually predatory behavior problem lies not—as some have suggested—in keeping women out but in granting women a more equal role in the VCPE ecosystem, it seems likely that the industry will have to grapple with complex answers and systemic solutions to their problem of predatory behavior.<sup>10</sup>

## **III. The Predatory Behavior Index**

To assess the impact of sexually predatory and/or discriminatory behavior on the performance of venture capital and private equity funds, we required three components: (1) an index of predatory

encourages or enables predatory behavior has on all who participate or seek to participate in it. Is the male partner or budding entrepreneur who is unwilling to party in the hot tub less likely to be supported or to succeed (Chang, 2018).

<sup>&</sup>lt;sup>9</sup> Bloomberg journalist Emily Chang recounts that venture capitalist Chris Sacca "boasted" to her about the hot tub parties he held at his home near Lake Tahoe, California. Chang says Sacca was impressed by the ability of Uber CEO Travis Kalanick to spend eight to ten hours in the hot tub. Both Sacca and Kalnick have had to step down from their firms, Sacca after allegations that he inappropriately touched women were reported in the *New York Times* (he denies the allegations); Kalnick after a series of scandals at Uber, a number of which involved his or the company's attitudes toward and treatment of women.

<sup>&</sup>lt;sup>10</sup> In response to the growing number of allegations concerning the harassment of women entrepreneurs and venture capitalists, some male venture capitalists have been reported as saying they will no longer meet privately or one-on-one with women. This modern adoption of the so-called Billy Graham Rule (the pastor Billy Graham famously made a point of not meeting or traveling or eating alone with a woman other than his wife) might solve the immediate harassment concern, but it would have a chilling effect on the ability of women to access the corridors of power—especially soft power—and capital within the VCPE community. It would also have the effect of further restricting the ability of male venture capitalists to access the ideas, innovations, and skill sets of more than 50 percent of the population.

behavior; (2) a measure of VCPE fund performance; and (3) a mathematical experiment exploring the nature of the relationship between the first two variables.

To build the first of these components—the PB Index—we began by identifying the types of predatory behavior known to have occurred in the VCPE industry. Our research on this topic consisted of interviews with industry participants; a review of published news articles, reports published on industry blogs and websites, books; and a review of legal actions of both civil and criminal.

To identify specific instances of predatory behavior, we used public databases, search engines and legal databases. An incident was tagged for inclusion in our PB Index if it could verifiably be proven to have taken place (even if the outcome or significance was in dispute), either through corroboration by the perpetrator or the perpetrator's employer, or through litigation. We did not include in our PB Index any actions that were not corroborated by more than one source, nor did we include reports of PB incidents that arose solely through our one-on-one interviews with industry participants.

For news reports we searched major business news publications including Bloomberg, *The Financial Times*, *The New York Times* and *The Wall Street Journal*. We looked for news items published in trade publications and industry news sites including Pando Daily and The Information. We also consulted business and venture magazines including *The Economist*, *Institutional Investor*, and *Wired*.

In searching court records we relied on Public Access to Court Electronic Records (PACER) database, as well as local courts in jurisdictions with a high concentration of individuals who work at VCPE firms. We searched for keywords including "Asset Management", "Capital Management", "Venture Capital" and "Private Equity." We also searched by name for some industry participants.

The vast majority of incidents included in the PB Index either occurred in the U.S. or took place at U.S.-based firms. Only handful of incidents in our database took place in the UK or Europe. The fact that the majority of incidents in the index occurred in the U.S. is not, however, on its own an indicator that U.S.-based firms have more PB incidents than those outside of the U.S. Rather, it may reflect the high concentration of VCPE investment firms in the U.S.; the U.S.-

centric nature of our access to news reports and legal documents; and the relatively transparent nature of the U.S. legal process.

Our focus was not on the veracity of an allegation in its specifics but on the verifiable existence of an action itself. A common misconception when dealing with instances of predatory behavior in a corporate environment or elsewhere is that—because certain actions cannot be verified or are open to dispute—the whole area is subjective and hard to quantify. This is not true. While some behaviors cannot easily be verified in their specifics—such as allegations of sexual assault that have not resulted in a criminal conviction or been proven in a court of law—others can, even when the allegations are made under the most contentious circumstances.

A factor that makes predatory behavior so hard to root out is the lack of transparency. In a private, closed industry, which includes the vast majority of VCPE firms, instances of harassment or discrimination are routinely settled out of court and behind closed doors, leaving little or no paper trail. Given this lack of disclosure around predatory behavior, the PB Score we have calculated is likely to be downwardly biased; some funds that do not appear in the PB Index or that have very low PB scores may nonetheless have experienced instances of predatory behavior. As these instances come to light, we will add these funds to the PB Index.

These "known unknowns," however, do not invalidate the current experiment. By targeting the verifiable existence of predatory behavior, the index is taking into account not only the action itself but the impact of disclosure or discovery—either of which can lead to further predatory behavior, such as intimidation. In this way, our index takes into account not only the impact the predatory behavior has on a fund but also that which follows from its coming to light.<sup>11</sup>

<sup>&</sup>lt;sup>11</sup> One negative consequence of this might seem to be that it would encourage managers not to disclose, on the presumption that managers who do not get caught don't underperform. There is, however, evidence to suggest that the consequences of delayed disclosure can be much more damaging to overall fund or firm performance.

Predatory Behavior	Example	Weighting
Enabler	Invested funds in a company run by a founder with a known track record of predatory behavior	1
Inappropriate Conduct	Made inappropriate comments of a sexual nature to a person seeking funding at an industry event	2
Discrimination	Denied business opportunities to an employee because of their ethnicity or gender	3
Domestic Violence	Accused of being abusive to a romantic partner	3
Inappropriate Sexual Relationship	Having an affair with a colleague	3
Sexual Harassment	Pestering a colleague for sex	4
Racial Harassment	Abusing a subordinate using racially charged language	4
Intimidation	Threatening someone's career if they speak out against an alleged assault	4
Assault	Physically assaulting someone and committing bodily harm	5
Sexual Assault	Rape	5

Figure 2. Definitions of Predatory Behavior

A predatory behavior incident may consist of more than one act. For example, someone who commits domestic violence may also commit physical assault or sexual assault. The PB Index takes into account the severity of each act, as well as the number of acts committed.

Our research shows the following array of behaviors are known to occur in the private capital industry: assault, domestic violence, enabling (of predatory behavior), inappropriate conduct, inappropriate sexual relationship, intimidation, sexual assault, sexual discrimination, racial discrimination, sexual harassment, and racial harassment.

Our PB Index also considers the enabler. All too often, sexual violence, harassment, and discrimination are considered in isolation as a private act between a perpetrator and victim, yet these acts have much broader ramifications. Wrongful behavior is often known about, but overlooked, for a number of reasons.

In the VCPE industry, which relies on extensive background checks when making an investment or hiring decision, there are instances where the investor or fund manager knew or could have known about predatory behavior but nevertheless decided to invest or hire. Our index considers those investments or hiring actions to be enabling—as is any instance in which someone has been identified in the press or a legal filing as having enabled an instance of sexual harassment, violence, or discrimination. In this example, the predatory behavior, enabling, occurs at the point when an investment is made in, or with, the known perpetrator or perpetrators.

To create the index, we compiled a universe of verifiable instances of predatory behavior in the VCPE industry from publicly available sources, as noted above. We then established a timeline of when these incidents occurred and weighted each instance of predatory behavior according to its severity. For this weighting, we used a scale of one to five, one being the least severe.

Our PB Index identified a statistically significant universe of funds, more than 50, that had experienced one or more predatory behavior incidents. With the index, we were able to run the experiment using data from the private capital database.

Our PB Index lists several types of negative behavior that have been known to take place at private equity and venture capital firms, to be perpetrated by one or more members of a private capital firm, or to involve an underlying portfolio company. It does not presume that all of these activities are equal; for example, discrimination is not the same as sexual harassment or rape. However, these activities do share a common thread in that they objectify and dehumanize someone (most often a woman) based on their gender, sexuality or other attributes. A high number of instances of discrimination and/or sexual harassment in the workplace can be a manifestation of poor management resulting in organizational dysfunction and potentially impacting other desired firm capabilities such as salary contention, employee loyalty, creativity, diversity or group thinking. Evidence from court cases, academic research, and anecdotal

evidence from within the VCPE industry suggests that harassment and discrimination often take place together.

Our index includes incidents and behaviors that have taken place outside of the office and, in some cases, outside the work context. The PB Index is not intended to track the personal sexual activities or behaviors of members of the VCPE industry. It does not, for example, include data on Silicon Valley executives who may frequent strip clubs or participate in sex parties. The index does track behaviors that are illegal, dehumanizing, and/or degrading to one or more of the (nonconsenting) parties involved.

In close-knit communities, such as a university or the VCPE industry, the line between work and non-work is porous. Some reported instances of harassment in the VCPE industry, for example, took place at social events. Such private incidents can rise to a sufficient level of both transgression and public visibility that we determined they merited inclusion in the PB Index.

### IV. The Private Capital Database

The Private Capital Research Institute (PCRI) is a nonprofit organization that works to further understanding of the economic impact of private capital through independent academic studies. PCRI's primary goal is to produce high-quality academic research on the private capital industry, based in large part on its comprehensive, centralized academic database of private capital activity. The unique feature of the PCRI database is that it draws from multiple data sources, including the private capital firms themselves, several commercial data vendors, private capital associations, limited partners, and PCRI's own research. Four major data vendors/private capital associations contribute to the PCRI database: The Emerging Markets Private Equity Association (EMPEA), Alternative Analysis & Risk Management Pvt. Ltd. (ADC), Thomson Reuters Corp., and Unquote; all are described below.

EMPEA (www.empea.org) is an independent, nonprofit global industry association for private capital fund managers, institutional investors, and industry advisors in emerging markets. EMPEA has more than 300 member firms, which together manage more than \$1 trillion in assets and have offices in more than 100 countries across the globe. EMPEA's proprietary database of funds and investments is built with the ongoing support of its members, publicly available



## Number of Funds by Vintage Year

#### Figure 3. PCRI Dataset

#### PCRI website

, http://www.privatecapitalresearchinstitute.org/; Preqin website, https://www.preqin.com/; Thomson Reuters website, https://financial.thomsonreuters.com/en/products/tools-applications/trading-investment-tools/eikon-trading-software/private-equity-data.html.

information, trade publications, and communication with industry participants and with regional and local venture capital associations.

ADC (www.adatacell.com), which is registered under the Companies Act of 1956, was founded in 2012 with the aim of providing private capital performance data. It collects detailed fund cashflow data from a variety of sources, including public Freedom of Information Act reports. ADC aggregates industrywide data and presents it in a customized, anonymous, on-demand tool that can be adapted by any type of user. ADC has informational features that enable a user to benchmark and compare a fund's past performance, risk, impact, etc., relative to its peer group and the industry, and an analytical component that enables a customer to search and assess everything from J-curve/cash-risk assessments and portfolio risk to the future performance of a fund and portfolio exposure. The ADC dataset comprises the majority of the performance data under PCRI.

Thomson Reuters (financial.thomsonreuters.com) is a globally-recognized source of financial and economic information for businesses and professionals.

Unquote (www.unquotedata.com), a division of Incisive Media, is a leading European PE specialist and information source that has been researching the markets for more than 20 years. Unquote provides information on deals, funds, and exits, and it fully verifies its information directly with the PE dealmakers, fund managers, institutional investors, and advisory communities. As it notes on its website, "With data from over 35,000 private equity investments stretching back to 1990, it is the longest-running and most comprehensive European database available." The bulk of Unquote's data is derived from the Alternative Assets Division of Incisive Media, which has been collecting in-depth, verified data on European PE investments since it was formed (originally as Initiative Europe Ltd.) in 1988.

The PCRI dataset spans the following types of data that are relevant to our experiment: firm name, fund name, fund types, vintage, date, cash flow, and investor performance (Investment Rate of Return, or IRR; Total Value to Pay-In Ration, or TVPI; and the Distributed Value to Pay-in ratio, or DVPI; see below)

The IRR is the most widely used performance measure in the PE industry. It is used by managers to report performance and by investors to compare and evaluate funds. The IRR is the constant discount factor, which leads to a zero net present value of an investment's cash flows. The annual IRR is calculated using the following formula:

$$C_0 + \sum_{t=1}^{N} \frac{C_t}{(1 + IRR)^t} = 0$$

Here,  $C_t$  denotes the annual cash flow at time t, and N represents the economic life of the product, usually measured in years.

In PE, the IRR has advantages as a performance measure: It is a rate of return quantity suitable for the irregular pattern of inflows and outflows typically found in PE. It has the virtue of requiring only cash flows and a terminal value, and does not depend on a sequence of

intermediate values, which is problematic for an illiquid asset class. However, it also has several limitations and anomalies. On an absolute basis, it may fail to provide a meaningful measure of the performance of the underlying asset, and it is generally not possible to create a risk-adjusted IRR. On a relative basis, the investment with the highest IRR may not always be the best investment in terms of economic gains, and it is generally not possible to compare the IRR to the time-weighted rate of return that measures the performance of most investments, such as publicly traded stocks and bonds.

Along with the IRR, the multiples (DVPI and TVPI) are the most common performance measure employed in the PE industry. It is the simplest to calculate while avoiding some of the problems with measurement and the "gaming" that afflict the IRR, but it introduces other distortions. For a completed fund that has made its final distribution, the cash multiple is the cash-on-cash return, and it provides a rough estimate of the realized return from the investment. However, it also is an ambiguous measure of performance since it ignores the time value of money and does not provide any information about the scale of the investment.

There are several variants of multiples:

- TVPI (or TVM, or simply "multiple"): Total Value to Paid-In, the sum of cash distributions plus the value of residual (unrealized) investment held by the fund, divided by paid-in capital
- 2. DVPI (or DPI): Distributed Value to Paid-In, the sum of cash distributions divided by paid-in capital
- 3. RVPI: Residual Value to Paid-In, the value of residual (unrealized) investment held by the fund, divided by paid-in capital

Note that the TVPI is the sum of the DVPI and RVPI, and that for a closed fund the RVPI is zero. Each of these measures represents a slightly different aspect of portfolio performance, and investors must be aware of their nuances and the different insights they can offer, especially a fund that has not fully exited its investments. The TVPI is a straightforward measure of the cash-on-cash return relative to paid-in capital; the DVPI can be seen as a measure of the efficiency of capital deployment; and the RVPI assesses the portfolio's residual value and can be seen as a

Variable	Number
Number Funds Sample A	113
Number Funds Sample B	112
Fund Size Sample A	361 Mil
Fund Size Sample B	524 Mil
Minimum Fund Vintage Sample A	1980
Minimum Fund Vintage Sample B	1980
Maximum Fund Vintage Sample A	2016
Maximum Fund Vintage Sample B	2016
Number of North America Sample A	106
Number of North America Sample B	92
Number of Europe Sample A	13
Number of Europe Sample B	10
Number of Asia Sample A	24
Number of Asia Sample B	24
Number of Venture Funds Sample A	103
Number of Venture Funds Sample B	104
Number of Growth Funds Sample A	8
Number of Growth Funds Sample B	8
Number of Buyout Funds Sample A	3
Number of Buyout Funds Sample B	

Basic Descriptive Statistics

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#### Figure 4. Sample Set Characterization

proxy for wealth creation. Like the IRR, these measures ignore the scale and duration of an investment.

### **V.** The Experiment

We hypothesize that sexual harassment and related predatory behaviors correlate with suboptimal investment decisions and systematic organizational underperformance. Thus, identifying such behavior should be part of the standard due-diligence and risk-mitigation process an LP investing in private capital should undertake.

To test our claim, we set up our experiment as follows. For each sample set of predatory behavior, beginning in the first year of the 7- to 10-year test window (depending on available

#### **STEP I: PB Data collection**

- 1. Collect data on predatory behavior (PB) incidents under Ten (10) categories using a binary coding (0/1)
  - a. Assault
  - b. Discrimination
  - c. Domestic violence
  - d. Enabler of predatory behavior
  - e. Inappropriate sexual relationship
  - f. Inappropriate conduct
  - g. Sexual assault
  - h. Sexual harassment
- i. Racial harassment
- Associate weightage scores for each type of PB behavior
   Relate incidents by individual perpetrator(s) to corresponding VCPE firm
- Create predatory behavior (PB) index by using a weighted sum of PB behavior and weightage scores.

#### **STEP II: Performance Data collection**

- 1. Relate timeline of incidents in firm I(1) to funds of firm impacted in the same duration (with 7 year window). Filter out any other funds of firm that are not within the window of impact
- 2. Collect data on fund performance over lifetime of funds identified in step 4.
- 3. Select performance variable to be used in analysis
  - a. IRR
  - b. TVPI
  - c. DVPI
- 4. Associate data in step 1 with data in step 4
- 5. Identify characteristics of fund in step 4.
  - a. Vintage
  - b. Industry investment
  - c. Product (venture (seed, early, mid, late), growth, buyout etc)
  - d. Geography
- 6. Create control sample with characteristics identified in step 6.
- 7. Create merged sample set with both original and control sample.

#### STEP III: ANALYSIS

- 8. Run regression analysis using various performance metrics
  - a. DVPI
  - b. TVPI
  - c. IRR
- 9. Check p values to ensure p =< 0.05 for 95% confidence, p= <0.10 for 90% confidence

#### Figure 5 Experimental Steps

data), we calculated a "predatory behavior score" for each fund the firm manages, with overlap on the date of the predatory incident. We profiled the set of funds with this behavior, based on standard qualification or risk factors, such as fund size, product type, industry focus, fund vintage, and fund region. Then we generated a random control set of funds/firms that have no

known history of the same predatory behavior but share the same risk-factor profile. We then identified the corresponding performance data for the entire sample set. In our experiment, we collected in IRR, TVPI, and DVPI values. Next, we ran a standard statistical regression analysis on this merged sample, which included both the predatory behavior set and the control set. We compared the differences in mean performance between the control and experiment sample sets.

To avoid any bias for fund size, location, or vintage, the randomly generated dataset drawn from a pool that had the same makeup as the PB dataset. The time window was set to account for the impact of the incident over the lifestyle of a fund, but not over the entire lifespan of a firm or fund. Since the index is designed to focus not on the PB incident itself but on the performance implications of that incident, the experiment anticipates that the impact of any one predatory or discriminatory action will be reduced over time. If PB incidents indicate poor management, our experiment does not presume that such poor management continues in perpetuity. Conversely, a firm that has numerous PB incidents will be presumed to continue to demonstrate poor management skills.

The characteristics of the sample set are further explained in Figure 5. To summarize, the experiment had three steps: predatory behavior data collection, performance data collection, and regression analysis, which are detailed in Figure 6. Both sample sets had a similar composition of products with predominantly venture (95 percent) and growth funds. Their overall fund size was similar, with an average of \$361 million for the funds with predatory behavior and \$524 million for the funds without predatory behavior. Both datasets included fund vintages ranging from 1980 to 2016.

Figure 4. Shows the sample set characteristics for both Sample A (the PB Index) and Sample B (the control set.)

### **VI. Experimental Results**

The results from the statistical experiment strongly suggest that investment performance and predatory behavior are negatively correlated. Specifically, performance variables DVPI and TVPI are both negatively correlated with predatory behavior.

Predictor	Predatory Score	Performance	
90 <sup>th</sup> Percentile	0.80	1.45x	
75 <sup>th</sup> Percentile	0.20	0.75x	
Median	0.00	0.10x	
Regression coefficient			-0.2568
Intercept			0.5663
R-square			0.0468
p-value			0.0141
Lower 95%			-0.4610
Upper 95%			-0.0526
Number of observations	128	128	

Predicting Performance

\**p* ≤ .05





Figure 7. Regression Analysis DVPI vs. PB Index

The regression coefficient for DVPI and the PB Index is -0.25. The regression coefficient for TVPI and the PB Index -0.31 (the details of this experiment are provided in Figures 7 to 12).



Figure 8. TVPI vs. PB Index

Predictor	Predatory Score	Performance	
90 <sup>th</sup> Percentile	0.80	1.97x	
75 <sup>th</sup> Percentile	0.20	1.47x	
Median	0.00	0.81x	
Regression coefficient			-0.3140
Intercept			0.9534
R-square			0.0421
p-value			0.0200
Lower 95%			-0.5779
Upper 95%			-0.0500
Number of observations	128	128	

Figure 9. Regression Analysis TVPI vs. PB Index

Both results are statistically significant, with a 95 percent confidence interval with p values <0.05; the p values are 0.01 and 0.02, respectively. The performance variable IRR also shows a



Figure 10. IRR vs. PB Index

similar direction in the correlation between the PB Index and poor investment performance. The coefficient of correlation is -0.02, which is less conclusive than the results provided by the multiple and DVPI. Results are statistically significant, with a 90 percent confidence interval with p values <0.10.

The detail of this experiment is provided in Figure 7. The DVPI (distributed value multiple, more commonly known as the cash-out multiple) results show a strong negative correlation between DVPI performance and predatory behavior. The higher the predatory score, the more likely that the DVPI is lower. Figure 8 presents a scatter plot between DVPI numbers and the corresponding PB Index for a private capital firm. The expected line of best fit is also plotted, and it shows a steep negative slope indicating a negative coefficient of correlation. Figure 8 provides the details of the corresponding regression analysis and confidence intervals.

The TVPI (total value multiple) shows a result very similar to the DVPI result. The experiments show a strong negative correlation between TVPI performance and predatory behavior. Figure 9 and Figure 10 present the graphical scatter plot and corresponding regression analysis between

Predictor	Predatory Score	Performance	
90 <sup>th</sup> Percentile	0.80	18.4%	
75 <sup>th</sup> Percentile	0.20	8.6%	
Median	0.00	0.0%	
Regression coefficient		-	-0.0291
Intercept			0.9534
R-square			0.0210
p-value			0.1010
Lower 95%			-0.0640
Upper 95%		-	-0.0058
Number of observations	128	128	

Predicting Performance

\*p ~ .10

### Figure 11. Regression Analysis IRR vs. PB Index

the TVPI value and the corresponding PB Index. Both figures indicate a statistically significant strong negative correlation between them.

The IRR analysis is not as strong as the DVPI and TVPI results. It may be argued that the IRR calculation in private equity suffers from many flaws that allow its distortion. However, even with its shortcomings, the IRR result provides the same type of directionality, with a negative correlation between IRR performance and predatory behavior. Figure 11 and Figure 12 present the results of the IRR vs. PB Index relationship analysis. As before, the slope of the line of best fit is negative.

In all three metrics, we found that the performance of the overall sample set was significantly higher than the biased set containing funds affected by predatory behavior. The details are provided in Figure 12. The IRR was 1.42 percent lower annually, leading to 15 percent lower returns due to predatory behavior over a typical 10-year fund lifespan. The DVPI provided 29.1 percent lower returns and the TVPI 30.2 percent lower returns due to predatory behavior. The

presence of predatory behavior significantly depressed the returns for all investment performance measures.

Performance Statistics • ¶				
Variable <sup>II</sup>	$M^{\P}$	SD¶	MA vs MB	. н
	Mean <sup>µ</sup>	<u>Std</u> ·Dev ¤	Differential	ļ II
DVPI Sample A <sup>II</sup>	1.45x ¤	3.01 ¤	ц	_¤
DVPI Sample B ¤	1.95x ¤	5.56 ¤	+-34% ¤	ц
TVPI Sample A ¤	1.50x ¤	2.90 ¤	ц	ц
TVPI Sample B ¤	2.20x ¤	5.57 ¤	+•47% ¤	ц
IRR Sample A <sup>µ</sup>	14.04% ¤	33.97% ¤	ц	ц
IRR Sample B ¤	17.16%¤	46.56%¤	+·22% ¤	н

Figure 12. Superior Average DVPI, TVPI, and IRR without Predatory Behavior

Additionally, in order to ensure that the result was not influenced by our construction of the PB Index and the weights used, we also conducted an additional set of regression analysis that correlated performance against each single type of predatory behavior. In our dataset, only "sexual harassment" had a sufficiently large dataset so as to provide a statistically significant result, with a 95 percent confidence interval. The regression coefficient for TVPI and sexual harassment is significantly more negative at -0.76. The details of this experiment are provided in Figure 13. The results are statistically significant, with a 95 percent confidence interval with p values <0.05; the p value is 0.01.

Predictor	Predatory Score	Performance	
90 <sup>th</sup> Percentile	0.80	1.97x	
75 <sup>th</sup> Percentile	0.20	1.47x	
Median	0.00	0.81x	
Regression coefficient	·		-0.7673
Intercept			1.1077
R-square			0.0745
p-value			0.0148
Lower 95%			-1.3807
Upper 95%			-0.1538
Number of observations	79	79	

Predicting Performance

\**p* ≤ .05

Figure 13 Regression Analysis TVPI vs. Sexual Harassment

In conclusion, predatory behavior is strongly negatively correlated against all three VCPE performance metrics. The results show a significantly average TVPI, DVPI, and IRR number for both sets. As shown in the last column of Figure 12, DVPI was found to be an average of 34 percent higher, the TVPI 47 percent higher, and the IRR 22 percent higher for firms that had no predatory behavior than for firms that did have predatory behavior. On an absolute basis, this worked out to be 300 additional basis points of performance annually.

### **VII.** Conclusions

Our statistical experiments reveal a strong negative correlation between predatory behavior at a VCPE firm and the investment performance of that firm's funds that overlap with the predatory behavior. We draw several inferences from this result. The most obvious is that indulging in predatory behavior is indicative of poor management. The same poor management leads to subpar decision-making in other aspects of the firm, and therefore leads to poor results

The logical reaction to this work would be to stop predatory behavior in VCPE organizations in order to achieve better investment performance. However, there is a danger that this result will

lead venture firms to hire fewer women and to be less transparent about incidents of predatory behavior. There is additionally the possibility that VCPE firms will refuse to accept capital from public limited partners that require public disclosure, especially when the firm's performance is suffering, possibly due to the impact of the predatory behavior. However, a significant body of research indicates that greater diversity is strongly related to greater innovation and better corporate performance, therefore such action would clearly be counterproductive.

As we have reported above, predatory behavior is more likely to occur in environments with fewer women and where such behavior is encouraged or exhibited by others. An environment which is discriminatory to women and minorities is going to attract less women and minority talent and be less likely to retain those women and minority employees which it does recruit. Similarly, an environment which is hostile to women or LBGQT (lesbian, bisexual, gay, queer or transsexual) employees, or stake holders, through enabling, encouraging or turning a blind eye to sexual harassment is likely to alienate and limit the productivity of those employees, or find they exit the work force.

By failing to crack down on predatory behavior, the VCPE industry is limiting its long-term labor pool by as much as 50 percent. Fewer women and minorities mean fewer choices, which basic economic theory indicates has various negative consequences. A smaller labor pool results in higher salaries and makes talent more scares. It also results in less diverse decision making and more "group think"—while some evidence suggests that such behavior can be beneficial over the short term, a lack of fresh ideas can make it harder for businesses, including investment managers, to evolve and capture new innovations. By lacking women and people from diverse backgrounds the VCPE industry is at risk of missing out on the various skill sets and inputs that the standard (white or Asian male, college educated) VCPE employee might have. Relationships with women and minority run organizations, and there alleges, may also be harder to develop – including access to various forms of institutional, and high-net-worth, capital, universities and government organizations.

For investors that thrive on innovation and change through exhibiting predatory and discriminatory behavior, particularly toward women, the VCPE industry is limiting its access to new ideas and entrepreneurship. This myopia will be all the more consequential as women make

up a growing sector of the work force and population, and more funding goes toward the education of women in science, technology engineering and math (STEM.) To the extent that the traditional VCPE industry is hostile to women and minority innovators, these individuals have reason to seek out capital from elsewhere<sup>12</sup>. This will give VCPE firms that can demonstrate a positive track record in their treatment of women and women entrepreneurs a competitive advantage.

A predatory work environment also stands to alienate male non-minority employees who do not thrive in or seek to emulate a discriminatory work environment. (What, in the case of venture capital what has broadly been referred to as the "bro culture" of Silicon Valley.)<sup>13</sup> Not all men want to work in an environment that encourages sexual harassment or discrimination. But, almost all talented employees will thrive in work environments which exhibits good management.

While qualifying the specific impact of each of the above factors on the VCPE industry is hard, it is clear that taken together they all point in the same direction—that the exclusion, harassment and discrimination of women and minorities from the VCPE ecosystem has negative consequences.

Future work suggested by the paper includes the following:

• A larger dataset on the presence of predatory behavior should be gathered using surveys and self-reports. This data should provide more details on the participants (both victims and perpetrators) and on the impact the predatory behavior had on them. We have

<sup>&</sup>lt;sup>12</sup> Alternative sources of funding can include government grants and funds, crowd funding and other start-up alternatives, women and minority focused angel networks, direct investments from institutional asset owners, and corporations.

<sup>&</sup>lt;sup>13</sup> In June of 2017 investors forced Uber CEO Travis Kalanick to step down as the CEO of the ride-share company after a blog post by a former female employee documenting incident of sexual harassment at the firm. The blog post, which came after other criticisms of Uber's "asshole" corporate culture and treatment of women had already been documented in the press, triggering an internal review at the San Francisco based company. That review found various instances of harassment and inappropriate behavior, resulting in a series of departures and dismissals. Kalanick originally took a leave of absence from the company was eventually forced out. He retains a seat on the board.

recently started an ongoing survey for additional self-reported behavior data contributions at http://bit.ly/2pqdMPg

- Research should be undertaken to establish the relationship between having women in private capital firms, in private capital investees and investment performance. Such research could help counter the decision to stop hiring women as a reaction to problems with predatory behavior.
- Further research is required to quantify the impact gender homogeneity and heterogeneity have on VCPE investment performance.
- Future work should also examine whether the lack of transparency in the industry enables such behavior, even though it is detrimental to investment returns, and whether the metrics for evaluation available today are sufficient for society as a whole. The former reason provides strong motivation to change investment behavior, while the latter suggests that, in addition to their investment returns, LPs should examine social impact metrics when they evaluate firms.
- Further research should be conducted into the relationship between the existence of sexually predatory and discriminatory behavior at private capital firms and poor management at these firms.

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